

MARKETING IDENTITY:
AI – THE FUTURE
OF TODAY

MARKETING IDENTITY



AI
THE FUTURE
OF TODAY

Monika Prostináková Hossová
Matej Martovič
Martin Solík
(eds.)

ÜCM FMK

Faculty of Mass Media Communication
University of Ss. Cyril and Methodius in Trnava

MARKETING IDENTITY AI – THE FUTURE OF TODAY

Monika Prostináková Hossová
Matej Martovič
Martin Solík
(eds.)

Conference Proceedings
from the International Scientific Conference
14th November 2023
Trnava



Trnava 2023

MARKETING IDENTITY: AI – THE FUTURE OF TODAY

Conference Proceedings from the Annual International Scientific Conference „Marketing and Media Identity: AI – The Future of Today“, 14th November 2023, Trnava, Slovakia.

Editors: Mgr. Monika Prostináková Hossová, PhD.
Mgr. Matej Martovič, PhD.
JUDr. PhDr. Martin Solík, PhD.

Technical redaction: Mgr. Monika Prostináková Hossová, PhD.
Mgr. Miroslav Macák, PhD.
Mgr. Lucia Magalová, PhD.
Mgr. Lucia Furtáková
Mgr. Lukáš Pieš

Production: Mgr. Martin Graca, PhD.

Cover design: Mgr. Martin Klementis, PhD.

All submitted papers have been individually reviewed in an anonymous double-blind peer review process, on basis of which the editors have decided about their publication in the conference proceedings.

The authors of the individual scientific papers are responsible for their technical, content and linguistic correctness.

© University of Ss. Cyril and Methodius in Trnava, Slovakia, 2023

ISBN 978-80-572-0415-2
ISSN 2729-7527

MARKETING IDENTITY: AI – THE FUTURE OF TODAY

International Scientific Conference “Marketing and Media Identity: AI – The Future of Today”, 14th November 2023, Trnava, Slovakia.

The international scientific conference held annually by the Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava has become a traditional event supported and attended by renowned mass media communication theorists and researchers as well as by media and marketing professionals.

The aim of the conference is to discuss the latest knowledge and trends in the field of marketing communication and to create a space for sharing and disseminating up-to-date scientific knowledge and practical experience in the fields of marketing, media studies and communication sciences while outlining the importance of innovations and supporting the critical dialogue between scholars affiliated with academic institutions and professionals with practical experience. The annual international conference Marketing and Media Identity (formerly called New Trends in Marketing and re-named in 2013 to Marketing Identity and again re-named in 2022), which was held for the 18th time. The conference took place on 14th November 2023 2022 in Trnava. It was attended by nearly 100 participants.

The main theme of the conference was concisely expressed by its subtitle: AI – The Future of Today. Marketing and Media Identity has always tried to react to the latest trends in marketing communication and media production.

More information on the Marketing and Media Identity conference, programme schedules, deadlines and photo galleries related to previous years are available at:

Conference website:

<https://mmidentity.fmk.sk>

Faculty website:

<https://fmk.sk>

Facebook website of FMK Conferences:

<https://www.facebook.com/KonferencieFmk>



SCIENTIFIC CONFERENCE BOARD

Prof. Dr. Hamed Mohd Adnan

University of Malaya, Malaya

Prof. Ing. Alena Kusá, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Prof. Halliki Harro-Loit, PhD.

University of Tartu, Estonia

Prof. PhDr. Miloš Mistrík, DrSc.

Slovak Academy of Science, Slovak Republic

Prof. Ing. Zdenka Musová, PhD.

Matej Bel University in Banská Bystrica, Slovak Republic

Prof. PhDr. Dušan Pavlů, CSc.

Czech Republic

Prof. PhDr. Hana Pravdová, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Prof. PhDr. Juraj Rusnák, CSc.

University of Prešov, Slovak Republic

Prof. Charo Sábada, PhD.

University of Navarra in Pamplona, Spain

Prof. Ing. Jaroslav Světlík, PhD.

The University of Entrepreneurship and Law, Czech Republic

Prof. MgA. Martin Štoll, Ph.D.

Charles University in Prague, Czech Republic

Prof. Ing. Anna Zaušková, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Assoc. prof. Jana Galera Matúšová, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Assoc. Prof. Ing. Janka Beresecká, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Assoc. Prof. Dr. Sc. Iva Buljubašić, PhD.

The Academy of Arts and Culture in Osijek, Croatia

Assoc. Prof. Ivana Bestvina Bukvić, PhD.

J. J. Strossmayer University of Osijek, Croatia

Assoc. Prof. dr. sc. Marina Đukić

The Academy of Arts and Culture in Osijek, Croatia

Assoc. Prof. PhDr. Ľudmila Čábyová, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Assoc. Prof. Ing. Aleš Hes, PhD.

University of Finance and Administration, Prague, Czech Republic

Assoc. Prof. PhDr. Marek Hrubec, Ph.D.

Masaryk University, Brno, Czech Republic

Assoc. Prof. PhDr. Zora Hudíková, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Assoc. Prof. Mariana Kitsa, PhD.

Lviv Polytechnic, Lviv, Ukraine

Assoc. Prof. PhDr. Jana Radošinská, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Assoc. Prof. Mgr. Ondřej Roubal, Ph.D.

University of Finance and Administration, Prague, Czech Republic

Assoc. Prof. PhDr. Ján Višňovský, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Prof. Mgr. Zbigniew Widera, PhD.

University of Economics, Katowice, Poland

Dr. sc. Dinko Jukić, MPA, MLIS, MA

Trade and Commercial school "Davor Milas" in Osijek, Croatia

Mgr. Vladimíra Jurišová, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

PhDr. Jakub Končelík, Ph.D.

Charles University, Czech Republic

JUDr. PhDr. Martin Solík, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

Mgr. art. Martin Ševčovič, ArtD.

Comenius University in Bratislava, Slovak Republic

Mgr. Magda Švecová, PhD.

University of Ss. Cyril and Methodius in Trnava, Slovak Republic

TABLE OF CONTENTS

Preface	9
Voice Game and Discrepancies in the Use of Artificial Intelligence <i>Zuzana Belková, Zora Hudíková</i>	10
Promotional Activities of the Film and Their Use to Increase Public Awareness and Interest..... <i>Ludmila Čábyová</i>	19
Ensuring the Level of Creativity in Neuromarketing Tests Between Human-Made Objects and Artificial Intelligence <i>Tamás Darázs</i>	28
Beyond the Age Ratings: Exploring the Educational and Empathetic Benefits of This War of Mine for Adolescents..... <i>Mária Dolniaková</i>	38
Integrated Marketing Communication Through Digital Channels in Context of Generation Z in Slovakia..... <i>Peter Drábik, Marina Korčoková, Katarína Ožvoldová, Dominika Škerlíková, Martin Kuchta</i>	48
Using A. I. for the Generation of Visual References in Digital Audio Games from the Perspective of Sound Design <i>Tomáš Farkaš, Martin Schwarz</i>	61
Simulation Reverse Models for Assessing the Economic Viability of Retail Service Management Processes..... <i>Tomáš Fašiang, Pavel Gežík</i>	80
Acceptance of Korean Cultural Products in Slovakia: Multiculturalism, Recipients and Metaverse..... <i>Bianka Francistyová</i>	88
AI in Radio: The Game Changer You Did Not Hear Coming..... <i>Lucia Furtáková, Lubica Janáčková</i>	95
Brand Dilemmas in the Context of Changes in Consumer Behaviour Related to Market Crises <i>Jana Galera Matúšová</i>	107
AI in Public Relations: Challenges and Opportunities <i>Jana Galera Matúšová</i>	114
Determinants of Journalism Using the Potential of Artificial Intelligence in Axiological-Ethical Perspectives <i>Sabína Gáliková Tolnaiová</i>	122
Opinion Balance of News in the Time of Mistrust in Media and Democratic Institutions <i>Luboš Greguš, Simona Škvareninová</i>	133
The Effect of Visual Smog on the Buying Behaviour of the Millennial Generation..... <i>David Havíř, Lucie Kaňovská</i>	143

Identification of Noteworthy Digital Marketing-Related Elements in the Significance of Online Shopping and AI	153
<i>Jakub Horváth, Richard Fedorko, Radovan Bačík, Martin Rigelský</i>	
Does CSR Influence Consumer Behaviour as a Marketing Tool? Case Study from the Slovak Food Market	160
<i>Kristína Igarová, Zdenka Kádeková, Ingrida Košičiarová</i>	
Customers' Percepton of Electromobility in the Czech Republic: Longtidunal Study 2018 – 2022.....	168
<i>Eva Jaderná, Emil Velinov, Jana Přikrylová</i>	
Time To Say Goodbye: A Neuromarketing Perspective.....	175
<i>Dinko Jukić</i>	
Navigating the Digital Age: Exploring Effective Teaching and Learning Approaches for University Students	184
<i>Eva Karasová, Marianna Uherková</i>	
Is AI Involved in Spreading Marketing Myths?.....	194
<i>Daniel Kvičala, Martin Klepek</i>	
Tracking Digital Audiences in the Disrupted Public Sphere. The Journey of Czech Audiences from Television to Social Media	202
<i>David Klimeš</i>	
Mapping the Development of AI-Related Publications in Marketing	215
<i>Daniela Kollárová, Andrii Kushnarevych</i>	
Grounded Theory in AI-Enhanced Women's Image in Advertising.....	228
<i>Gintarė Kriaučiūnaitė-Lazauskienė</i>	
Community Management Tools on Social Networks in the Context of the Groundswell	241
<i>Michal Kubovics</i>	
Current Stage of the Particular Segment of Augmented Reality Mobile Applications	248
<i>Martin Kuchta, Simona Balaščíková, Peter Drábik</i>	
Challenges and Opportunities of AI in Individual Marketing Communication Tools	259
<i>Alena Kusá, Jana Galera Matúšová, Ladislav Pátik</i>	
The Role of Artificial Intelligence in Neuromarketing Research: Insights and Applications	269
<i>Alena Kusá, Patrícia Beličková</i>	
New Trends in Media Production – Seriality and Transtextuality in Film Music	276
<i>Zuzana Kvetanová, Lenka Rusňáková</i>	
The Origins of Formal Distribution of Local Digital Games in the 1990s in Slovakia.....	290
<i>Adam Kysler, Andrej Trnka, Juraj Kovalčík</i>	
Social Activism of Brands in the Age of Artificial Intelligence (AI).....	298
<i>Tatiana Leporis, Lucia Spálová</i>	

Implementation of Artificial Intelligence in the Innovation Process as a Tool for the Future of Today	312
<i>Erika Loučanová</i>	
Nomophobia – How Smartphone Addiction Can Affect Social Media Behaviour and Implemented Communication Strategy	321
<i>Adam Madleňák, Vladimíra Hladíková</i>	
Media Consumption Patterns and Attitudes of Young People Towards Public Service Media	330
<i>Dóra Mierková</i>	
The Effect of Beer Label Design on Customer Purchase Behavior	340
<i>František Milichovský, Pavel Mráček</i>	
Bridging Personalised Marketing with Artificial Intelligence: An Analysis of Evolution and Future Trends	348
<i>Peter Murár</i>	
Artificial Intelligence as a Creator of Journalistic Content	356
<i>Patricia Nagyová, Zora Hudíková</i>	
Perception of Marketing Communication in a Store Using Sensory Marketing.....	368
<i>Ivana Ondříjová, Dávid Miško</i>	
The Position of Game Reviews in Video Game Journalism.....	378
<i>Hana Pravdová, Monika Cihlářová</i>	
Crisis Communication in the Creative Industry: Specifics of B2B and B2C Communication of Advertising Agencies	385
<i>Veronika Števcát Szabóová</i>	
The Importance of Relationship Marketing in the Process of Electronic Commerce	396
<i>Lenka Štofejová, Richard Fedorko, Štefan Král</i>	
Innovative Technology in the Revitalization of Art Marketing Communication in Cultural Institutions	405
<i>Marek Štosel, Lucia Spálová</i>	
Differences in the Perception of Neuromarketing Attributes in the Context of Selected Socio-Demographic Characteristics of Customers.....	416
<i>Anna Tomková, Lucia Zbihlejšová</i>	
The Potential of AI Tools in Formal Educationr	427
<i>Norbert Vrabec, Klára Zubková</i>	
The Artificial Intelligence Behind the Podcast Microphone: AI-Generated Content in Podcasting.....	437
<i>Kateřina Vrzalíková</i>	
The Role of Human Capital in the Context of Digital Economy Transformation	446
<i>Rastislav Zábajník</i>	
Editorial Policy	456

PREFACE

Artificial intelligence has been the subject of many Hollywood movies that have filled cinemas around the world for decades. As viewers, we naturally asked ourselves, “when will artificial intelligence be a reality”? Today, we can say that artificial intelligence is gradually becoming a part of our lives. Consciously or unconsciously, we are using artificial intelligence. It helps us in our work activities, doctors in diagnostics, computer scientists in analyses, and we could go on and on.

The marketing communications environment is no exception, where artificial intelligence has started to be used extensively in the agency environment. Activities that used to take hours can now be processed by artificial intelligence in a matter of minutes. There are many tools that create texts, graphics, translations, as well as many other things, or “AI” serves us as a “kick-start” for new ideas.

The question is, where will artificial intelligence go from here? Already today, artificial intelligence may not only benefit humans, but it may also lead to the manipulation of facts, images and video. Will artificial intelligence threaten jobs or will it create entirely new jobs that we do not yet know about? This raises many questions that are being explored in various scientific disciplines.

Also our Marketing and Media Identity 2023 conference, with the subtitle AI - The Future of Today, was dedicated to the knowledge and exploration of AI from the perspective of marketing communications, journalism and digital games. It is in these areas that artificial intelligence is advancing every day. It has both positive and negative impacts on the daily work of people working in this field. For a number of reasons, therefore, artificial intelligence is a subject of scientific investigation, and science must ask questions to which we will constantly be looking for new and new answers.

Organising Committee of the Conference

VOICE GAME AND DISCREPANCIES IN THE USE OF ARTIFICIAL INTELLIGENCE

Zuzana Belková – Zora Hudíková

DOI: <https://doi.org/10.34135/mmidentity-2023-01>

Abstract:

The culture and creative industries segment also includes audio literary and dramatic content, i.e. radio plays. In attempting to analyse the benefits and handicaps of AI's input into the process of radio play production, we start from the assumption of possible positive influences on forms of sound design, but also from comments on the problematic level of emotion in the performance component of the production. The stage of development of artificial intelligence in Slovak linguistic conditions does not yet allow for a generalizing view of the potential of artificial intelligence in saturating such functions of a radio play as developing associations, imagination and fantasy in the mind of the recipient, the radio listener. The positive effects of artificial intelligence on radio play can be projected on the basis of the qualitative parameters of the auditory perception generated by it and the ability to construct a parallel, virtual world achieved by digital audio means. We provide examples of AI inputs to the radio play segment that work effectively with sound. We formulate assumptions about the success of AI in implementing radio play in a home language environment. As a result, we provide a deeper analysis of the current state-of-the-art and a reflection on the development of AI involved in the implementation of radio play.

Key words: Artificial Intelligence. Digital Sound. Imagination. Psychology of Perception. Radio Play. Virtual World. Sound Design.

1 Introduction: Radio Play in the Context of Media Culture

In *Sociokultúrny kontext masovej komunikácie* [*Sociocultural context of mass communication*], H. Pravdová (2009a) characterizes the radio play as a relevant component of media culture that builds on a system of signs, meanings and values – like any artefact of culture. Culture is understood in relation to creations to which specific meanings have been assigned. Over time, radio play as a product of media culture has, to a greater or lesser extent, supported J. B. Thomson's observation that symbolic forms of communication have become a desirable commodity that can, among other things, be traded very successfully in the media marketplace (2004). Thus, according to H. Pravdová, an element of controlled rationality has entered into the act of creating symbolic scapes, which strictly determines the socio-cultural contexts of media content and messages (2009a). The rise in popularity of podcasts in recent years has been indirectly followed by an increase in interest in radio play. The potential to add literary-dramatic content to multiple platforms ensures radio play's mass accessibility. Since it is no longer a creation for a narrow circle of enthusiasts and the radio play is gaining an audience even in the simple journalistic podcast listening segment, it is effective to use increasingly sophisticated technical means, including artificial intelligence, in its creation. It is interesting to see how radio play has responded and will respond in the future to the phenomenon of artificial intelligence. There are points of contact between the traditional implementation of radio play and the implementation of radio play using artificial intelligence tools. They interact with each other, interfere with each other, and achieve an amplified effect with significant qualitative benefits for the listener.

A. Mitrová (2010) in her publication *Vývinové tendencie pôvodnej rozhlasovej drámy (so zameraním na Slovenský rozhlas štúdio Košice)* [*Developmental tendencies of original radio drama (with a focus on Slovak Radio Studio Košice)*] pointed out an important feature of the radio play: its reception is not collective, it is only collective in exceptional reception situations (festivals, working listening sessions, etc.). The radio audience is not a homogenized, contacting group, rather a large, dispersed, non-communicating listening audience. It is thus an

isolated, intimate reception of a radio work of art by a listening audience, even though outwardly it appears as a “macroconsensus” within mass media communication. When considering the characteristics of radio play listeners, “elite” is currently offered as the main adjective. H. Pravdová’s parameter of elite recipients of a programmatically cultivated intellectual and aesthetic culture, represented by education, universal knowledge, “refined”, conservative tastes and sensibilities (2009b) does not yet reflect the enrichment of the listening audience with young people with a progressive, not conservative, orientation, who are also interested in the radio play. The current audience for radio plays in Slovakia is evidenced, for example, by the increasing readership of the specialised website of the Radio and Television of Slovakia (RTVS), *Archív Extra*, and by the written responses of RTVS listeners, which indicate that this is an active and receptive audience that would welcome a higher level of interactivity than the current state of radio play production in the public service institution allows for. As H. Pravdová (2009b) about the radio play audience, it is fragmented and structured in different ways. It has a great deal of choice, especially in terms of the type and range of media products. The formation of this type of recipients is mainly conditioned by the period of telematic, digitalized media and among them, in particular, the Internet. This kind of media allows individual recipients a certain degree of free decision-making and feedback, such as their own or a specific way of communicating with the source – the sender (Pravdová, 2009b).

Although linear radio broadcasting is on the decline, the phenomenon of on-demand radio broadcasting is on the rise – largely due to interaction with the podcast world. Simply put, if someone is intrigued by the richness and variety of content on podcast platforms, or starts to consider creating and publishing their own content, it’s quite likely that their standards of quality will increase over time. In fact, in addition to the usual lay users of podcast distribution platforms (Apple Podcasts, Spotify, Google Podcasts, Anchor, possibly Stitcher, PodBean, Breaker, Castbox, Overcast, RSSRadio Podcast Player), there is also a more discerning audience and professionals focused on a more refined type of work with audio content. They are the ones targeted by Radio Atlas, a platform of podcasts from all over the world with English subtitles. Here, users search for innovative documentaries, radio plays and artistic compositions, awarded at international festivals such as Prix Europa, First Look, True/False, CPH:Dox, HearSay International Audio Festival, HearSay International Audio Festival, Sheffield Doc/Fest, Tape Fest, On Air Fest, Audiocraft, Open City Documentary Festival, Oorzaken, Frames of Representation or Tempo Dokumentärfestival.

The aim of this paper is to use a discursive analysis of the current state of development of AI tools relevant to the creation of a radio play to define the most significant benefits and shortcomings of AI in relation to the radio play – from the textual design to the technical realization. The thesis summarizes the basic knowledge about the current trends in media culture and applies them to the specific procedures of radio play realization. In addition, the aim of the thesis is to reflect on the contribution of the radio play to the present, on the contribution of the radio play in terms of the psychology of perception, and on the design elements of the contemporary radio play as a virtual world modelled by means of sound.

2 Radio Play in the Optics of Finding New Listeners

In a deeper psychological sense, listening to podcasts and radio plays may be a contemporary response to the reality stated by M. Machalová and P. Senko (2018), that the social environment today often appears to people as a desert of social communication and interpersonal and personal relationships. In the absence of social contact, people often seek compensation in the form of a story, a narrative, or a virtual world created by artistic means. According to T. R. Sarbin in his study “Narrative as the Root Metaphor of Psychology”, a story is “a symbolized description of people’s actions that has a temporal dimension. A story has a

beginning, a middle, and a [...] an end. A story is cemented by recognizable patterns of events called plots” (1986, p. 3).

In the current state of technological development, artificial intelligence and its potential on the scene is already in the scenario development phase. In the article “The Impact of Artificial Intelligence on the Future of Radio Drama Production”, the ability of AI to make the creative process significantly more efficient for radio play producers, as they can use AI-generated plots as a starting point for their own scripts or even collaborate with AI to co-write episodes (Frackiewicz, 2023), is considered a significant benefit of AI. Regardless of the means, and therefore the tools, of artificial intelligence used, the art of radio play, with its specific narrative, follows the most authentic traditions of narrative transformation mentioned by R. Lesňák: with the all-round development of radio and voice production within radio, it is as if one of the most primordial, authentic, intrinsic and specific forms of self-realization has returned to humanity (1980). In considering the feasibility of radio play, it is stimulating to observe the interaction of text and sound design, as well as the competing advantages and disadvantages of sound content in comparison to audiovisual art, also with regard to the possibilities of artificial intelligence in the creative process.

When trying to analyse the advantages and disadvantages of radio play in relation to visual production, one can start from the psychology of perception. Although visual perception is dominant in perception, reduction to a sound stimulus does not necessarily imply impoverishment. In auditory perception, the stimuli for humans are sound waves (vibrations, oscillations) in the range of 16 to 20 thousand oscillations per second, and according to Z. Vašašová (2005), auditory perception is produced by the conversion of sound waves of oscillation into nerve excitement, which takes place in the human ear. The auditory sensations that arise in auditory perception are divided into speech sensations, tones, and rumbling. Tones are produced by the regular oscillation of bodies and rumbling by the irregular oscillation of bodies (creaking, rustling, scraping, etc.). According to Z. Vašašová, the methodology of sound realization of a radio play creatively uses all the properties of sounds: the pitch of the sound (determined by the number of frequencies per second), the power of the sound (determined by the size of the amplitude of the sound wave or the pressure of the sound on the ear), and the color of the sound (determined by the shape of the wave, e.g., when the same tone is emitted by different musical instruments). The sound design and musical dramaturgy of a radio play reflect, according to Z. Vašašová, the fact that the perception of tones is usually associated with an emotional experience. Therefore, some tones are pleasant and others unpleasant (2005). The pleasantness and unpleasantness of tones is used as a meaning-making element and is not limited to a basic polarity, but creates a whole spectrum of possibilities for harmonious or discordant tones and sounds to achieve different effects in the listener’s perception. In the final result, the sound-realisation elements of the radio play are complemented by the directorial conception, the work with the actors, which includes the means to achieve emotions, but also the functional choice of language and style norms. Mastery of speech technique (clear pronunciation, timing, correct breathing, voice production) in synergy with the physical actions of the dramatic character). All of this must harmonize with a phonemic ear focused on the perception of speech as a carrier of meaning. In addition to the already outlined, sometimes ambivalent, sometimes competitive and sometimes mutually influencing relationship between radio plays and audiovisual works (film, television), there is also the relationship of synaesthesia. The latter arises in perception, when – as Z. Vašašová states in the publication *Kapitoly zo všeobecnej psychológie (vysokoškolské učebné texty)* [*Chapters from general psychology (undergraduate textbooks)*] – stimuli that are specific to a certain analyser, for example, the auditory one, also evoke feelings in another analyser, for example, the visual one. Thus, for example, certain tones can evoke light sensations (Vašašová, 2005). If one concentrates fully on the perception of the sound content when listening to a radio play, the

accuracy of one's perception increases. This creates space for the development of associations, imagination, fantasy and the building of a parallel, virtual world in the mind of the recipient, the radio listener. All this only on the basis of the auditory perception achieved by digital sound means. The Slovak radio play theorist M. Mikola (1981) highlights the advantages of working with sound in space: the spatial articulation that arises in stereophony or quadrophony is very close to a certain type of theatrical space, even though this seemingly new radio space cannot take on a material, three-dimensional existence. In this context, it would be appropriate to use the term scenophony, the means of expression of which is exclusively sound, evoking in the listener's consciousness ideas of space (Mikola, 1981). T. Bojda and J. Vedral (2021) are even more explicit about stereophony, which was used as a novelty in the creation of radio plays, especially in the 1970s. While monophony meant, in simplistic terms, recording on one microphone, the stereophonic concept (on several microphones) made it possible to accentuate a much wider range of meaning, to work more deeply with the depth of field and the plasticity of the sound image. Using montage and combining it with sound design, suddenly the individual game plans of the production could be even more distinctly differentiated (Bojda & Vedral, 2021). Radio, along with film and television, belongs to the technical arts that represent communication between the exponent (creator) and the percipient (receiver) by means of a machine intermediate, which, as J. Pašteka reminds us, is, moreover, twofold: the input (the sensing apparatus) and the output (the reproducing apparatus) [...] not only in the function of a technological device, but also as a creator-controlled medium, modeling the artistic shape of the resulting product of film, radio, television (1979).

Radio is able to gain a competitive advantage over a monologue literary text or a stage play. This is illustrated, for example, by P. Karvaš's (1992) claim that due to the purely acoustic nature of radio communication, radio art is – along with most musical genres – the only art, and in particular the only verbal art, whose works can be perceived and integrated alongside other active activities, e.g. M. Mikola (1976) looks back in history: the term “radio play”, more precisely “Hörspiel”, comes from Hans von Heister, who used it in 1924 to refer to a drama performed in a radio studio. While the contact between the audience and the actor in a stage play is direct, a radio play is based on indirect contact, mediated by a technical medium. According to P. Karvaš (1992), the possibilities of radio drama under favourable perceptual circumstances allow for a balanced basic reception situation in the reception of a radio work of art. P. Karvaš characterized it as something that in its privacy and intimacy, its nuanced half-voice, even pianissimo, its introvertedness and saturation of psychological character, increasingly resembles the perception of poetry. In this way, it not only manifests itself as the counterpart of arenas and mannerisms, but also opens up a particular type of communicative climate with a very specific tuning and, faithfully, with a peculiar narrative, plot construction, portrayal of man and depiction of human interactions (Karvaš, 1992). All this – together with the emphasis on story – makes the radio play an autonomous segment of art that turns its apparent handicap (the absence of visuals) into a competitive advantage.

3 Virtual World Parameters and the Dramatic Effect of a Radio Play

J. Pašteka's (1979) assertion of radio play as communication between the exponent (creator) and the percipient (receiver) through a machine mediator is organically related to the current state of the possible use of artificial intelligence. In the context of the implementation of a radio play, it can be seen in particular as a *machine mediator* that has the potential to enhance the quality of the audio and textual content. It should be noted that the use of AI for radio play in the audio segment is at a higher stage of development than in the case of text production. This is evidenced, for example, by Michael-B's article “Unleashing the Power of AI: Exploring the Inner Workings of AI-Assisted Audio Production”: AI-powered audio

production software is becoming increasingly prevalent in the industry. These tools use machine learning algorithms and offer features such as intelligent mixing, automatic mastering and real-time audio analysis. Intelligent audio processing is one of the remarkable capabilities that AI brings to audio production. By leveraging AI algorithms, audio engineers can increase sound quality, reduce noise, and apply intelligent equalization and compression to achieve a balanced and polished sound (Michael-B, 2023). A certain amount of skepticism towards the current state of AI's realistic ability to significantly advance the qualities of the textual component of a radio play stems from the very nature of its potential uses. M. Frackiewicz, in his article "The Impact of Artificial Intelligence on the Future of Radio Drama", notes that the transformative role of AI in storytelling is already becoming apparent as algorithms are increasingly used to generate plots, characters, and even dialogue. By analysing vast amounts of data from books, films and other media, AI systems can identify patterns and trends in storytelling, allowing them to create new stories that are original and engaging (Frackiewicz, 2023). The impetus for the as yet open discussion within the theoretical reflection of radio play is the degree of originality and ethics of AI-generated constructs based on advanced analyses and drawing on the content of other authored plays. Based on the current stage of AI development, we are inclined to assume that the capabilities of AI in the sound design segment of radio play far outweigh its contribution to the scriptwriting segment of radio play. A possible response to our objections to AI's lack of creativity in the textual component of the radio play could be A. Démuth's argument about its very nature in his article "Umenie a umelá inteligencia – výzvy a nebezpečenstvá" [Art and Artificial intelligence – Challenges and dangers] (2020): the principle of machine learning also allows computers to learn entirely new principles from new and unprogrammed algorithms. Moreover, as long as they have a sufficiently broad base of diverse inputs, the learning of these algorithms can proceed faster and more accurately than in the case of learning by human subjects (Démuth, 2020). However, there is still the phenomenon of problematic originality and objectively much higher level of development of AI technologies in sound design than in working with text.

The subtext constantly considers imagination as an equal building block in the construction of a radio play. It can be assumed that the greater the capacity for imagination possessed by the creators and listeners of a radio play, the more pronounced the effect of the literary-dramatic work. P. Karvaš (1992) highlights the artefact of the original radio play in the performance of human voices separated from bodies, supplemented by deliberate and purposeful, often programmatic, musical composition and a selection of "movements", sound recordings of acoustically manifested reality, in words modelling a peculiar aurally disabling image of man and the world, oriented a priori to his auditory perception and integration and by its characteristics deliberately oriented towards it. When looking for the advantages of radio over audiovisual and, in a broader sense, over dramatic art, the degree of distance between the dramatic character and the recipient of the artwork is not negligible. P. Karvaš (1992) has pointed this out: the distance between the dramatic character and the perceiver of the play shrinks to an unprecedented minimum; the material processes and phenomena which, for example, in the theatre stand between the spectator and the actor, in the medium seem to fall away, to dissolve. It is true that the radio play attempts to simulate the complexity of interactions, the transformations in space are commented, explained, supplemented, verbally accompanied and illustrated by the text in various forms but at its best, radio doesn't need that. The very choice of plot, actors, setting, basic situations, conflict, action and its peripeties, is made with respect to the specificities of radio communication and its acoustic-auditory dominants, respecting them with anticipation, programmatically. Thus, the communicative status of radio art need not feel at all defective or broken in the face of the communicative status of theatre or television (Karvaš, 1992). The role of imagination, and also the active psychological participation of the listener in the creation of the resulting form based on

metaphor and narrative, again shines through as an asset of the radio play in competition with audiovisual works. According to T. Taročková (2005), storytelling is a ubiquitous activity. Narrative is a legitimate candidate in psychology for the position of “root metaphor” of the contextualist model, which is currently very influential. Clearly, then, the radio play is able to interweave the different segments in the spirit of P. Karvaš’ (1992) statement, against the “ability to dream”, to transcend the boundaries of reality and the materiality of phenomena, stands another, equally inherent characteristic of radio art, which, in turn, tends towards sobriety and rational control, towards an important sense of peace. It is the hegemony of words and language in radio broadcasts, especially dramatic ones, a verbal sign system capable of the highest concreteness, precision of meaning and bearing (Karvaš, 1992).

Radio was the first electronic medium of mass entertainment and was also responsible for the psychologization of the media. As T. Crook states, “its relationship with listeners is based on an emotional and imaginative connection” (1999, p. 105). The radio dramatic narrative represents reality, the process of transforming it into a reflective and creative work of art. The publicist S. Fochlerová introduces this idea into the reality of contemporary radio drama production in the conditions of RTVS: in the age of online and social media, it may seem that we listen to radio only in the car, in shops or cafés. It creates a kind of musical background, fills our time and is a companion in activities that occupy our eyes. But it takes more than that to turn it on and listen to a radio play. Time, silence, our full attention, and a vivid imagination. And that is why in this highly visual age, the meaning of the radio play takes on a new dimension (Fochlerová, 2017).

In the context of the current production of radio plays in the Slovak context and in forming hypotheses about their future, the statement by RTVS dramaturg J. Šimko that plays with metaphor are coming to the forefront of the interest of creators and listeners is valid: radio plays used to draw more on documentary material and were strongly socially oriented. So this is very good news for the art form. The metaphorical play is more challenging, but that doesn’t mean it doesn’t thematise social or political issues. It is very interesting how a medium like radio can be playful in this context. How it can work with components other than text or story in an unusual way. The image weighs it down, but the sound opens up different spheres of imagination (Šimko, 2017, in Fochlerová, 2017). Artificial intelligence could help in opening up spheres of imagination in the future, especially in the field of sound production. Michael-B, in his article “Unleashing the Power of AI: Exploring the Inner Workings of AI-Assisted Audio Production” (2023), notes that the integration of AI into audio production has brought groundbreaking advances, transforming the creative process and optimizing workflows. By leveraging machine learning algorithms and neural networks, AI technologies enable professionals to perform tasks more efficiently and uncover new opportunities (Michael-B, 2023). However, a shortcoming of AI is the lack of an original metaphor and creative treatment of the topic. Z. Husárová and K. Piorecký (2019), provide numerous examples of successful deployment of AI in the creation of poetic texts. However, they take a cautious stance, for example, on Cambridge software researcher J. Hopkins’ artificial neural network, capable of generating poems on any topic thanks to a rich corpus based on Shakespeare’s poems. Z. Husárová and K. Piorecký (2019) write, *New Scientist* magazine asked poet Rishi Dastidar for his opinion on these computer-generated poems. This writer faults artificial poems for being too dependent on tradition. He thinks that artificial intelligence trained on old poems cannot be creative in the true sense of the word, because it cannot create anything new that transcends tradition (Husárová & Piorecký, 2019). Although it can be argued that artificial intelligence is capable of creating neologisms and transcending source texts, it is still true that the artistic texts created by it are rather mediocre. Although the scriptwriting use of AI in the creation of radio plays offers several tools for varying themes and plots, it mostly lacks originality, the capacity for autonomous artistic expression, and what makes a radio play an appealing and artistically

valuable artifact: imagination and the ability to actively engage the listener's imagination in the construction of virtual worlds through sonic means. The solution, according to Z. Husárová and K. Piorecký (2019), could be a collaboration between human and artificial intelligence, where the artificial intelligence creates the textual basis, but the human retains conceptual and editorial decision-making. This is also inevitable in the use of artificial intelligence in the sound design of a radio play. According to Michael-B in "Unleashing the Power of AI: Exploring the Inner Workings of AI-Assisted Audio Production" (2023), the collaboration of the creator and the AI, rather than their covert or overt hostility, can bring many qualitative benefits to a radio play: AI-assisted audio production is not about replacing human creativity, but augmenting it through collaboration with intelligent machines.

4 Instead of a Conclusion: The Pitfalls of Professional Reflection on the Radio Play as a Virtual World Modelled by Sound Means

According to T. Crook, author, director and producer of award-winning radio plays, series and documentaries, who wrote the acclaimed book *International Radio Journalism* (1999),

academics, media theorists and writers have largely failed to appreciate that the radio play environment is a platform for a new genre of storytelling. Radio play has evolved with sophistication and explosive energy and now occupies a prominent place in the cultural life of societies around the world. (Crook, 1999, p. 3)

All this despite the fact that it is still, to some extent, seen as a mere adjunct to radio production. While the invention of print, and subsequently print media, created a psychological unified perspective and a linear framework of thought, the introduction of sound recording and transmission techniques, while limiting the physical dimension of sound, brought about an equally powerful visual potential in the psychological dimension. T. Crook considers the significant value of the radio play to be "that its literary quality allows the creator of the sound/radio drama to 'control' the space" (1999, p. 8). The use of artificial intelligence in the process of radio play production will certainly occur in the future. It will only be effective and productive for the artistic quality of the final product if artificial intelligence can be used to its full potential without violating copyright and ethical principles of artistic creation. In "Unleashing the Power of AI: Exploring the Inner Workings of AI-Assisted Audio Production", Michael-B specifies that artificial intelligence can create

sounds, textures, and timbres that were previously unimaginable, opening up new possibilities for sonic exploration. Machine learning has transformed the field of sound effects. From realistic reverb simulations to intelligent time stretching and pitch shifting, AI-powered effects algorithms provide cutting-edge sound manipulation tools that enhance creativity and produce captivating results. (Michael-B, 2023, "Exploring AI-Driven Sound Design", para. 3-4)

It is imperative that this is done in accordance with copyright law and with respect for human imagination and fantasy. In the curatorial text of the exhibition *Ilúzia a virtuálna realita v umení. Prepojenie tradičného umeleckohistorického problému s jeho aktuálnymi metamorfózami pod vplyvom digitálnych technológií* [Illusion and virtual reality in art. Linking a traditional art historical problem with its current metamorphosis under the influence of digital technologies.] (VŠVU, n.d.) writes about the relationship between fiction, reality and imagination: imagery is both a machine that produces illusions and a hammer that shatters them in the sense of creative nihilism. Through illusion, art plays with our interpretative faculties and functions as a code of representation and imagery that can be affirmative or critical of reality.

In the world of computer science and computing, these practices are in many ways similar to augmented (AR) and virtual reality (VR). By handling telepresence and immersion, they deepen and transform processes of aesthetic empathy and distance or distancing, and offer new tools for the suggestive manipulation of our consciousness. Just as art shapes worlds of fiction, augmented and virtual reality realize such worlds (VŠVU, n.d.). The radio play is the direct counterpart of the visual arts. The repertoire of expressive means is strictly limited to sound. Radio drama production – including contemporary Slovak production – as a product of digital processing possesses effective sound and staging means to create virtual worlds with a high potential of attraction for the contemporary in cooperation with the listener's imagery. In the hands of a wise creator, artificial intelligence can be an excellent tool for elevating them to a higher qualitative level.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0489/23, titled 'Innovative Model of Monetization of Digital Games in the Sphere of Creative Industries'.

Bibliography

- Bojda, T., & Vedral, J. (2021). *Teoretické a historické rámce české auditivní slovesné tvorby* [Theoretical and historical frameworks of Czech auditory verbal production]. Academy of Performing Arts in Prague.
- Crook, T. (1999). *Theory and practice*. Routledge.
- Démuth, A. (2020). Umenie a umelá inteligencia – výzvy a nebezpečenstvá [Art and artificial intelligence – challenges and dangers]. *ESPEŠ. The Slovak Journal of Aesthetics*, 9(1), 26-35. <https://doi.org/10.5281/zenodo.6331060>
- Frackiewicz, M. (2023, May 2). *The impact of ai on the future of the radio drama production industry*. <https://ts2.space/en/the-impact-of-ai-on-the-future-of-the-radio-drama-production-industry/#gsc.tab=0>
- Fochlerová, S. (2017, October 10). Zvuk otvára rôzne sféry imaginácie [Sound opens up different spheres of imagination]. *Denník N*. <https://dennikn.sk/902372/zvuk-otvara-rozne-sfery-imaginacie/>
- Karvaš, P. (1992). *Rozhlasové umenie vo veku televízie* [Radio art in the age of television]. Slovenský rozhlas.
- Lesňák, R. (1980). *Umenie živého slova* [The art of the living word]. Veda.
- Machalová, M., & Senko, P. (2018). *Životný obrat človeka z pohľadu biodromálnej psychológie a autentické životné príbehy* [The human life turn from the perspective of biodimensional psychology and authentic life stories]. Inštitút výchovy a športu a Prohuman.
- Michael-B. (2023, June 14). *Unleashing the power of AI: Exploring the inner workings of ai-assisted audio production*. <https://medium.com/@trackinsolo/unleashing-the-power-of-ai-exploring-the-inner-workings-of-ai-assisted-audio-production-f45fd09b1bbe>
- Mikola, M. (1981). Rozhlasová hra [The radio play]. In R. Mrlan (Ed.), *Teória dramatických umení* [Theory of dramatic arts] (pp. 132-139). Tatran.
- Mikola, M. (1976). Z problematiky teórie a vývinových tendencií rozhlasovej hry [From the problems of theory and developmental tendencies of radio play]. In M. Mikola (Ed.), *Mnohotvárnosť dramatického umenia* [The multiplicity of dramatic art] (pp. 282-292). Obzor.

- Mitrová, A. (2010). *Vývinové tendencie pôvodnej rozhlasovej drámy (so zameraním na Slovenský rozhlas štúdio Košice)* [Developmental tendencies of original radio drama (with a focus on Slovak Radio Studio Košice)]. University of Prešov, Faculty of Education.
- Pašteka, J. (1979). Tvorivé princípy a vzťahy v sústave dramatických umení [Creative principles and relations in the system of dramatic arts]. In R. Mrlian (Ed.), *Teória dramatických umení* [The theory of dramatic arts] (pp. 47-64). Tatran.
- Pravdová, H. (2009a). *Sociokultúrny kontext masovej komunikácie* [Sociocultural context of mass communication]. Národné osvetové centrum.
- Pravdová, H. (2009b). *Determinanty kreovania mediálnej kultúry* [Determinants of media culture creation]. University of Ss. Cyril and Methodius in Trnava.
- Piorecký, K., & Husárová, Z. (2019). Tvořivost literatury v éře umělé inteligence [Creativity of literature in the era of artificial intelligence]. *Česká literatura*, 67(2), 145-169.
- Sarbin, T. R. (1986). Narrative as the root metaphor of psychology. In T. R. Sarbin (Ed.), *Narrative Psychology* (pp. 3-21). Praeger.
- Taročková, T. (2005). K hlavným témam naratívnej psychológie [On the main themes of narrative psychology]. *Filozofia*, 60(7), 490-497.
- Thompson, J. B. (2004). *Média a modernita* [Media and modernity: A social theory of media]. Karolinum.
- Vašašová, Z. (2005). *Kapitoly zo všeobecnej psychológie (vysokoškolské učebné texty)* [Chapters from general psychology (undergraduate textbooks)]. Matej Bel University, Faculty of Humanities.
- VŠVU. (n.d.) *Ilúzia a virtuálna realita v umení. Prepojenie tradičného umeleckohistorického problému s jeho aktuálnymi metamorfózami pod vplyvom digitálnych technológií.* [Illusion and virtual reality in art. Linking a traditional art historical problem with its current metamorphosis under the influence of digital technologies.]. <https://www.vsvu.sk/sk/udalosti/QXenZJOx/iluzia-a-virtualna-realita-v-umeni/>

Contact Data:

Mgr. Zuzana Belková
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 belkova1@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0002-2014-1906>

Assoc. Prof. PhDr. Zora Hudíková, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 zora.hudikova@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0002-8288-7439>

PROMOTIONAL ACTIVITIES OF THE FILM AND THEIR USE TO INCREASE PUBLIC AWARENESS AND INTEREST

Ludmila Čábyová

DOI: <https://doi.org/10.34135/mmidentity-2023-02>

Abstract:

This paper deals with the analysis and evaluation of the promotional activities of the film *A máme, čo sme chceli* [*Réveillon*] in order to raise public awareness and interest in this Slovak-Canadian film. The author focuses on the importance of effective promotion of films in relation to their commercial success. She cites relevant studies that point to the importance of marketing and promotion measures in reaching the target audience and convincing them of the value of a film work. The author analyses the promotional activities of the film and their effectiveness, presents metrics related to the media reach of the film, as well as the list price of advertising space in different media during the campaign. She finds that a combination of online, print, television and radio contributed to the significant media interest in this film. In the final part of the paper, the author discusses communication on social media, specifically Instagram and Facebook platforms, and assesses their impact on the promotion of the film. She stresses the importance of having an active presence on these platforms and interacting with fans.

Key words: Attendance. Campaign. Cinema. Film. Instagram. Media. Media Outlets. Promotion and Marketing. Social Media.

1 Introduction

Marketing promotional activities are a key aspect of the film industry that is essential for success in today's competitive environment (Lubbers & Adams, 2001). These activities include a comprehensive set of strategies and tactics designed to increase awareness of the film, build interest and anticipation among the target audience, and subsequently maximize the profitability of the film after its release. Film producers and distributors need to pinpoint the target audience, analyse their preferences and behaviour, and identify competing factors that could affect the film's performance (Durie et al., 2000).

One important strategy is to create a strong brand for the film. This includes creating promotional materials such as posters, trailers and other offline and online communication tools that will create a unique and imaginative visual and emotional impression. When promoting films, many producers are trying to do 360-degree production, which is the use of the brand on different platforms (film cinema, internet, podcast or merchandise) (Removčíková, 2022).

Another important part of the marketing strategy is to create a "buzz" before the film premieres. This can include organising parties before and after the premiere, public screenings for selected audience groups or online campaigns to engage and encourage viewers to discuss and spread viral information about the film on social media. Dobele et al. (2007) note that viral messages need to be engaging in order to inspire potential viewers to spread them further. Deliberate management of public relations can also be part of marketing activities, which mainly includes media relations, which can take various forms (press releases, press briefings, PR articles) that appear to be more credible than paid advertising (Matúšová, 2011). This ensures that the film is sufficiently covered in different media and that journalists and critics have access to the film before its release. Positive reviews and media interest can contribute significantly to a film's success (King et al., 2014).

Last but not least, it is also important to use digital channels and social media to promote the film. Creating an online community around the film, sharing content, interacting

with fans and using social media advertising campaigns are now an integral part of marketing activities.

2 Theoretical Background

Despite the availability of literature in the film industry, relatively limited attention has been paid to the effectiveness of film promotion. However, this issue is very important because the success of a film on a commercial level depends significantly on the ability to reach the target audience and convince them of the value of the film and the need to see it. There are a number of relevant studies in the literature that deal with the relationship between marketing measures, the quality of the film product and its commercial success. Thurau, Houston and Sridhar (2006) address the question of whether effective marketing can compensate for deficiencies in the quality of a film product. In an attempt to examine this relationship, they investigate whether the quality of marketing measures and promotion can affect the commercial success of a film even if its content or quality is not of a high standard. The results of this study suggest that even if a film product is inherently inferior or unsatisfactory, strong marketing can significantly affect its commercial outcome. This means that an effectively promoted film can still achieve good financial results even if it is not considered to be of high quality in terms of content. This fact is supported by the research results of Öcal and Nasır (2016), who confirmed that media coverage (number of advertising messages) shows a strong predictive power of tickets sold during the opening weekend, i.e., the strength of the promotion has an impact on the number of viewers or cinema-goers.

A fundamental problem with film promotion is that filmmaking tends to be an abstract and subjective affair, making it difficult to predict how a given film will be received by an audience. De Vany and Walls highlight this uncertainty by stating that “no one knows if they like a film until they see it” (1999, p. 310). This means that before a film is released in cinemas, it is essential to actively inform potential audiences of its existence and value.

According to the pair of authors Sifaki and Papadopulu (2022), the basic task of marketing a film is to convince the viewer to choose watching a film out of a multitude of activities and to spend their precious time with it. Promotional activities thus become crucial in the process of creating awareness about a new film. Production companies need to actively engage in marketing promotion in order to provide the audience with relevant information about the film. This information can be gathered through the marketing activities of the film production companies, pre-release advertisements, critics’ reviews and word of mouth recommendations from other cinema-goers. However, it is important to stress that the decision of cinema-goers whether to see a given film is strongly influenced by marketing promotions, especially during the opening weekend. Film production companies try to create the impression that their film is of high quality, and these marketing activities can be interpreted by the audience as evidence that the production company has confidence in its product. This reduces the risk of cinema-goers and increases the likelihood of a successful commercial outcome (Kirmani & Rao, 2000).

Overall, then, it is evident that film marketing and promotion are critical factors in achieving commercial success, and their effectiveness and importance are not always adequately considered in the film industry literature. More in-depth studies and analyses in this area can provide an important contribution to the film industry and its ability to effectively reach and persuade its target audience.

If we start from the basic essence of marketing, in which customer satisfaction is the focus (Armstrong & Kotler, 2017), this basic philosophy can be translated into a definition of film marketing. This consumer satisfaction cannot be achieved simply by asking consumers what they want to watch movies about, but can be achieved by the production of films of high

technical and/or artistic merit and the appropriate positioning of these films to appeal to the target market.

Durie et al. define film marketing as “any activity that helps a film reach its target audience at any point during its lifetime” (2000, p. 5). Kerrigan and Yalkin (2009) note that interest in a film does not stop when the credits roll, as consumers may wish to extend their consumption by visiting review websites, discussing the film. Consumption of one film may lead consumers to seek out other films by a particular director or screenwriter in order to learn more about the soundtrack writer or the artists involved. If the film is a remake, they may be tempted to seek out the original (Kerrigan, 2010). As Wohlfeil and Whelan (2008) state, film consumers may want to watch other films in which a favorite actor appears.

Promotional activities can generally be divided into onlining and offlining (Pelsmacker et al., 2003). The same is true in film. Kerrigan (2010) mentions film festival presentation, word of the month, film trailer, film poster television and print advertising among the basic offline promotional activities of a film. Online promotion is most often through social networking, online advertising and PR, use of newsletters, etc. The so-called bottom wave also has a big impact on the film’s notoriety. “It is a phenomenon dealing with organic and spontaneously spreading communication that is primarily based on recommendations, information sharing on social networks, blogs and discussion forums” (Krajčovič et al., 2023, p. 30). According to Zaušková and Ščepková, “groundswell is any action put into motion not by an official institution, but third parties – people who are interested in a specific issue and would like to share their opinion” (2022, pp. 16-17). In terms of marketing a film, we are mainly referring to film commentaries and film reviews. In the context of film marketing, we specifically refer to comments and reviews related to a movie. This entails the active engagement of viewers and enthusiasts who are enthusiastic about sharing their thoughts, experiences, and recommendations regarding a film. These discussions can happen on various platforms, including social media, blogs, and discussion boards, contributing significantly to the overall buzz and public perception of the movie. Groundswell in the context of film marketing can have a profound impact on a film’s success, as the genuine opinions and recommendations of passionate viewers can influence others’ decisions and generate substantial interest and excitement around the film. Therefore, understanding and harnessing the power of groundswell is crucial for effectively promoting and marketing films in today’s digital age.

Conversely, negative comments and reviews can damage a film’s reputation and have a negative impact on its success. And it is the latter that we will address later in this post.

3 Methodology

The aim of this paper is to analyze the promotional activities of the film *A máme, čo sme chceli [Réveillon]* (Kunes Kováč, 2023) and to provide information on their effectiveness in raising public awareness and interest in the film. Specifically, it examines how different media and marketing channels contributed to media interest in the film in the run-up to its release. Furthermore, the GRPs (Gross Rating Points) of the different media and their relationship to the success of the campaign are analysed. The film’s presence on social media platforms, namely Instagram and Facebook, is also evaluated and how these platforms have used their potential to communicate with fans and potential viewers is assessed.

The paper uses a combination of quantitative and qualitative analysis of the promotional activities of the film *A máme, čo sme chceli [Réveillon]*. The quantitative analysis involves tracking the number of outputs in different media such as online media, print, television, radio, podcasts and agency news, at different time periods from June to November 2023. It also assesses the GRP values in these media and how they have evolved over time.

The data was collected using Monitor’s software. Using Zoomsphere, we present data on the number of followers, interactions in the paper. The qualitative analysis includes an assessment of the film’s presence on social media platforms, specifically Instagram and Facebook, and their content focus. The types of content shared on these platforms, number of followers, interactions and fan engagement are analyzed.

Research questions:

- Q1: How has the promotion of *A máme, čo sme chceli* [Réveillon] affected public awareness of the film?
- Q2: What channels and means of marketing have been most effective in spreading the word about the film and increasing audience interest?
- Q3: How did the trends and effectiveness of the film’s promotion change from its launch in September to its premiere in October?

Slovak-Canadian director Michal Kunes Kováč’s feature film, *A máme, čo sme chceli* [Réveillon], is from thirty years ago, when Czechoslovakia was divided. The tragicomedy delivers a story of betrayal, love, secrets and forgiveness. A touching family story inspired by true events unfolds on New Year’s Eve 1992. Michal and his Canadian girlfriend Charlie arrive in Banská Bystrica to celebrate the founding of an independent Slovakia, but find their family in absolute chaos. Father Daniel is accused of collaborating with the StB and the family gradually uncovers shocking secrets about his past. The family leafs through the files and with each passing page, they are shaken to their foundations. In addition, one of Canada’s most successful producers, Don Carmody, Academy Award-winning director of Chicago, collaborated on the making of *A máme, čo sme chceli* [Réveillon]. The role of co-producer is played by RTVS, which is also the largest largest co-producer of films (RTVS, 2022).

4 Results and Discussion

The film kicked off its marketing campaign at Pohoda in July 2023, where the organizers prepared a talk show with the director and actors. The cooperation with Urpiner in the launch of Urpín 93 beer (Urpiner is a company from Banská Bystrica) was also presented. The first mention of the film is found in the promotion of the festival and later in interviews with the actors who star in the film. Table. 1 shows the number of appearances in the Slovak media.

Table 1: Number of media outputs

Date	Online	Print	Television	Radio	Podcasts	Agency spr.
1. 8. 2023	1	1	0	0	0	0
1. 9. 2023	61	10	1	0	1	1
1. 10. 2023	104	29	6	6	6	10

Source: Monitora (2023)

The intense campaign for the film only began in September 2023 and culminated in October, creating a wave of anticipation and interest among audiences. This campaign was mainly focused on online communication. The most frequent outlets and information about the film were available online, with an emphasis on news portals, as can be seen in Table 2. Most outputs were on the news portals pravda.sk, sme.sk, kinema.sk and rtvs.sk. The online environment was ideal for disseminating information about the film as it allowed reaching a wide audience base while providing quick and easy access to the content. The news portals

that were planned for the campaign are known for their credibility and popularity, which increased the credibility of the film in the eyes of the audience.

In addition to online media, the campaign was also present in print newspapers, as indicated by data from Monitora (2023). Published outputs about the film were recorded in the daily Pravda. The print media had its own group of readers who prefer traditional sources of information and thus allowed the film to reach this target group as well. Overall, this campaign brought together online and print media in September and October 2023, allowing a wider range of audiences to find out more about the film and gain interest in watching it. The cross-platform and cross-environment campaign had obvious success in building brand and expectations around the film. Its combination of online and print media enabled maximum coverage of the target audience and increased the likelihood of the film’s success after its release. The six releases in October indicate that the film has also become a topic of discussion on various radio programmes and shows. The radio media gradually increased their interest in the film *A máme, čo sme chceli* [Réveillon] during the campaign. Their active participation in October helped the film to reach a wider audience and increase media interest ahead of its premiere.

Table 2: Media in the campaign

Pravda.sk	Pravda	Sme.sk	Kinema.sk	Rtvs.sk	News.sk	Azet.sk	TASR
25	13	10	9	9	8	7	7

Source: Monitora, 2023

In Table 3, we present information on the list price of advertising space for different types of media in the time periods from June to November 2023. This data is important for assessing the value of advertising space for the film *A máme, čo sme chceli* [Réveillon] and the effectiveness of the media campaign. The list price of ad space in online media started to increase significantly from September. This period coincided with the start of the intensified campaign. The ability of online media to reach a wide target group and spread messages quickly played a significant role in building media interest in the film. Print media, which were active throughout the campaign, also contributed to the growth in media interest. Their list price for advertising space was significantly higher in August and September, indicating that print media were an important vehicle for film promotion during this period. Television only started to play an important role in the campaign in September, when the list price of advertising space increased significantly. In October it reached its peak and was the most expensive medium for advertising space. Radio only started to show interest in film in October when its list price for advertising space increased significantly. Although it was not as prominent as online media, print media or television, it still provided media exposure for the film and contributed to the overall success of the campaign.

Different media had their peaks of activity at different times, depending on their effectiveness at the time. This mix of media helped the film gain significant media interest and could have a positive impact on its success at release and subsequent distribution.

Table 3: Price of advertising space for different types of media (price in euro)

Date	Online	Print	Television	Radio
1. 6. 2023	837,599538	20360,61385	0	0
1. 7. 2023	2692,211361	0	0	0
1. 8. 2023	2574,967672	24299,9757	0	0
1. 9. 2023	43489,70236	69228,62765	14399,99968	0
1. 10. 2023	91448,29879	117880,1458	272225,7618	9840,61273
1. 11. 2023	0	13269,51834	0	2856,867792

Source: Monitora (2023)

Comparison of GRP between different media may not be completely accurate because each medium has its own unique characteristics and measurement methods. However, in most cases, GRP is used to evaluate the effectiveness of advertising campaigns in different media and to decide which medium should be prioritised for reaching a particular target group.

Overall, GRP is a useful tool for measuring the reach of advertising campaigns across a variety of media, including television, online media, print and radio. Each medium has its own specifics that affect the measurement of GRP, and it is important to take this into account when planning and evaluating advertising campaigns.

The campaign started with low GRP values in June (Table 4), which gradually increased over the following months. This gradual increase signals that the film promotion was planned and was still evolving to reach as wide a population as possible.

Online and print media had a greater impact on GRP generation in June, August and September.

In September, the campaign was extended to television, which contributed to the increase in GRP. The presence of television in the campaign suggests that the filmmakers decided to increase media reach and attract a wider audience. The campaign reached its peak in October, when all media outlets actively participated and achieved the highest GRP figures. Online media, print, television and even radio had a significant impact on media interest in the film.

Table 4: GRP Values (in percentage of a target audience, multiplied by the frequency in which that audience sees the ad)

DateTime	Online	Print	Television	Radio	Podcasts	Agency spr.
1. 6. 2023	0,468533337	4,866666794	0	0	0	0
1. 7. 2023	16,26928902	0	0	0	0	0
1. 8. 2023	15,46835518	10,60999966	0	0	0	0
1. 9. 2023	114,03702	39,75584483	3,030288935	0	0	0
1. 10. 2023	234,1854406	103,4782677	5,495177805	2,401311114	0	0

Source: Monitora (2023)

Within the campaign for the film *A máme, čo sme chceli [Réveillon]* communication on social media, specifically on Instagram and Facebook, played an important role. While there was a presence on these social media platforms, the intensity of the presence did not reflect the full potential of these platforms. At the end of October, the Instagram profile related to the film had 537 followers, indicating a relatively low follower base. Moreover, interaction on this profile was not very high, with the total number of likes reaching 524 and the number of comments only 7 (Figure 1). This data shows that the community on the Instagram profile could have been much more active. The content on the profile was varied, including photos (11), carousels (1) and reels (10). Despite this diversity of content, it appears that the full potential of the Instagram platform for more effective communication with fans and potential viewers was not being tapped. Social networks such as Instagram and Facebook have the ability to reach a film’s target audience quickly and directly. This allows you to interact with fans, share content, generate discussion and build interest before the film premieres. An active presence on these platforms can lead to increased media exposure and brand extension for the film.

Overall, it is important that social media campaign creators use these platforms to their maximum potential. Implementing the right strategy and interacting regularly can contribute significantly to a film’s success. In the case of the *A máme čo sme chceli [Réveillon]* campaign, the Instagram presence could have been more active and the emphasis on fan interaction could have been stronger, which would have increased media interest in the film.

Account Interactions

The total number of interactions an account received each day



Figure 1: Account Interactions

Source: Zoomsphere (2023)

We can assume that the intensity of communication in offline and online media was reflected in the cinema attendance. 4 weeks after the premiere, the film was seen by 35,169 viewers in cinemas, the sales were 252,097 Euros (ÚFD, 2023). These figures suggest that the film was probably not a major success and attracted less audience attention. Compared to *Invalid* (Karásek, 2023), it was quite a bit less. In fact, *Invalid* had 111,592 viewers and grossed 831,385 Euros just 4 weeks after its premiere (ÚFD, 2023). These figures indicate that *Invalid* was much more successful and attracted more viewers to the cinemas, which was reflected in higher sales.

It is possible that the communication and marketing campaign around *Invalid* was more effective or that the film itself had more potential to attract audiences. It is important to analyse the factors that may have influenced these results in order to get a better idea of why one film was more successful than the other.

5 Conclusion

The results of the analysis show that the campaign for the film *A máme čo sme chceli [Réveillon]* has gradually started to gain momentum, with activity peaking in October. Online and print media had a significant impact on generating media interest, with TV and radio only becoming actively involved in September and October.

GRP figures show that online media has been the most effective channel for increasing media interest in the film, with an increase in list price of ad space since September. Print media was important in August and September, while television and radio gained in importance in September and October. Social media, specifically Instagram and Facebook, were present in the campaign, but their activity may have been higher. The number of followers on the Instagram profile was relatively low and interaction was not very high.

Film promotion trends varied from a gradual increase in activity to a peak in October. Online and print media were active throughout the campaign, with television and radio only becoming active in September and October. GRP figures show that online media was the most effective channel for increasing media interest in the film, with an increase in list price ad space from September onwards.

Overall, it is important for social media campaigners to use social media to its full potential and ensure active interaction with fans and potential audiences.

These results suggest that a combination of different media and marketing channels was an effective strategy to increase public awareness and interest in *A máme čo sme chceli [Réveillon]*. Online media and print had a significant impact, with television and radio contributing to widespread media interest at key times.

Acknowledgment: This paper was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-21-0115, titled 'Hypermodern Media Culture – Film and Television Production as Mirror of Sociocultural Phenomena of the 21st Century'.

Bibliography

- Armstrong, G., & Kotler, P. (2017). *Principles of marketing*. Pearson.
- De Vany, A., & Walls, W. D. (1999). Uncertainty in the movie industry: Does star power reduce the terror of the box office? *Journal of Cultural Economics*, 23(4), 285-318. <https://doi.org/10.1023/A:1007608125988>
- Dobele, A., Lindgreen, A., Beverland, M. B., Vanhamme, J., & van Wijk, R. (2007). Why pass on viral messages? Because they connect emotionally. *Business Horizons*, 50(4), 291-304. <https://doi.org/10.1016/j.bushor.2007.01.004>
- Durie, J., Pham, A., & Watson, N. (2000). *Marketing and selling your film around the world*. Silman-James Press.
- Karásek, J. (Director). (2023). *Invalid* [Invalid]. AZYL Production.
- Kerrigan, F. (2010). *Film marketing*. Elsevier.
- Kerrigan, F., & Yalkin, C. (2009). Revisiting the role of critical reviews in film marketing. In E. H. Wirtén, & M. Ryman (Eds.), *Mashing-up culture: The rise of user-generated content* (pp. 162-179). Uppsala University.
- Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signaling unobservable product quality. *Journal of Marketing*, 64(2), 66-79. <https://doi.org/10.1509/jmkg.64.2.66.18000>
- Krajčovič, P., Čábyová, E., & Hudáková, V. (2023). *The impact of the groundswell on environmental consumer behaviour and advertising literacy*. Wolters Kluwer.
- Kunes Kováč, M. (Director). (2023). *A máme, čo sme chceli* [Réveillon] [Film]. B Production.
- Lubbers, C. A., & Adams, W. J. (2001). Promotional strategies utilized by the film industry: Theatrical films as product. *Journal of Promotion Management*, 6(1-2), 161-180. https://doi.org/10.1300/J057v06n01_13
- Matúšová, J. (2011). *Vzťahy s verejnosťou alebo ako na PR v praxi* [Public relations or how to PR in practice]. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Öcal, F., & Nasır, S. (2016). Film marketing: The impact of publicity activities on demand generation. In U. S. Panwar, R. Kumar, & N. Ray (Eds.), *Handbook of research on promotional strategies and consumer influence in the service sector* (pp. 324-342). Idea Group Publishing.
- Pelsmacker, P. D., Geuens, M., & Bergh, J. (2003). *Marketing communication*. Grada Publishing.
- Removčíková, L. (2022, July 31). *Marketing vo filmovom priemysle: spôsob propagácie sa prispôbuje aj divákovi* [Marketing in the film industry: The way of promotion also adapts to the audience]. <https://www.podnikajte.sk/marketing/marketing-vo-filmovom-priemysle>
- RTVS. (2022, September 14). *A máme, čo sme chceli. Slovensko-kanadský film oživuje históriu a rodinné väzby* [Réveillon. Slovak-Canadian film brings history and family ties to life]. <https://www.rtvsk.sk/novinky/filmy-a-seriely/337879/a-mame-co-sme-chceli-slovensko-kanadsky-film-ozivuje-historiu-a-rodinne-vazby>
- Sifaki, E., & Papadopoulou, M. (2022). Exploring film marketing in the new age digital era. Four cases of marketing European art house film productions. *International Journal of Cultural Management*, 1(1), 3-25. <http://dx.doi.org/10.1504/IJCULTM.2022.120963>

- Thurau, T. H., Houston, M. B., & Sridhar, S. (2006). Can good marketing carry a bad product? Evidence from the motion picture industry. *Marketing Letters*, 17(3), 205-219. <https://doi.org/10.1007/s11002-006-7416-0>
- ÚFD. (2023, November 9). *Top 20*. <https://www.ufd.sk/wp/wp-content/uploads/2023/11/vikend-9.11.2023.pdf>
- Wohlfeil, M., & Whelan, S. (2008). Confessions of a movie-fan: Introspection into the experiential consumption of “Pride & Prejudice”. In S. Borghoni, M. A. McGrath, & C. C. Otnes (Eds.), *European advances in consumer research volume 8* (pp. 137-143). Association for Consumer Research.
- Zaušková, A., & Ščepková, S. (2022). *The cornerstone of interactive communication on social media*. Wolters Kluwer Hungary.

Contact Data:

Assoc. Prof. Ľudmila Čábyová, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
ludmila.cabyova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-6008-2883>

ENSURING THE LEVEL OF CREATIVITY IN NEUROMARKETING TESTS BETWEEN HUMAN-MADE OBJECTS AND ARTIFICIAL INTELLIGENCE

Tamás Darázs

DOI: <https://doi.org/10.34135/mmidentity-2023-03>

Abstract:

In the current era of increasing influence of artificial intelligence on content creation, it is essential to investigate how the origin of the creator influences the neurocognitive responses of consumers in neuromarketing experiments. This theoretical paper aims to delve into the issue of ensuring the same creative level of the objects used in these experiments in order to explore how these objects, created by both humans and artificial intelligence, shape the perception and response of the brain. With an introduction to the increasing complexity of content creation, we emphasize the importance of understanding the impact of creativity on neurocognitive processes and the importance of equal creative level for adequate comparisons in neuromarketing research. In more detail, we define creativity as a multidimensional phenomenon that relates to visual aesthetics and content originality. In the field of neuromarketing and creative testing, exploring how neurocognitive responses differ between human-created and artificial intelligence-created test objects is still a novelty. In the final discussion, we interpret the results in the context of existing research in neuromarketing. We evaluate practical applications of the proposed method and suggest future directions for research on the relationship between creativity, artificial intelligence, and neurocognitive responses of consumers in the field of neuromarketing.

Key words: Artificial Intelligence. Creativity. Neurocognitive Reactions. Neuromarketing. Visual Aesthetics.

1 Introduction

In the current era of rapid technological development and the ever-changing landscape of marketing, we are presented with a fascinating insight into the dynamics between creativity, human-generated content, and that produced in artificial intelligence (AI) laboratories. With this ever-evolving ecosystem, marketing is asking new questions about the relationship between the creator, the work and the end consumer, especially in the context of neuromarketing experiments.

The rise of AI in content creation brings to the forefront questions not only about the effectiveness of marketing, but also the deeper neurocognitive and emotional responses of consumers to artificial vs. human creations. Today, consumers are bombarded with an endless stream of ads and content that is simultaneously created by creative humans and sophisticated algorithms. In this constant flux of stimuli, the question is how these diverse forms of creativity are involved in shaping consumer preferences and decisions.

This paper focuses on the issue of ensuring the same level of creativity in objects used in neuromarketing experiments that are both human and AI in origin. It builds on important issues related to the impact of creativity on neurocognitive responses, emphasizing a specific moment in time when AI becomes a significant actor in content production.

The current neuromarketing literature provides us with valuable insights into how the human brain functions in response to various advertising stimuli, but there is still a lack of systematic insight into the influence of content provenance and creativity on these processes. This paper therefore approaches this topic with the ambition not only to analyze existing knowledge, but also to introduce a new perspective, opening the way for a comprehensive understanding of the interactions between different forms of creativity, AI, and neurocognitive processes in the context of consumer response to advertising.

We propose that to fully understand this relationship, it is essential to examine not only the impact of creativity on advertising effectiveness, but also how these factors interact in the setting of specific neuromarketing experiments. In the following sections of the paper, we will therefore delve into the theoretical and methodological aspects, identifying challenges and proposing new approaches to address the issue of equal creative level of objects in these experiments, thereby contributing to a broader view of the relationship between creativity, AI, and neurocognitive processes.

2 Methodology

Science in research and evaluation of consumer data is based on knowledge of logic, mathematics and statistics. The aim of the article is to open a space for a proper understanding of the importance of new ways of consumer research in the era of artificial intelligence, which will allow us to examine in more detail the impact of new information on managerial marketing tools, while the solution of the mentioned issue required the use of several approaches, as well as logical and empirical methods of scientific research. The processing of the work was dominated by empirical methods such as: analysis and synthesis, deduction and induction, concretization and abstraction. The work implements the method of indirect collection of facts, the so-called research boards, as well as their subsequent processing and evaluation, while the research was carried out by collecting secondary data, which can, for example, take the form of available magazine and book information, conference proceedings and academic studies, as well as indirect observations. Subsequently, abstraction was used, ignoring less important publications whose impact on the field of marketing was not too significant.

Within the article, we used several of the theoretical research methods, which we also classify as general scientific methods. Among these theoretical methods, which we applied within the framework of general (logical) methods, we include:

- formal abstraction, within which we applied idealization, the result of which was the theoretical categorization of new knowledge;
- causal analysis and synthesis according to available professional literature.

2 Creativity

Creativity is a complex and multifaceted concept that is difficult to define precisely. It is about generating original ideas and solutions that are often characterised by novelty and uniqueness. Creativity can manifest itself in a variety of fields including the arts, science, technology and business. It is not limited to aesthetic purposes, but also includes practical and problem-solving aspects. The process of creativity is influenced by both internal factors such as intuition and personal qualities and external factors such as social norms and the environment. It requires a combination of knowledge, effort, motivation and thinking. Creativity can be viewed as a social phenomenon that is shaped by social norms and facilitated or inhibited by social factors. Overall, creativity is an enigma that continues to challenge psychologists and researchers in their quest to understand its nature and mechanisms (Boden, 1994; Haran, 2022).

There is a difference in visual and content creativity. Visual content is effective in capturing attention, whereas written text accompanying a visual element helps to turn attention into engagement (Adsett & Lee, 2018). Visual creativity represents one of the main dimensions of creativity, focusing on the aesthetic and visual impact of the content created. Its definition relies on the ability to combine and transform visual elements into unique forms, thus creating a compelling and innovative impression. Content creativity focuses on the

originality and uniqueness of content, whether in textual or audiovisual form. In art, content refers to the objects and concepts in a work, while style refers to the way in which it is expressed. Computer vision faces the challenge of manipulating both content and style as they are modulated by various factors such as emotions, social trends, and artistic movements (Sutherland, 2021). Creativity brings joy, wonder, and excitement to our lives, and nurturing creativity is something many of us would like to do (Wu et al., 2023). In music curricula, there is a dichotomy between creative and reproductive music making and between convergent and divergent learning. Creativity is seen as an instrument-dependent process and the distinction between reproduction and creation is a matter of perspective (Baer, 2017).

Artificial intelligence (AI) is capable of generating creativity comparable to human creativity, although there may be differences in the process of idea generation (Figoli, 2022). In a study comparing ideas generated by humans to those generated by six chatbots with generative artificial intelligence (GAI), no qualitative difference in creativity between AI and humans was found (Haase & Hanel, 2023). However, it was observed that 9.4% of humans were more creative than the most creative GAI. This suggests that GAIs can be valuable helpers in the creative process (Das & Varshney, 2023). The deployment of creative AI has led to the need to explain how it works, whether to elicit trust, enable action, evaluation, or for intrinsic reasons. Continued research and development of GAI in creative tasks is critical to fully understand its potential advantages and disadvantages in shaping the future of creativity.

Advertising research often focuses on the cognitive characteristics of advertising creativity, including distinctiveness, relevance, attention, and perception. The emotional aspect, although playing a key role in the success of creative advertising, is often neglected. Emotion is considered an important mediator between cognitive and behavioral responses to advertising, especially in highly creative ads. In this context, emotions are defined as the evaluation of stimuli and situations in terms of subjective meanings with an emphasis on their subjectivity. The article provides examples of how advertising can evoke different emotions in individuals depending on their interests and preferences (Světlík, 2017).

Another important aspect is the relationship between creativity in advertising and emotions. Studies, such as Rossiter and Percy's model, attempt to express the evaluation of the effect of advertising with respect to commitment to the product and motivation, which can be informational or transformational (based on emotions). Although there is a tendency to underestimate emotions in the case of high commitment products, research suggests that emotions play a significant role in this context as well (Rossiter et al., 2000).

Factors influencing advertisers' decisions to use emotion include the product category and consumer behaviour associated with that category. Rossiter identifies key utility and creative ideation as the main components of successful advertising, with key utility being a unique expression of the main utility of the product and creative ideation emphasizing and dramatizing this expression in order to capture attention (Rossiter & Percy, 2013). There are several patterns of creative invention, including visual analogies, extreme situations, the consequence pattern, competition, interactive experimentation, and spatial change. Each of these patterns has its own uses. There is a relationship between emotional factors and creativity in advertising, and there is the importance of emotion in creating successful and effective advertising (Goldenberg, 1999).

3 Basics of Neuromarketing Testing

Neuromarketing testing is an important tool in the field of marketing that serves to investigate cognitive and emotional processes. These testing methods are used to assess the brain's responses to marketing stimuli. The results of these procedures are used to improve marketing campaigns and improve sales. In order to be able to approach the selection of

suitable research objects in this article, it is necessary to briefly describe the testing process from the selection of the research object, through the selection of participants to the evaluation of the results (Darázs, 2023). This approach is based on experience with research in the consumer neuroscience laboratory – NEUROLAB FMK UCM in Trnava (Darázs, 2023), as well as based on international experience (Plassman, 2015; Lee et al., 2007; Morin, 2011; Plassmann et al., 2012):

Selection of the research object

Choosing the object of investigation is the first step in testing in neuromarketing. This process involves selecting a product, service, advertisement, or other marketing stimulus to be tested. The object of investigation can be, for example, a new product or an advertising spot to be launched on the market. The goal of testing is to find out how the consumer's brain reacts to this marketing stimulus.

Selection of participants

After the selection of the research object, the participants are selected. Different methods are used in neuromarketing to select suitable participants. Ideally, they should be selected so that they are a representative sample of the target group that the given product or advertisement is intended to address. Participants are selected based on their age, gender, socio-economic status and other parameters.

Testing

The selection of participants is followed by the measurement of reactions to the marketing stimulus. Various neuroscientific methods are used for this, such as electroencephalography (EEG), magnetoencephalography (MEG), functional magnetic resonance imaging (fMRI) or galvanic skin response (GSR). These methods make it possible to record the brain activities that occur when viewing a marketing stimulus.

Evaluation

After the end of the testing, the obtained data is evaluated. When evaluating neuromarketing data, various statistical methods and software are usually used to identify and analyze patterns of brain activity. The evaluated data is then interpreted and applied to the development and improvement of marketing campaigns or the expansion of scientific knowledge. The results of neuromarketing testing can provide valuable information about consumer preferences and help marketing professionals create more effective and targeted campaigns.

In practice, in the final phase of neuromarketing testing, the obtained results are presented and discussed with the marketing team and management. These results can provide valuable information on how to improve the product or service and how to improve the overall marketing strategy.

4 Selection of Research Objects Based on Creativity

When selecting advertisements, PR articles, visuals and similar materials that are the object of research in neuromarketing, various selection methods are often used, including quantitative and qualitative research methods, brainstorming, focus group or Delphi method. After a selection of advertisements, PR articles, visuals and similar materials, they are shown to the subjects, usually in a random order, or in such an order that ensures the elimination of the first-choice preference. During the testing, the tested persons are monitored using various neuromarketing methods. These methods enable the measurement of brain activity, skin reactions, eye movement and other physiological manifestations that are related to the perception and reaction to advertising, PR articles, visuals and similar materials. Based on the collected data, relevant information is then obtained about how the tested persons perceive advertising, PR articles, visuals and similar materials. This information can be used to identify

the weaknesses and strengths of advertising, PR articles, visuals and similar materials and to improve their effectiveness.

When choosing research objects, it is important to take into account the factors that influence the results of neuromarketing studies. One of these factors is the emotional burden of the test subjects. If test subjects are exposed to overly intense or controversial advertisements, this may affect their ability to provide objective and relevant information.

Another factor that affects the results of neuromarketing studies is the very creativity of advertising, PR articles, visuals and similar materials. Creative ads are usually more memorable and have a greater impact on consumers. Therefore, creative elements of advertising, PR articles, visuals and similar materials should also be taken into account when choosing objects of investigation.

Thus, we can say that the selection of research objects within neuromarketing studies is a complex process that takes into account a number of factors, including the characteristics of the tested group, the target group, the creativity of advertising, PR articles, visuals and similar materials, as well as the neuromarketing methods used and factors affecting their accuracy. Properly chosen research objects and used neuromarketing methods can provide valuable information about the effectiveness of marketing strategies and help improve their effectiveness. The selection of research objects in neuromarketing studies is therefore a critical step that should be taken into account when planning and implementing marketing activities. When choosing research objects, not only factors related to the product or service should be taken into account, but also factors affecting the perception of advertising, PR articles, visuals and similar materials by the tested group. In this way, the use of neuromarketing methods can be maximized and better results can be achieved in marketing campaigns.

4.1 Creativity in Choosing Research Objects

Therefore, it is important to consider creativity when choosing visuals for experimental testing to ensure that creativity does not influence the results of the testing. The concept of equal creative levels refers to the need to select visuals that have a similar level of creativity to ensure that creativity does not influence test responses and results. Creativity can affect how people perceive visuals, so if the visuals are of different creativity, it can affect the test results and make them impossible to compare. Therefore, it is important to choose visuals with the same creative level to minimize the influence of creativity on answers and test results.

According to the concept of Equated Creativity Levels, described by psychologist Amabile in 1983, visuals with similar levels of creativity are chosen to ensure that creativity does not influence test results. Creativity can affect how people perceive and respond to visuals, so if the visuals are of different creativity, it can affect the test results and make them impossible to compare. When choosing visuals, it is therefore recommended to use the creative score which will allow measuring the creativity of visuals and ensure their equal level. There are various ways to measure the creativity of visuals, such as Creative Indexes Indices, which focus on specific aspects of the creativity of visuals, or creative evaluations which focus on the overall creativity of visuals (Amabile, 1983).

Using the concept of equal creative levels can have a positive effect on the results of testing visuals in neuromarketing research. Using visuals with the same creative level leads to greater consistency in respondents' responses and allows comparison of the impact of different factors on test results without the creativity of the visuals influencing the results. The creativity of visuals can also have a significant impact on respondents' responses. Respondents demonstrate higher emotional and cognitive responses to visuals with higher

creativity. These results suggest that creativity may be an important factor in selecting visuals for use in neuromarketing research.

The measurement of creative levels can be quite subjective and depends on several factors, such as the experience of the person evaluating the given object, their taste, cultural background, etc. Therefore, when measuring creative levels, various methods are often used, which aim to minimize subjective influence and ensure the most accurate measurement. Determining creativity in the selection of objects of investigation is a process that is usually carried out by experts in the field of marketing or advertising. There are several tools that are used to measure creativity. One of the most used tools are Creative Behavior Inventory (CBI) (Rodriguez-Boerwinkle et al., 2022), or creativity assessment scales (Amabile, 1982). This tool measures creativity based on the assessment of creative behavior in different situations. These scales take into account different aspects of creativity, such as originality, flexibility, adaptability, and others. These criteria make it possible to analyze and evaluate creative thoughts, ideas or products.

Some of the key elements of creativity rating scales identified by Amabile (1982) include:

- Originality: The degree to which an idea or solution is new and different from existing ideas.
- Adaptability: The ability to adapt or modify existing ideas or solutions to new contexts or problems.
- Flexibility: The ability to generate different perspectives, approaches or solutions to a given problem.
- Boundary Stretching: The ability to go beyond common thought patterns or boundaries and discover new connections.
- Originality in creation: The ability to create something that is completely new and innovative.

These rating scales provide a framework for assessing creativity in a variety of contexts, including the workplace, education, and other domains, and serve as a tool for measuring and comparing creative performance.

In the field of neuromarketing, the method of subjective evaluation of experts is often used to measure the creative level of visuals. These experts evaluate the visuals based on established criteria that relate to originality, visual harmony, and the overall impression that the visual evokes. Another method of measuring the creative level of visuals is the use of machine learning and artificial intelligence. These technologies enable automatic evaluation of visuals based on established criteria and machine training based on existing data on the creative level of visuals. Overall, however, determining the creative level is still a challenge, as it is a subjective and highly context-dependent process. Therefore, it is important that the assessment of visuals is carried out by experts with sufficient experience in the field of marketing and advertising, and that other factors such as target audience and context are taken into account. (Bodenhausen & Wyer, 1995; Peterson & Merunka, 2014).

Another example of measuring creativity can be, for example, Creative Product Semantic Scale (CPSS), which is used to measure creativity in relation to products or concepts. However, this tool can also be applied to other objects, such as images or texts. The CPSS consists of 28 items that fall into four categories: novelty, efficacy, aesthetics, and positive emotions. Respondents assess to what extent a given product or concept meets each of these categories on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The results are then summarized into three creative levels: low creativity, medium creativity and high creativity. For example, applying the CPSS to images could use items that relate to aesthetics, such as “has an innovative look” or “would look good in many places”. Items that relate to novelty or effectiveness, such as “innovative and unprecedented” or “rationally organized and explanatory” could be used for texts. Such an approach enables objective measurement of

creativity and comparison of different objects with each other, which can be a tool for researchers in the field of neuromarketing (Silvia et al., 2015).

4.2 An Alternative Approach to Creativity in the Selection of Research Objects

When carrying out research in our NEUROLAB laboratory, we have already on several occasions encountered the problem of how to compare different research objects, or how to select them as research objects. This problem arose especially when investigating the modern phenomenon of artificial intelligence. On several occasions, we have tried to answer the question of whether artificial intelligence can currently perform the work of a human. The objects of our research were visuals, PR articles, but also musical samples, and the research consisted in the fact that both human and artificial intelligence creations were included as research objects. We felt the need to include research objects that would be characterized by the same levels of creativity, but determining these levels is time-consuming and still relatively subjective.

In practice, they often test finished products in the form of advertisements, PR articles, etc. through neuromarketing, while it is determined which object is more efficient in terms of target key indicators. In this case, it is not important to find out the levels of creativity, because creativity as such is in a certain sense one of the objectives of the research, as it affects memorability and emotions (Jin et al., 2022).

The level of creativity in advertising is influenced by many factors, including the influence of the client, cultural differences and the environment of the creative agency. Organizational support, managerial support, team coordination and adequate resources are key to achieving optimal creativity. Opinions on creativity and advertising effectiveness vary, with creative individuals emphasizing creativity's ability to enhance ad memorability, while advertisers and managers emphasize measurable results in sales and company profits. Setting specific and achievable goals is essential at both the individual and company level. The EFFIE competition, founded by the American Marketing Association, evaluates the effectiveness and creativity of advertising. Successful advertising achieves persuasiveness, builds a strong brand-consumer relationship, and uses a creative approach to achieve differentiation. Research shows that creative advertising is most effective when it evokes positive emotions, while negative emotions can weaken its effectiveness. Creative advertising has a positive effect on memorability, popularity and attitude towards the brand. In the field of advertising and other human spheres, creativity is associated with creative thinking, the ability to solve problems and novelty. There are various theories of creativity, with the associative hierarchy theory emphasizing the ability to connect unrelated elements. Creativity can be measured using psychometric tests such as the TTCT or FRAT or through professional assessment. Relying only on psychometric tests may have limitations because they may not accurately predict creativity in the real world. The text emphasizes that reliable assessment of creativity is challenging and suggests innovative techniques, such as biometric testing, to improve assessment accuracy. Creativity needs to be ascertained, especially in experimental research, for example, when human creation is compared to artificial intelligence creation. On a theoretical level, we could say that when choosing the object of investigation in such a case, criteria could be set based on levels of creativity, different creativity measurement tools could be used, from brainstorming to expert methods. Our proposal in the field of methodology for choosing research objects is inspiration in practice. If we assume that creativity is only one of many criteria that influence the choice and preferences of consumers, and thus that creativity is only part of a complex of factors, then it is appropriate to focus on how this factor affects perception from a practical point of view (Světlík, 2017).

Our hypothetical proposal for the choice of research objects in the future is therefore as follows:

If the research question is posed as follows: “Can artificial intelligence produce better objects than humans?”, then we do not have to focus only on creativity as a factor of influence, but on how creativity arises. We would therefore choose the object of investigation in such a way as to create the same conditions for the emergence of creativity, not the same creativity. In practice, this would mean that when determining whether a person makes more beautiful visual objects than artificial intelligence, it is not necessary to look for the same creations, but to enter the same conditions for creation, such as the same brief, assignment, etc.

We assume that such a choice of research objects can more effectively answer whether in practice artificial intelligence can create more beautiful creations than humans, and in this way subjectivity also disappears from research.

5 Final Discussion

Nowadays, the selection of a suitable subject for neuromarketing research is crucial for the successful implementation of such research. The selection of the object should take into account creativity and its impact on emotion and memorability. This approach could lead to significant improvements in neuromarketing research and its ability to gain valuable insights into customer preferences and behaviour.

An important contribution of the paper is to highlight the need to investigate not only the impact of creativity on advertising effectiveness, but also the interplay between creativity and AI in specific neuromarketing experiments. The article reveals the links between creative elements of advertising and consumers’ emotions, while also discussing the selection of objects of investigation with the same creative level and the influence of creativity on neurocognitive responses.

The article highlights the importance of creativity in the selection of objects of investigation in neuromarketing studies. The concept of equal creative levels is presented as a tool to minimize the impact of creativity on testing results. The need for systematic measurement of creative levels and the selection of appropriate methods to eliminate subjective factors in the assessment of creativity are also highlighted.

We conclude the paper by presenting a hypothetical approach of considering creativity conditions instead of creativity levels when selecting objects of investigation, which we plan to apply in the future in NEUROLAB FMK. We consider this new approach important because our goal is to have the most relevant insights into customer preferences and behavior. The results of neuromarketing research can be a valuable tool for marketing professionals and managers when developing and implementing marketing strategies.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0606/21, titled ‘Change in Preferences in Buying Behaviour of Consumers in the Context of the Dynamics of Marketing Communication Tools Development’.

Bibliography

Adsett, P., & Lee, M. A. (2018). Creativity and the visual arts. In L. Martin, & N. Wilson (Eds.), *The palgrave handbook of creativity at work* (pp. 169-186). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-77350-6_8

- Amabile, T. M. (1982). Social psychology of creativity: A consensual assessment technique. *Journal of Personality and Social Psychologists*, 43(5), 997-1013. <https://doi.org/10.1037/0022-3514.43.5.997>
- Amabile, T. M. (1983). *The meaning and measurement of creativity*. Springer. https://doi.org/10.1007/978-1-4612-5533-8_2
- Baer, J. (2017). Content matters: Why nurturing creativity is so different in different domains. In R. Beghetto, & B. Sriraman (Eds.), *Creative contradictions in education* (pp. 129-140). Springer. https://doi.org/10.1007/978-3-319-21924-0_8
- Boden, M. A. (1994). What is creativity? In M. A. Boden (Ed.), *Dimensions of creativity* (pp. 75-117). The MIT Press. <https://doi.org/10.7551/mitpress/2437.003.0006>
- Bodenhausen, G. V., & Wyer, R. S. (1995). Effects of stereotypes on decision making and information-processing strategies. *Journal of Personality and Social Psychology*, 48(2), 267-282. <https://dx.doi.org/10.1037/0022-3514.48.2.267>
- Darázs, T. (2023). Evaluating the creative value of objects for neuromarketing testing: Ensuring comparability of objects. In B. Francistyová, & L. Furtáková (Eds.), *Quo Vadis 2023: <Generated by AI>* (pp. 360-369). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Das, P., & Varshney, L. R. (2022). Explaining artificial intelligence generation and creativity: Human interpretability for amendments ideas and artifacts. *IEEE Signal Processing Magazine*, 39(4), 85-95. <https://doi.org/10.1109/MSP.2022.3141365>
- Figoli, F. A., Mattioli, F., & Rampino, L. (2022). *Artificial intelligence in the design process*. FrancoAngeli.
- Goldenberg, J., Mazursky, D., & Solomon, S. (1999). The fundamental templates of quality ads. *Marketing Science*, 18(3), 333-351. <https://doi.org/10.1287/mksc.18.3.333>
- Haase, J., & Hanel, P. H. (2023). Artificial muses: Generative artificial intelligence chatbots have risen to human-level creativity. *Journal of Creativity*, 33(3), 100066. <https://doi.org/10.1016/j.yjoc.2023.100066>
- Haran, J. (2022). Creativity is creativity. *The Management Accountant Journal*, 57(4), 52-54.
- Jin, H. S., Kerr, G., Suh, J., Kim, H. J., & Sheehan, B. (2022). The power of creativity advertising: Creative ads impairment recall and attitudes toward other ads. *International Journal of Advertising*, 41(8), 1521-1540. <https://doi.org/10.1080/02650487.2022.2045817>
- Lee, N., Brodeick, A. J., & Chamberlain, L. (2007). What is neuromarketing? A discussion and agenda for futures research. *International Journal of Psychophysiology*, 63(2), 199-204. <https://doi.org/10.1016/j.ijpsycho.2006.03.007>
- Morin, C. (2011). Neuromarketing: The new science of consumer behavior. *Society*, 48(2), 131-135. <https://doi.org/10.1007/s12115-010-9408-1>
- Peterson, R. A., & Merunka, D. R. (2014). Convenience samples of college students and research reproducibility. *Journal of Business Research*, 67(5), 1035-1041. <https://doi.org/10.1016/j.jbusres.2013.08.010>
- Plassmann, H., Ramsøy, T. Z., & Milosavljevic, M. (2012). Branding the brain: A critical review and outlook. *Journal of Consumer Psychology*, 22(1), 18-36. <https://doi.org/10.1016/j.jcps.2011.11.010>
- Plassmann, H., Venkatraman, V., Huettel, S., & Yoon, C. (2015). Consumer neuroscience: Applications, challenges, and possible solutions. *Journal of marketing research*, 52(4), 427-435. DOI: <https://doi.org/10.1509/jmr.14.0048>
- Rodriguez-Boerwinkle, R., Silvia, P., Kaufman, J. C., Reiter-Palmon, R., & Puryear, J. S. (2021, February 5). *Taking inventory of the creative behavior inventory: An item response theory analysis of the CBI*. <https://doi.org/10.31234/osf.io/b7cfid>

- Rossiter, J. R., & Percy, L. (2013). How the roles of advertising they measured appear to have changed. *International Journal of Advertising*, 32(3), 391-398. <http://dx.doi.org/10.2501/IJA-32-3-391-398>
- Rossiter, J. R., Donovan, R. J., & Jones, S. C. (2000). Applying the Rossiter-Percy model to social marketing communications. In A. O’Cass (Ed.), *Visionary marketing for the 21st century: Facing the challenge proceedings of ANZMAC 2000* (pp. 1073-1078). Griffith University School of Marketing and Management.
- Silvia, P. J., Winterstein, B. P., Willse, J. T., Barona, C. M., Cram, J. T., Hess, K. I., Martinez, J. L., & Richard, C. A. (2015). Measuring creativity with divergent thinking tasks: Exploring the reliability and validity of new subjective scoring methods. *Psychology of Aesthetics, Creativity, and the Arts*, 2(2), 68-85. <http://dx.doi.org/10.1037/1931-3896.2.2.68>
- Sutherland, K. E. (2021). *Strategic social media management: Theory and practice*. Palgrave Macmillan.
- Světlík, J. (2017). Reklamní koncepce [Advertising concept]. In J. Světlík, Z. Bačíková, M. Kačániová, P. Mikuláš, Z. Mago, & S. Van Wichelen, *Reklama – Teorie, koncepce, modely [Advertising – Theories, concepts, models]* (pp. 227-242). Wyższa School Informatyki i Zarządzania z Siedzibą w Rzeszowie.
- Wu, Y., Nakashima, Y., & Garcia, N. (2023). No only generative art: Stable diffusion for content-style disentanglement in art analysis. In I. Y. Kompatsiaris, J. Luo, N. Sebe, A. Yao, V. Mezaris, S. Papadopoulos, A. Popescu, & Z. H. Huang (Eds.), *Proceedings of the 2023 ACM International conference on multimedia retrieval* (pp. 199-208). Association for Computing Machinery. <https://doi.org/10.1145/3591106.3592262>

Contact Data:

Ing. Tamás Darázs, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 tamas.darazs@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0002-1873-6441>

BEYOND THE AGE RATINGS: EXPLORING THE EDUCATIONAL AND EMPATHETIC BENEFITS OF THIS WAR OF MINE FOR ADOLESCENTS

Mária Dolniaková

DOI: <https://doi.org/10.34135/mmidentity-2023-04>

Abstract:

Rating systems have been ranking digital games based on potentially dangerous content for almost 30 years. What they have successfully avoided so far, however, is assessing potentially beneficial elements. Nevertheless, digital games can have a positive impact on children's development in a number of areas, including emotional, intellectual, moral and social. This study focuses on the digital game *This War of Mine*, which was inspired by events during the 1992 – 1996 siege of Sarajevo and the story itself was inspired by the poor living conditions of civilians. According to the rating institution Pan European Game Information, the title is unsuitable for gamers under the age of 18 and company Entertainment Software Rating Board states, that the game is inappropriate for players under the age of 17. In this study, we focus on assessing the potential benefits of the digital game for younger individuals. We assume that playing it properly can help teens better understand the issues faced by millions of people around the world, in the context of the ongoing war conflicts and migration crisis.

Key words: Digital Game. Educational Digital Game. Explicit Content. Rating. Rating Organization. Rating System. Significant Content.

1 Introduction

Digital games have been associated with negative effects on players since their inception (Salz, 2011). While arcade machines existed, the situation was not as severe. However, when people started buying the first consoles for their homes, suddenly many more people had contact with video games (Švecová & Kukumbergová, 2020).

Many of them were outraged by the explicit content displayed. The concerns of that part of society are, according to A. ML. Brown (2015) is due to the cultural bias emphasized, which suggests that games and playful activities are for children, not for adults. When behaviors commonly coded as adult (e.g., sex or violence) become available for play, problems arise. When a game called *Mortal Kombat* (Midway, 1992) came on the market in 1992, it contributed significantly to society's unfavourable attitude towards digital games (Crossley, 2014). Other game titles that outraged society also included *Doom* (Id Software, 1993), *Wolfenstein 3D* (Id Software, 1992) and *Night Trap* (Digital Pictures, 1992) (Salz, 2011). According to Z. Mago, the situation escalated in 1993, when the question of whether to retain the possibility of depicting extreme violence in games was debated at the legislative level in the United States of America (USA). This year, according to him, can be considered the birth of the discourse of violence in digital games, which was crowned by the release of the icon of violent digital games of the FPS genre – *Doom* (Mago, 2020). The upheaval that occurred in society helped to give birth to the rating institutions. The first one was established in 1994. It was a non-profit rating organisation called the Entertainment Software Rating Board – ESRB for short (Hayse, 2014). This came after the USA Congress put pressure on the video games industry and the US Digital Software Association, now renamed as the Entertainment Software Association (ESA), to create an industry-wide content-based classification system. The result was a rating chart that served as a compromise between the video game industry's unofficial claim to protect free speech and the government's desire to regulate the trade and sale of potentially explicit products (Salz, 2011). Over time, other companies and rating systems emerged.

A very important rating company is Pan European Game Information (PEGI) with a presence in Europe. It was established in 2003, replacing a number of regional systems (Mago, 2020). It was developed by the Interactive Software Federation of Europe (ISFE) and is currently used by 38 European countries and Israel (Švecová & Kukumbergová, 2020). PEGI allocates a total of five rating categories: PEGI 3 (suitable for all ages from three years, may contain a very mild form of violence in a comic context or in a children's environment); PEGI 7 (titles suitable for players aged seven and over, whose content may frighten younger children, with very mild, unrealistic and inaccurate forms of violence); PEGI 12 (games are accessible to adolescents aged 12 and over, and may contain depictions of more explicit violence against unrealistic or fantasy characters, sexual innuendo or attitudes, mild swearing or gambling); PEGI 16 (products suitable for minors aged 16 and over, may depict very realistic forms of violence or sexual activity, may include harsher profanity, gambling and the use of tobacco, alcohol or illegal drugs); PEGI 18 (games for adults, may contain crude violence, deliberate killing or violence against defenceless characters, idealisation of the use of illegal drugs or explicit sexual activity) (PEGI, n.d.-a). In addition to rating symbols, PEGI also lists explicit content symbols. Content descriptors do not take the form of text, but symbols specifying the presence of problematic content under the headings of inappropriate language, discrimination, drugs, fear, gambling, in-game purchases, online connectivity or online gaming, sexual and violent content, Mago explains (2020). In addition to the recommended age on a particular product, this gives the buyer the opportunity to see the most problematic content they may encounter in a given title. The Slovak Republic does not have its own rating system, but the established standard at least for games on physical media is to use the European PEGI rating system (Šmilňáková, 2020a). This rating, according to Brojo (e-mail communication, 28 November 2021), is not mandatory or regulated in any other way, but developers or distributors are free to choose PEGI as part of their rating classification.

Nowadays, ratings are one of the tools used in the purchase decision of a given product and signal its inherent characteristics (Jöckel & Dogruel, 2012). How the resulting ratings are generated is specific to each rating company. The process is also influenced by the legislation in each country. Although there is no doubt about the usefulness of ratings, the rating methods are in many ways questionable. Different rating processes are the reason why some rating games differ. The problem is that ratings have no clear structure or rules (Whitehead, 2011). M. Švecová and A. Kukumbergová (2020) consider the process to be vague and subjective. They also draw attention to political, cultural, economic factors and to the blurring of the boundaries between regulation and self-regulation. In their view, the very existence of local regulations suggests that these systems are not universal and global and are also subject to certain local influences (Švecová & Kukumbergová, 2020).

2 Methodology

Our main aim is to assess the relevance of the digital game *This War of Mine* (11 bit studios, 2014) in relation to age-non-conforming players and to specify in what ways they may benefit from this content. Within this case study, our aim will be to elucidate the production details of the selected research material, its rating and potential explicit content, and ultimately its socio-cultural dimensions.

We divide the analysis of the digital game into three parts:

- Production details. Information regarding the development company, the basic idea, the theme and the topic of the selected research material.
- Explicit content and rating evaluation. An examination of the potential explicit content found in the research material according to the ratings.
- The socio-cultural dimension of the digital game. Its significance in relation to the players.

3 Results

3.1 Production Details

The digital game *This War of Mine* launched on November 14th, 2014. It was developed and published by 11bit studios based in Poland. The game is classified by genre as a war, drama and strategy game with elements of single-player survival combat. The story itself was inspired by the poor living conditions and war attacks experienced by Bosnian civilians during the siege of Sarajevo between 1992 and 1996. Unlike other war games, however, it does not put the recipient in the position of a strong soldier, but offers them the opportunity to put themselves in the shoes of a group of civilians experiencing a combat conflict. It thus looks at war from a completely opposite perspective. The player's task is to make the group of characters survive and see the end of the conflict. In order to achieve the goal of the game, the player has to struggle against danger, search for resources such as food, medicine or other items, which he can then use to improve his living conditions.

The digital game applies the cycle of day and night. During the daytime, when snipers watch outside the shelter gates, the recipient must try to improve his refuge, make items, trade or care for survivors. He can ideally go out as a civilian only at night, when he goes out in search of resources that will help him survive. We find the mechanics of decision making to be unique, and they tend to be emotionally challenging. Not every civilian can be saved by the player. It is up to him to decide who he will accept into his hideout and who he will sacrifice in order to survive. If the player chooses to steal or not help the needy, his morale suffers. This will result, for example, in feelings of guilt, which can end in depression or even suicide. Every decision will also affect the opinions of the other civilians in the group. Although the research material contains fiction, it is based on reality and actual events. As a result, it offers content that is not only aesthetically pleasing, but can also be educational or inspirational.

The developers also added several updates as well as additional downloadable content after the game was published. The base version of the game, subtitled Final Cut, includes several released updates and expands the scenarios or locations from the published DLC compared to the first release. For example, after purchasing it, the player has also an expansion called The Little Ones available, which focuses on experiencing war from the perspective of an innocent child.

3.2 Explicit Content and Rating Evaluation

PEGI has rated the title PEGI 18. The game is unsuitable for people under the age of eighteen. The ESRB is more lenient in this case, rating the accessibility of the selected material as Mature 17+. This means that the game is unsuitable for people under the age of seventeen. Both companies agree that potentially dangerous content includes: realistically depicted gunshots and blood spatter; the ability to rob and use guns to violently attack enemies and innocent civilians; sexually explicit themes and sexual violence; and profanity in the English language, specifically f*ck. However, the ESRB adds to the issue of inappropriate language with the terms sh*t and a*shole. Vulgarisms are present in dialogues, but also appear, for example, on wall signs (Figure 1). PEGI's rating focuses more on the fact that the game contains several instances of violence against innocent human characters, and that in the event of an attack, the injured persons retreat and beg the player to stop attacking (PEGI, n.d.-b).



Figure 1: On the right side of the screen, on the dark wall, there is an inscription with a used vulgarism
Source: GameSpot (2014)

The playable characters in the title can also be encouraged by drinking alcohol in addition to listening to music from the radio or playing the guitar. The possibility to produce, consume or trade addictive substances (specifically cigarettes and alcohol) is listed by the rating companies as additional dangerous content. Suggesting that addictive substances make people feel better in difficult times is inappropriate, according to the ESRB and PEGI. Only smokers smoke cigarettes in the game and all characters except abstainers can drink alcohol. Consuming it will alleviate any depression or bad mood they may be experiencing, but they will not be able to run, work in the workshop or consume food.

Potentially dangerous content includes, according to the rating, the level of displayed violence. In the title, the player can eliminate enemies with a variety of weapons, such as stabbing them with a knife, wounding them with an axe, or shooting them. Blood can also flow from the victim after being hit with a weapon, which is also problematic content according to the ratings (Figure 2). However, in a fight for survival, the player often has a choice and does not have to kill the opponent immediately. This is because he would face consequences that would make it difficult for him to play – for example, his character would become depressed or commit suicide because he could not come to terms with the fact that he had taken someone’s life. The recipient can also save himself by just wounding the enemy. He automatically backs down and begs for his life. In this case, he is no longer a threat to the player and his death is not necessary.



Figure 2: Realistic illustration of blood splattering after hitting an enemy with an axe
Source: Ars Technica (2019)

As a result, the player can choose to kill a soldier or a civilian, rob them, help them in their time of need, or do nothing. However, everything has its consequences. As an example, the recipient in the title encounters a soldier in the next room trying to seduce an innocent girl looking for food. After she refuses him, he strikes the girl and forces her to enter the room with him. From the whole situation, it is clear that the soldier is trying to rape the girl. As part of this, her crying can be heard, but the act itself is not visible because the whole room in which the act is happening is blurred (Figure 3). The player can save the woman in the role of a civilian by assaulting the soldier. However, he risks his life. But if he does nothing, strong remorse will occur.

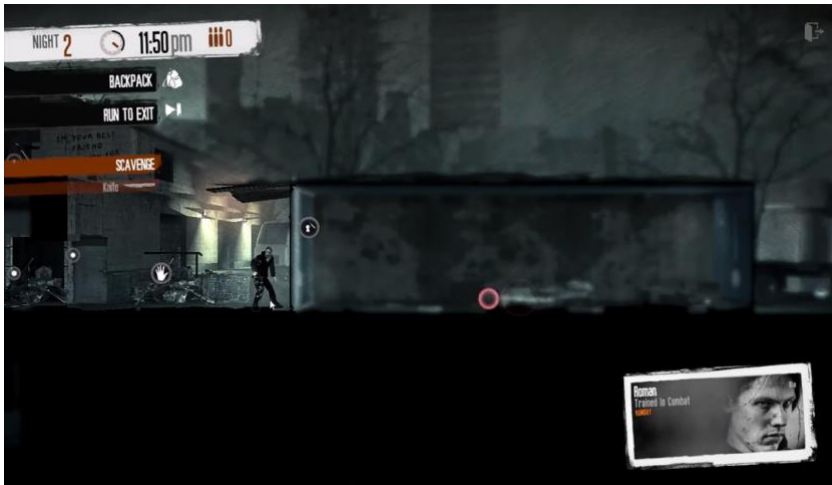


Figure 3: An act of violence by a soldier against an innocent woman in a blurry room on the screen
Source: Sleepy lipid (2019)

Each decision will in turn affect the opinions of the other characters in the group. In this way, the recipient cannot kill with impunity, steal from others, or ignore the pleas for help of others. The game forces him to think about the consequences of his decisions, just as in real life, and also encourages empathy for others. The developers of the game have done extensive literary research – the stories, and the language in which they are written, are supremely authentic and convey to players a raw picture of what it means to live without basic human rights (Kuhn, 2017). *This War of Mine* attempts to simulate the real face of war.

3.3 The Socio-Cultural Dimension of the Digital Game

This War of Mine reflects the environment, conditions, difficulties and problems faced by ordinary people during armed conflicts. It was inspired by the siege of Sarajevo between 1992 and 1996, when Bosnian civilians experienced inhumane living conditions and wartime aggression. The authors were also inspired by the Warsaw Uprising, the attack on Grozny and the war in Syria, especially in terms of the fate of the civilian population (Republic of Poland, n.d.). Because the creators were trying to create an authentic experience of war as civilians, they had to inject a certain amount of violence, sexual violence or inappropriate language into the game. These are elements that we consider to be a necessary part of the title with regard to the subject matter presented. We think that in the wording of the slogan: “Better seen once than heard a hundred times”, the title offers a suitable way for educators and parents alike to introduce adolescents to what the horrors of war really look like. Indeed, these are often romanticized or portrayed on the movie screen or in other types of products on the basis of the black and white optics of “(good) us versus (bad) them”.

The story does not take place on the frontline, but in the shelters of ordinary people and in the minds of the players, who must constantly decide who to save and who not to save,

for whom they will sacrifice their food supplies, medicine or materials necessary for their own survival. The creators put the player in situations in which it is really difficult to decide. Just like in real life, in the title the player experiences the consequences of his decisions and has to live with them, whether they occur immediately or with the passage of time. The game system forces the recipient to think empathetically, morally and to make the best decisions according to their conscience. The developers communicated with psychologists in the creation of the work and achieved a unique result that clearly develops the player's emotional level of experience, empathic and strategic thinking and imagination (Šmilňáková, 2020b). The game is challenging in its subject matter and can come across as gloomy, sad or even depressing. It can evoke feelings of anxiety, grief and fear in the player. These are the emotions one might experience if one is a victim or a participant in a war conflict in general. We think that the title is a suitable medium for teaching subjects such as history or civics to adolescents aged 15 and older. This is confirmed by the fact that the Polish Ministry of Education and Science has included this title in the official list of supplementary reading for schools in Poland. It is the first digital game to be on this list in the country. It is available on the Polish Government's website and is accompanied by an attached educational brochure, a lesson plan based on This War of Mine and basic instructions on how to start the game. It is primarily intended for use in ethics or social studies classes (Republic of Poland, n.d.). The authors have created an educational license and made the title available to all educational institutions (Božík, 2017).

In our opinion, all the features of the title described above can also help to better understand the current situation in Ukraine or Israel. Empathy, the development of which is also supported by the research material, is also much needed in the context of the refugee and migration crisis. Russia's invasion of Ukraine since February 2022 has caused one of the biggest humanitarian crises in Europe (European Parliament, 2022). The narratives propagated by political authorities in relation to refugees can cause fear or panic. Sweden, for example, has in recent years been at the top of the list of European countries receiving Muslim migrants (in 2016, Muslims made up 8.1 percent of the Swedish population, while the European average was 4.9 percent). Yet copies of the Koran have been burned at several demonstrations in both Sweden and Denmark this year. The country is also facing high crime rates and a failure to integrate migrants (Chren, 2020). A digital game could help players to better empathise not only with people fleeing the horrors of war, but also to be able to relate compassionately to the homeless. However, we remind you that a discussion with a competent adult is necessary after watching (playing) the content, as the themes depicted in the game may be psychologically challenging or shocking for some (not only young) players (Šmilňáková, 2020c).

We add that minors may regularly come into contact with similar explicit material in cinematographic works, both on television and on various streaming platforms. In this context, we would like to point out that the Motion Picture Association of America (MPAA), a rating institution, distinguishes five types of ratings within the US audiovisual market (MPAA, n.d.). One of these is the R marking, which indicates that the work may be viewed by people under the age of 17, but only when accompanied by an adult, a family member (parent or sibling) or a legal guardian. This rating warns that the title may contain realistic and extreme or persistent violence; profanity, which may be in a sexual context; the presence of addictive substances (which, incidentally, is permitted even with a milder PG-13 rating warning of possible inappropriate content for children under 13); or sexually oriented nudity (MPAA, n.d.). This implies that when a juvenile is supervised by an adult, almost all of the types of explicit content that we mention in our analysis of the research material are permitted. It can therefore be argued that for virtually the same content included in a digital game, the rating is higher and corresponds to the highest film rating of NC-17. The MPAA assigns this designation to products that contain extremely explicit content, including

pornography. Cinematographic works with this designation are only suitable for people aged 18 and older. We can also conclude from this that the digital-game ratings are disproportionately strict compared to the film ratings, specifically in the case of the US market.

Furthermore, we would like to note that the rating institutions do not have a control authority in relation to consumers to verify whether they comply with the age classification (although some major retail chains in America, such as Walmart, Gamestop and Target, refuse to sell adult-rated digital games). With regard to cinematographic works, cinema staff can check the age of visitors when they enter cinemas. In the online space – for example in the case of streaming services – there are also parental locks or Kids sections, which adolescents may not identify with as they are no longer considered children. Moreover, for adolescents, who often have better technological skills than their parents or caregivers, it is not a problem to bypass or modify system settings. We see a similar situation for digital games with high ratings. When viewing previews or images of these titles or buying them on the web, the player usually has to log in to an account that registers them as an adult, which they can change in the settings of the platform (e.g. YouTube, Steam, Origin, etc.). One of the options is also the need to confirm the user's age, whereby the system will only allow them to open the site if they fit that age classification. This can be circumvented by deliberately entering misleading information. As for the purchase of the game itself, in this case it is sufficient if the person concerned has the necessary means of payment. Age verification can be carried out in a similar way as described above.

4 Discussion and Conclusion

Our main objective was to assess the socio-cultural dimension of the digital game *War of Mine* and to specify in what ways it may be beneficial for recipients who do not fit the rating category. Our analysis focused on clarifying the production details of the selected research material, evaluating the rating category, specifying potentially explicit content, and finally assessing the significance of the work and its socio-cultural dimension. Through this exploration, we identified the potentially dangerous content in the game and, very importantly, we also assessed its potential benefits for individuals.

Based on the above analysis of the research material, we believe that the ratings of rating institutions are not the only factor that parents and guardians should rely on when purchasing digital games for minors. The age rating allows a brief summary of all the potentially dangerous content contained in a given product, under a specific symbol on the packaging of the game or on the screen in the case of an electronic edition. However, the rating institutions do not indicate whether a game has content that may develop the skills or abilities of adolescents or enrich their knowledge. In short, it could be said that the ratings draw attention to the dangerous elements in the titles, but not to the potential benefits of these games for players. On the one hand, these ratings are important because they allow people to make informed decisions. On the other hand, they cannot solve the problem they reflect completely. Indeed, there are ways in which even younger gamers can get access to strictly rated titles, or their parents do not follow the ratings at all and are willing to buy them adult titles as well.

Addressing this issue requires interventions from several sides. In our opinion, the most important is probably the interest of parents and guardians in the games that minors play. This should be based on a basic interest in their own children's favourite activities. The fact that the parent or carer talks to the child about the game – e.g. about the child's motivations for playing, feelings, experiences and their interpretation – ultimately influences whether the digital game will be a educational moment that really makes a difference to the

child's life (Dolniaková, 2022). Those in charge should also have at least some familiarity with digital games and seek information about them. The resulting open and honest discussion in which both parties can directly reflect on their feelings and gaming experiences is essential. We also find it very beneficial to play together as a family, meaning children with adults. In the event of contact with potentially dangerous content, the minor has someone to turn to and a parent or carer can provide advice, guidance or a safe place.

The ways of approaching gaming in families or institutions described above result in gaining mutual trust or strengthening relationships between individuals. If the right digital games are chosen, knowledge can also be gained or intellectual, emotional, social and moral development can occur. The player has the opportunity to develop, for example, their logical skills, analytical thinking, insight, concentration or reaction time, and these areas can be applied in real life, not just in a game environment. The whole process should be facilitated by the fact that the current generation of parents of adolescents, unlike the previous generation, grew up in direct contact with digital games.

We believe that the topic of rating organisations, their evaluations and systems is not sufficiently explored or discussed in Slovakia. Continued research towards, for example, the development of a tool that would focus on exploring and finding potentially enriching content in digital games for underage players, would have significant use in practice. A single symbol on the cover of a digital game does not contain information about the significance of the work, its potential contribution to the player, or information about what skills and abilities a particular title can improve. Strict ratings also cause what is known as the forbidden fruit effect – young players are tempted to try games that the ratings say are not suitable for them. These shortcomings could be compensated for by a deeper search for potentially beneficial content, which is often found in games, despite a certain amount of violence or sexually explicit content. Parents and guardians themselves should currently take on the task of such research. In Slovakia, this task is currently being partially fulfilled by the VÍcatá.sk portal, which seeks to inform parents in particular, but also educators, about digital games suitable for children with high educational potential. However, we think that in the future this should be an issue that would be addressed by a new independent institution for the evaluation of potentially beneficial or educational content in digital games. It would operate in parallel with the existing rating organisations, and in this way these companies would maintain a balance in the digital-gaming market by cooperating with each other.

Bibliography

- Ars Technica. (2019, May 30). *How This War of Mine Plays on Your Emotions* | *War Stories* | Ars Technica [Video]. YouTube. <https://youtu.be/FNrCAWVKVQ0?si=ine3UXqfEYpF3Niz>
- Božík, M. (2017, June 7). *This War of Mine – rozhovor s Pawlom Miechowskim a Wojciechom Setlakom z 11bit Studios* [*This War of Mine – interview with Pawel Miechowski and Wojciech Setlak from 11bit Studios*]. <https://vlcata.sk/this-war-of-mine-rozhovor/>
- Brown, A. ML. (2015). *Sexuality in role-playing games*. Routledge.
- Chren, K. (2020, October 2). *Migranti dostali stopku. Švédsko po náraste kriminality mení svoju azylovú politiku* [*The migrants have been stopped. Sweden is changing its asylum policy after a spike in crime*]. <https://tvnoviny.sk/zahranicne/clanok/121897-migranti-dostali-stopku-svedsko-po-naraste-kriminality-meni-svoju-azylovu-politiku>
- Crossley, B. (2014, June 2). *Mortal Kombat: Violent game that changed video games industry*. <https://www.bbc.com/news/technology-27620071>
- Digital Pictures. (1992). *Night Trap* [Digital game].

- Dolniaková, M. (2022, December 16). *Keď dáš dieťaťu pod stromček hru, tvoja úloha rodiča sa len začína, hovorí psychológ (rozhovor)* [When you put a game under the Christmas tree for your child, your role as a parent is just beginning, says psychologist (interview)]. <https://hernazona.aktuality.sk/clanok/RGSzHVG>
- Eleven bit studios. (2014). *This War of Mine* [Digital game].
- European Parliament. (2022, March 29). *Európska odpoveď na ukrajinskú utečeneckú krízu* [European response to the Ukrainian refugee crisis]. <https://www.europarl.europa.eu/news/sk/headlines/world/20220324STO26151>
- GameSpot. (2014, October 30). *This War of Mine – Gameplay Trailer* [Video]. YouTube. <https://youtu.be/BALBUyoTxQM?si=qpstEvWfn4UbxlTt>
- Hayse, M. (2014). Ethics. In M. J. P. Wolf, & B. Perron (Eds.), *The Routledge companion to video game studies* (pp. 456-474). Routledge.
- Id Software. (1992). *Wolfenstein 3D* [Digital game].
- Id Software. (1993). *Doom* [Digital game].
- Jöckel, S., & Dogruel, L. (2012). The right game: Video game choice of children and adolescents. In J. Fromme, & A. Unger (Eds.), *Computer games and new media cultures. A handbook of digital games studies* (pp. 343-356). Springer.
- Kuhn, T. (2017, May 22). *V "This War of Mine" zažijete hrôzy občianskej vojny* [In "This War of Mine" you will experience the horrors of the civil war]. <https://vlcata.sk/v-this-war-of-mine-zazijete-hrozy-obcianskej-vojny/>
- Mago, Z. (2020). *Úvod do štúdia digitálnych hier I* [Introduction to digital games studies I]. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Midway. (1992). *Mortal Kombat* [Digital game].
- MPAA. (n.d.) *Film ratings*. <https://www.motionpictures.org/filmratings/>
- PEGI. (n.d.-a) *Čo znamenajú označenia?* [What do the labels mean?]. <https://pegi.info/sk/what-do-the-labels-mean>
- PEGI. (n.d.-b). *"This war of mine" search results*. <https://pegi.info/sk/search-pegi?q=This+war+of+mine>
- Republic of Poland. (n.d.). *This War of Mine*. <https://www.gov.pl/web/grywedukacji/this-war-of-mine>
- Salz, Z. (2015). The newest significant medium: Brown. v. EMA (2011) and the twenty-first century status of video game regulation. In M. Wysocki, & E. W. Lauteria (Eds.), *Rated M for mature. Sex and sexuality in video games* (pp. 60-74). Bloomsbury Publishing.
- Sleepy lipid. (2019, October 21). *This War of Mine – If ROMAN Didn't Help Women in Supermarket (Raped)* [Video]. YouTube. https://youtu.be/-5tgnT5D4sU?si=quHyQB_jyZgRACk8
- Šmilňáková, M. (2020a, October 8). *Len pre dospelých: Ako krvavé bitky podnietili vznik ratingov* [Adults only: How bloody battles sparked the rise of ratings]. <https://hernazona.aktuality.sk/clanok/5680>
- Šmilňáková, M. (2020b, October 1). *Videohry ako moderný nástroj vzdelávania? Čo si myslí psychológ* [Video games as a modern educational tool? What does a psychologist think]. <https://hernazona.aktuality.sk/clanok/5851>
- Šmilňáková, M. (2020c, December 17). *Psychológovia radia: Spoločné hranie hier v rodine je prospešné* [Psychologists recommend: Playing games together in the family is beneficial]. <https://hernazona.aktuality.sk/clanok/6237>
- Švecová, M., & Kukumergová, A. (2020). *Etické výzvy digitálnych hier* [Ethical challenges of digital games]. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.

Whitehead, D. (2011, April 14). *Is PEGI too tough?* <https://www.eurogamer.net/is-pegι-too-tough-article>

Contact Data:

Mgr. Mária Dolniaková
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
dolniakova1@ucm.sk

INTEGRATED MARKETING COMMUNICATION THROUGH DIGITAL CHANNELS IN CONTEXT OF GENERATION Z IN SLOVAKIA

Peter Drábik – Marina Korčoková – Katarína Ožvoldová – Dominika Škerlíková – Martin Kuchta

DOI: <https://doi.org/10.34135/mmidentity-2023-05>

Abstract:

Generation Z represents a significant part of today's society and therefore understanding their buying behavior is a key point of companies' marketing strategies. The main objective of this paper is to investigate selected aspects of Generation Z's behavior in the online environment as well as to explore the differences in this behavior due to gender. Based on descriptive and inductive statistics, it was possible to identify important factors of Generation Z's purchasing behavior as well as their perception of the benefits of online shopping itself. An important outcome is also the design of a Generation Z customer journey map that describes the customer journey of their online purchase. The study deepens previous research on the application of the models to a selected segment of customers and at the same time, its limitations create scope for exploring intergenerational differences in consumer behavior in both online and offline environment.

Key words: Communication. Generation Z. Marketing Communication. Marketing Channels. Online Marketing.

1 Introduction

Since changing nature of consumer preferences and rising preference of multimedia consumption it is necessary to perceive, know and precisely consider consumer preferences and behaviors during an implementation of current modern marketing strategies. Understanding how consumers seek information and how their purchase decision-making process has evolved over time is currently crucial for marketing success. Integrated marketing communication programs reflect the way which internet search, traditional and new media such as mobile, television and social media influence consumer decision making processes. It is common currently people use multiple devices at same time to search for product information, or switch their search to another device afterwards. Companies need to be aware of how these processes work and consider it in their marketing strategies, including communication campaigns. Current consumer is more sophisticated, more demanding and more influential as ever. Representatives of Generation Z are pioneering the use of interactive marketing communications within online environment, which will be explored in more detail in this paper. For the companies it is essential to understand and accept how young people represented by Generation Z search for information in the online environment, as this space is natural for them, and ultimately culminate their search activities with the final purchase intention. Based on the data collected, companies will need to develop, adapt and utilize technologies that are creative, convenient and, most importantly, attractive to Generation Z.

2 Literature Review

2.1 Integrated Marketing Communication

Many authors and researchers dedicate their work to Integrated Marketing Communications (IMC), what cause existence of many definitions and characteristics of the term. One of the most precise and the most accurate definitions belongs to Percy who define IMC as the systematic planning to create the most effective message for the appropriate target

audience (Percy, 2008). The American Marketing Association defines IMC as a concept which accept the added value of a complex plan evaluating the roles of the communication disciplines. The concept connects the disciplines together to provide consistency, clarity and maximum communication impact. The basics of IMC and the whole original idea were created and spread by Dr. Donald Schultz, who introduced customer “touchpoints” and the interrelationship of complex opportunities to influence brand perceptions (Juska, 2017). Another relevant definition belongs to Duncan and Everett, who consider IMC to be the strategic coordination of all the messages and means of communication utilized by an organization to influence the perception of brand equity (Duncan & Everett, 1993, in Duralia, 2018). Laurie and Mortimer (2019) have a similar view on IMC, considering it as a concept in which the brand is preserved through all channels used in the communication mix. Integrated marketing communications enables an understanding of information seeking through the consumer-customer journey. Integrated marketing communication programs reflect the way traditional and new media (e.g., search, display, mobile, television social media) interact to influence consumer decision making (Batra & Keller, 2016).

The term or definition of integrated marketing communication is not discussed in the online space, however consumers encounter integrated marketing communication, and in particular Generation Z, very intensively in the online space, where users have many opportunities to search for information and then decide to buy products. Integrated marketing communication can be defined as a brand communication approach where different channels and tools connect and work together to create an experience for the customer and present it in a similar style that strengthen the main brand message (Csikósová et al., 2014). Online environment offers several platforms, which can serve as vehicle for content consumption by users and for companies to utilize it as platforms for marketing communication and advertising (Kuchta & Miklošík, 2016). Within integrated marketing communication it is necessary to focus on recognition of the different platforms as perceived by consumers and effectively utilize their combination and integration (Duralia, 2018). Dong and Li (2018) argue that in order to achieve the persuasion effect, it is necessary to understand the optimal media sequence for different types of products. The search for information naturally begins on the device that the consumer has immediately at hand, where dominance has search visibility principle, known as search-centric marketing, which is at the centre of modern marketing, links different communication channels in time and directly affect long-term sustainability (Miklošík, 2016).

2.2 Generation Z

Generation Z represents a significant and purchasable part of today’s society and their influence is growing. Understanding the purchase behavior of Generation Z is crucial for local, however foreign markets also, as far as they increasingly contribute on products purchases worldwide. Current global trends are clearly influencing the way Generation Z shops. The process of globalization is rapidly spreading, barriers to cross-border trade are disappearing and perceived physical distance is being reduced due to the technological advancements of the world (Minh & Tram, 2016).

Generation Z is represented by people who were born between 1995 and 2010, they are currently aged between 13 and 28 years old and due to age ranges this generation can be divided into younger and older members.

Currently life journey of members of Generation Z is evolving. Generation Z has specific behaviors, experiences and needs at each stage of their lives. It is a young generation that is still largely financially dependent on parental support, while at the same time struggling to secure other sources of income. This generation was raised during the Great Recession, when many of them watched their parents lose their jobs, homes and savings.

Despite of that they value their salary less than other generations (Valentine, 2021). A part of Generation Z has not yet achieved full financial independence; especially people born between 2001 and 2010. However, older members are likely to have already left home and encountered financial and social freedom and stability. This has resulted in a growing impact on the consumer goods sector and the economic climate.

Generation Z achieved its name on base its origin, which represents a certain break in traditions and automatically accepted roles. In addition to the name Generation Z, other names have been used in the literature, such as: “Bubble Wrap Kids”, “The New Millennials”, “Digital Natives”, “Zees”, “Zeds”, “Screenagers”, “Wired Generation”, “iGen” or “Gen Next”. The names often reflect the characteristics of this generation, such as a strong dependence on digital technologies, ability of fast adaptation to new trends and changes in society, but also vulnerability and the need for protection (McCrinkle, 2014). They are very capable in using technologies that represents communication tools for them, such as smartphones, tablets and the Internet. A name also associated with Generation Z is “digital natives” because they don’t remember a world without smart devices and broadband internet. Due to the rapid development of digitization, even higher demands are placed on them.

Representatives of Generation Z belong to young people who are very tolerant, extremely self-confident, but are often confused by a lot of information. Generation Z have a strong social conscience and strive to base their opinions and attitudes on facts and evidence. Generation Z has very high expectations from society and tries to actively work to change and improve the world around them. Moore states that Generation Z is more individualistic, tech-savvy, always connected, familiar with the brand, and more communicative than Generation Y (Moore, 2012).

Generation Z prefers written form of communication over oral, since they have access to more information than any other generational cohort (Kardes et al., 2014). They respond to teaser campaigns, blog marketing, they work with retailer’s apps that they download into their smartphones. They are more responsive to word of mouth, buzz marketing recommendations than to traditional and marketing information. Guerrilla marketing has a very positive effect on them, as they like to communicate in unconventional places and situations. The key factor is to arouse curiosity in consumers. Because of their ability to access information and resources, Generation Z is one of the most informed and educated generations in history. This access to information and their ability to work with it may be particularly beneficial to them in the future when they have to deal with complex problems and challenges (Miklosik et al., 2020).

Common characteristics are specific to Generation Z purchase behavior. Generation Z consumers’ confidence in online shopping is increasing significantly (Raman, 2019). They use modern technology and deal with many things directly via smartphone. Generation Z is also embracing the trend of “multiscreen”, parallel or sequential use of multiple devices, where search results influence final purchasing decisions (Google, 2012; Montanez et al., 2014; Han et al., 2015; Hall et al., 2017; Wu et al., 2018). It is the representatives of Generation Z who make great use of marketing communication tools in the online space.

2.3 Online Customer Journey

Customer journey map is a diagram/infographic/flowchart that depicts the steps customers go through to engage with a company to buying goods or services or gather information. Any distinct point where the customer interacts with the organization should be mapped (McKnight, 2017). Customer journey is a term that is typically used in reference to a process, path, or sequence through which a customer access or use a service. It addresses the processual and experiential aspects of service processes as seen from the customer’s point of

view. The customer journey perspective is seen as relevant not only to understand the customer experience but also to design for customer experiences (Følstad & Kvale, 2018).

A comprehensive review of customer journey literature can be found in Følstad and Kvale (2018) paper: “Customer journeys: a systematic literature review”. The results of the review unveil that in many studies the customer journey perspective is not the key topic of interest.

The term customer journey is not mentioned in the title, abstract, or keywords of the majority of the papers. Rather, the customer journey perspective is typically presented or discussed as one of several topics of relevance to service design or management, or customer journey approaches are used as parts of larger studies. (Følstad & Kvale, 2018, p. 204)

Lemon and Verhoef (2016) consider understanding the customer journey over time as critical for firms. In their study authors examine existing definitions and conceptualizations of customer experience as a construct and provide a historical perspective of the roots of customer experience within marketing. They also view customer journey as a dynamic process that flows from prepurchase (including search) to purchase and to postpurchase phase.

In the context of customer journey the term touchpoint is frequently used also. Based on comprehensive study review Følstad and Kvale (2018) the term touchpoint is mostly used as the building block of customer journey in the sense that customer journey is defined or described as a set or sequence of touchpoints. Although customer journey or customer journey map is not a new term, research on the mapping customer journey in online environment is largely underexplored. There have been several studies in an online environment and are mostly focused on a narrow or more specific area or part of customer journey. Margiarcina et al. (2009) studied the path the customers follow from the landing on the website to the payment of the product in order to evaluating the customer experience of an eCommerce website.

Social media is one of the most crucial internet platforms utilized by Generation Z. On social media users create their digital identities by becoming parts of various profiles managed by individuals or companies (Kuchta & Stankova, 2019). The contribution to explore customer response to automated relationship management tactics on social media channels among GEN Z brings study of Wilson-Nash, Goode and Currie (2020), who conducted a total of 17 in-depth interviews of young adults, ranging from the age of 19 to 26. From this, customer journey maps were compiled incorporating socialbots as a valuable touch point along the service delivery cycle. Another study (Humphreys et al., 2021) was aimed to detect consumer goals through textual analysis of online search queries and argued that detecting and matching consumer mindset enables firms to meet consumers where they are in the customer journey and bring benefits for both marketers and consumers when paid search results and advertisements match consumer search-related goals.

Empirical research examining how companies use online analytics to understand the effects of different media in contributing to a sale, and how they can best optimize media spend, specifically looking at the integration of media channels and the ability to analyze the full customer journey was conducted by Lee, (2010). Rana et al. (2022) studied a framework of the customer journey to explain the customers’ intent to adopt artificial intelligence (AI) and machine learning (ML) as a protective measure for interaction between the customer and the brand. Their findings shows that using AI tools like Chatbots, Recommenders, Virtual Assistance and Interactive Voice Recognition (IVR) helps to create improved brand awareness, better customer relationships marketing and personalized product modification. Advanced intelligent analytical tools and AI software play important role in the creation and deployment of marketing strategies and the lack of knowledge about technologies such as ML

and AI significantly lower chances to attract desired customer from defined target group (Miklošik et al., 2019). Some of the studies are not oriented to examine customer journey in online environment directly, however helps to understand how customers behave online. To mention few, studies dealing with the opportunities companies have to better apply web analytics to improve digital marketing performance (Jevons, 2005), tips to the developers of virtual exhibition websites to make their sites more visible to the public and to get best returns on their investment (Arsenault & Feeny, 2008) and proposals to a decision-making framework for marketers that may help them overcome decision-making uncertainty regarding the choice and implementation of social media platforms (Valos et al., 2017).

3 Methodology

The aim of this paper is to explore specified aspects of Gen Z behavior in the online space and to investigate the differences in this behavior on base of gender and to propose a strategic map of integrated marketing communication showing the possible paths of Gen Z during their online purchases. The empirical part of the paper and the results are based on a survey. The population was defined as Slovak Generation Z consumers. Therefore, the respondents were filtered based on two characteristics, Generation Z affiliation and Slovak nationality. The reason for this specification is to study a certain group where a certain consistency of behavior is expected. The survey was conducted utilizing an online questionnaire survey. The sample consisted of 252 respondents, 65.48% (n=165) female and 34.52% (n=87) male. In terms of gender the sample is not representative therefore the results can be considered as indicative. The questionnaire was distributed to students aged between 18 and 26, who belongs to Generation Z. The CAWI method was used, which means that the questionnaire was anonymous and made available electronically to the desired sample. The aim of the survey was to map the customer journey (representative of Generation Z) in the online shopping space. The sample of respondents was divided into a sections based on planned or impulsive last purchase. The results are processed with descriptive and inductive statistics. The aim of descriptive statistics is to describe the sample, however the ambition is to characterize the identified properties on the population (Čvirik & Ölveczká, 2022). Respondents responded to six statements using a five-point scale. In this context, there is an ordinal variable for which the use of non-parametric tests is necessary. For this reason, the Mann-Whitney U test was applied to examine differences in terms of gender (a variable containing two values). The results were processed using SPSS.

4 Results and Discussion

4.1 Research of Generation Z Behavior Aspects

Respondents were asked to express (1) the degree of importance of refereeing potential and (2) the degree of agreement with statements oriented to the characteristics of online shopping. In the first part, two factors were examined, retailer reviews and product reviews. The scale was a five-point scale with higher value representing higher importance. Recorded selected elements of descriptive statistics are shown in Table 1.

Table 1: Descriptive statistics of the reference potential

	N	Min	Max	Median	Mean	Std. Deviation
Retailer reviews	252	1	5	4	3,55	1,201
Product reviews	252	1	5	4	4,12	1,144

Source: own processing, 2023

The results from Table 1 indicate that Generation Z respondents are influenced by reviews above average, however it can be concluded that product reviews has more significant impact than retailer reviews. Respondents used the full five-point scale indicating some diversity of opinion on the importance of the review sources examined.

In the second part focus was on the level of agreement with statements oriented to the characteristics of online shopping. Respondents responded on a five-point Likert scale. The results are recorded in the Table 2.

Table 2: Descriptive statistics of perceived characteristics of online shopping

	N	Mini	Max	Median	Mean	Std. Deviation
Online shopping is safe.	252	1	5	3	3,42	0,792
Online shopping is cheaper.	252	1	5	4	3,61	0,870
Online shopping saves time.	252	1	5	5	4,29	0,866
The offer of online products is bigger.	252	1	5	5	4,45	0,804

Source: own processing, 2023

The results of the second part (shown in Table 2) indicate that respondents perceive the width of product offer as the most significant advantage of online shopping. Respondents also rate time saving highly. It can be concluded that these two components are key in the choice of online shopping. However, it is important to note that all values are above the mean of the scale, indicating more of a preference for online shopping. Therefore, it is the online space that represents a significant source of purchases for the Generation Z respondents surveyed.

4.2 Research of Generation Z Behavioral Differentials Regarding to Gender

Previous results suggest that there is some variability in the data. This variability can be caused by the characteristics of the respondents. Based on the literature, it can be assumed that one of these factors could be gender. In the next section, the differences in scores regarding to gender were examined. Research used elements of inductive statistics (specifically the Mann-Whitney U test). The results are reported in Table 3.

Table 3: Research differentials regarding to gender

	Gender	N	Mean Rank	Mann-Whitney U (P-value)*
Seller reviews	Female	165	127,88	0.669
	Male	87	123,88	
Product reviews	Female	165	132,92	0.036
	Male	87	114,32	
Online shopping is safe.	Female	165	118,68	0.011
	Male	87	141,34	
Online shopping is cheaper.	Female	165	118,09	0.007
	Male	87	142,45	
Online shopping saves time.	Female	165	122,17	0.154

	Male	87	134,72	0.968
The range of online products is larger.	Female	165	126,62	
	Male	87	126,28	

Note: *alpha = 0.05

Source: own processing, 2023

The results from Table 3 confirm the effect of gender only partially. Gender as a significant factor can be identified in the importance of product reviews, in the perceived ordinariness of online purchases, and in the perception of online shopping as a cheaper option. It can be assumed that women perceive product reviews as more important, men perceive shopping as more secure, and men perceive online shopping as a cheaper equivalent more than women. The reasons of the differences can be caused by the interests of the groups studied and differences in the products they search for and purchase.

4.3 Customer Journey Map of Generation Z

Customer journey map is a diagram/infographic/flowchart that depicts the steps customers go through to engage with a company to buy products or gather information. Any distinct point where the customer interacts with the organization should be mapped (McKnight, 2017). Although customer journey map is not a new term, research on the mapping customer journey in online environment is largely underexplored. “The speed of change, the low barrier to entry and the democratization of tools and knowledge have impacted all industries” (Views Digital Marketing Agency, 2021, “Developing a Company Strategy” section, para. 3). It is necessary to approach digital marketing communication strategically and in integrated manner, as well as traditional marketing communication, to increase effectivity and impact of all activities. As there is a lack of research devoted to strategic mapping of the customer journey in online marketing communication, one of the goals of the paper is to create integrated online marketing communication map of GEN Z customer journey.

The starting point of the research aimed at GEN Z was Digital Marketing Strategy Map created by VIEWS Digital Marketing Agency (2021). This map was created to show businesses the many different paths and tactics that can be utilized during a customer’s digital journey. Inspired by this map we propose a set of paths where GEN Z customers can be possibly reached. Specifically, company website with content marketing (considering both organic and paid content) and contact information, social medias, search engines, price comparison engines, online catalogues, etc.

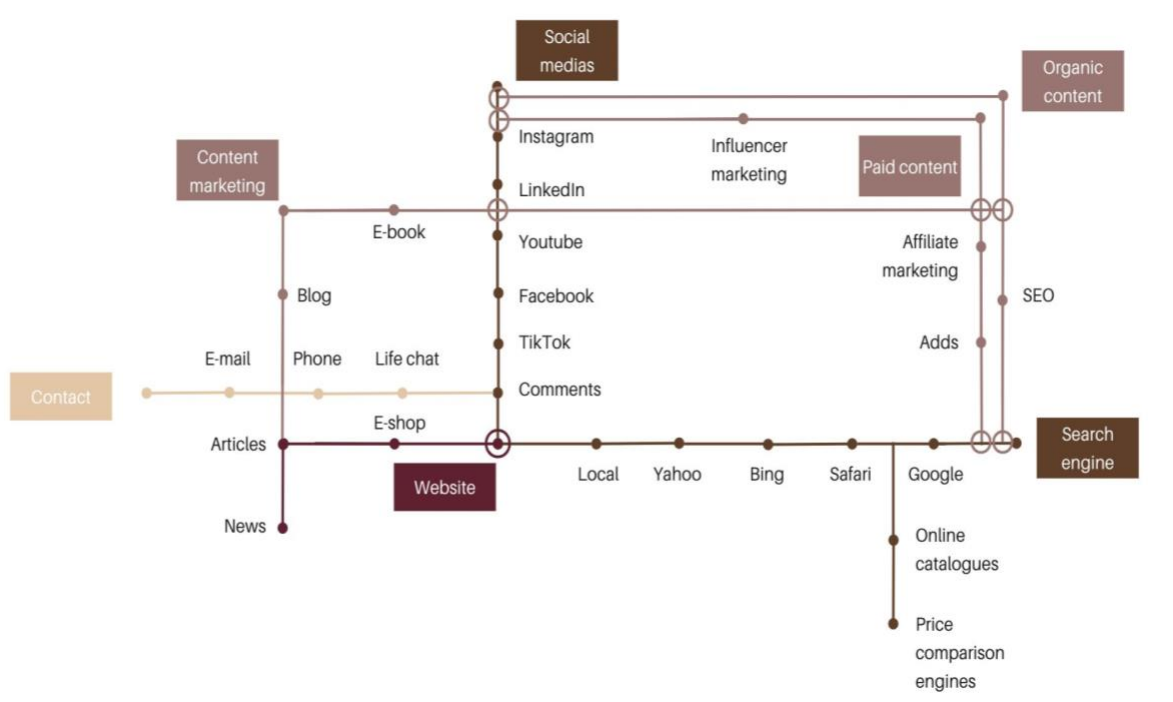


Figure 1: Online integrated marketing communication map
 Source: own processing, 2023

Strategic integrated marketing communication map illustrating possible journeys of GEN Z during their online purchases was created based on the results from online survey among students in Slovakia. Respondents were asked set of questions that were supposed to reveal what paths can be taken to reach GEN Z customers on their journey to purchase products online. The map shows possible touchpoints where GEN Z can be reached in online environment and aimed to make a purchase. It reflects preferences of GEN Z and their consumer behavior when present online.

GEN Z devotes its time in online environment to social medias (95.9%), followed by search engines where they search mostly for information related to their hobbies (53.6%), work (45.1%) and products (42.7%). When searching for information from articles, GEN Z prefers slightly more blogs (27.8%) to news articles (25.8%). Respondents marked these social medias to increase credibility of retailer presence: Instagram (81.4%), LinkedIn (59%), YouTube (56.3%), Facebook (54.9%), TikTok (28.5%); however most of the respondents, 51.5%, stated otherwise that presence on TikTok don't increase the credibility of retailer).

The largest use among search engines belongs to Google (99%), followed with a wide gap by Safari (5.8%), Bing (3.4%), Yahoo (1.4%) and local search engines (0.7%). Respondents stated that presence of retailer in price comparison engines (59.7%) and online catalogues (45.4%) increases its credibility as well. When planning the purchase, GEN Z follows these steps: 1) search in Google (39.7%), 2) search at the e-shop website (30.5%), 3) use price comparison engine (11.2%). Only 10.2% of respondents search information on social media and 7.5% is impacted by influencer. When realizing impulsive purchase, GEN Z is mostly impacted by advertisements (41.7%), influencers (25%), organic social media post (16.7%) and product catalogues (11.1%). Before impulsive purchase, most of the respondents were present at Instagram (55.6%) and Facebook (11.1%). 8.3% directly viewed the e-shop, 5.6% was present at TikTok.

When dealing with impulsive purchase respondents followed these steps: 1) search at the e-shop website (33.3%), 2) search in Google and search on social medias (30.6%, same number of respondents in both categories), 3) searching additional information from influencer (19.4%). For additional information, representants of GEN Z prefer e-mail communication (76.9%), followed by phone call (36.1%), live chat (26.5%) and comments on social media (9.2%).

5 Conclusion

Changing media environment and evolving consumer preferences causes continuous need of retailers to adjust internet presence, marketing communication and content distribution channels. The research unveiled that consumers from Generation Z are influenced by online reviews above the average and product reviews are more relevant than retailer reviews to them. The two most significant advantages of online shopping perceived by consumers from generation Z are the width of product offer and better prices. Gender within Generation Z play significant role also. Women perceive product reviews as more important decision making factor as men and men perceive online shopping as more secure than women. Men also perceive online shopping as a cheaper option to get desired products than women. Activities on the internet influence purchase decision making process significantly. The research results show, that Generation Z consume social media the most. They also use search engines to get desired information about hobby, work and product they intent to buy. Generation Z consume blogs content and news article content about the same. The most relevant social media, which increase credibility of retailer is Instagram, followed by LinkedIn. In point of view of Generation Z consumers TikTok social media has no impact on retailer credibility. Internet retailer presence in product comparators and online catalogues increase credibility and increase probability of purchase by consumers from Generation Z. Within planned shopping Generation Z use search engines and direct visit of retailer website the most. Within impulsive shopping Generation Z is influenced by advertisement and influencers. The most impactful social media in terms of impulsive buying is Instagram. Impulsive buying is preceded by retailer website visit, use of search engine and search for additional information from influencer. If additional information needed Generation Z prefer email communication over phone call, live chat or social media comments. Thus it can be concluded a retailer should be present on almost every internet platform to increase chances of gaining attention of consumers from Generation Z. If necessary social media and search engines should be prioritized. If possible retailer should distinguish or personalize product offer and communication also on base of gender.

The paper contains limits also. As the main limitation can be considered the nature of the sample, which limits the interpretation of the results. In view of the above, we consider the results to be indicative only. Focus on only one generation presents a limitation also, where the generational context is missing. Further research could investigate intergenerational differences in consumer behaviour in the online space, where respondents have different behaviour than in the offline space (Čvirik, 2019; Čvirik, 2022).

Acknowledgement: This study was supported by KEGA 029EU-4/2022 An Innovative Approach to the Creation of Responsive Media Formats for Marketing Communication of Companies Aimed at the Internet Consumer in the Digital Media Environment.

Bibliography

- Arsenault, T., & Feeny, D. (2008). Your website: Greater visibility and return of investment through search engine marketing. *DESIDOC Journal of Library & Information Technology*, 28(4), 79-82. <https://doi.org/10.14429/djlit.28.4.200>
- Batra, R., & Keller, K. L. (2016). Integrating marketing communications: New findings, new lessons, and new ideas. *Journal of Marketing*, 80(6), 122-145. <https://doi.org/10.1509/jm.15.0419>
- Csikósová, A., Antošová, M., & Čulková, K. (2014). Strategy in direct and interactive marketing and integrated marketing communications. *Procedia – Social and Behavioral Sciences*, 116, 1615-1619. <https://doi.org/10.1016/j.sbspro.2014.01.444>
- Čvirik, M. (2019). Pôsobenie konceptu krajiny pôvodu na nákupné správanie v kontexte generačného marketingu [The effect of the country of origin concept on purchase behaviour in the context of generational marketing]. *Ekonomika cestovného ruchu a podnikanie*, 11(2), 25-38.
- Čvirik, M. (2022). Consumer ethnocentrism as a factor in the perception of online shopping? Some evidence from Slovakia. In M. Prostináková Hossová, M. Graca, & M. Solík (Eds.), *Marketing Identity: Metaverse is the new universe* (pp. 19-26). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Čvirik, M., & Ölveczká, D. (2022). Úvod do kvantitatívnych metód: generický prehľad [Introduction to the quantitative methods: Generic overview]. *Ekonomika cestovného ruchu a podnikanie*, 14(1), 7-15.
- Dong, X., & Li, H. (2018). Does online media sequence matter in product marketing? *Electronic Commerce Research and Applications*, 28, 44-53. <https://doi.org/10.1016/j.elerap.2018.01.010>
- Duralia, O. (2018). Integrated marketing communication and its impact on consumer behavior. *Studies in Business and Economics*, 13(2), 92-102. <https://doi.org/10.2478/sbe-2018-0022>
- Følstad, A., & Kvale, K. (2018). Customer journeys: A systematic literature review. *Journal of Service Theory and Practice*, 28(2), 196-227. <https://doi.org/10.1108/JSTP-11-2014-0261>
- Google. (2012, August). *The new multi-screen world study – understanding cross-platform consumer behavior*. <https://www.thinkwithgoogle.com/advertising-channels/mobile-marketing/the-new-multi-screen-world-study/>
- Hall, A., Towers, N., & Shaw, D. R. (2017). Understanding how millennial shoppers decide what to buy. *International Journal of Retail & Distribution Management*, 45(5), 498-517. <https://doi.org/10.1108/IJRDM-11-2016-0206>
- Han, S., He, D., Yue, Z., & Brusilovsky, P. (2015). Supporting cross-device web search with social navigation-based mobile touch interactions. In F. Ricci, K. Bontcheva, O. Conlan, & S. Lawless (Eds.), *International conference on user modeling, adaptation, and personalization* (pp. 143-155). Springer. https://doi.org/10.1007/978-3-319-20267-9_12
- Humphreys, A., Isaac, M. S., & Wang, R. J.-H. (2021). Construal matching in online search: Applying text analysis to illuminate the consumer decision journey. *Journal of Marketing Research*, 58(6), 1101-1119. <https://doi.org/10.1177/0022243720940693>

- Jevons, C. (2005). Building the brand-driven business: Operationalize your brand to drive profitable growth. *Journal of Product & Brand Management*, 14(3), 213-213. <https://doi.org/10.1108/10610420510601102>
- Juska, J. (2017). *Integrated marketing communication: Advertising and promotion in a digital world*. Routledge. <https://doi.org/10.4324/9781315526812>
- Kardes, F., Cronley, M., & Cline, T. (2014). *Consumer behavior*. Cengage Learning.
- Kuchta, M., & Miklošik, A. (2016). Refining digital marketing taxonomies: Advertising platforms and digital metrics. In D. Petranová, J. Matúš, & D. Mendelová (Eds.), *Marketing Identity: Brands we love* (pp. 175-185). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Kuchta, M., & Stanková, M. (2019). Marketing communication strategy to develop an audience on instagram social network. In Z. Bučková, L. Rusňáková, & M. Solík (Eds.), *Megatrends and Media: Digital universe* (pp. 595-614). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Laurie, S., & Mortimer, K. (2019). How to achieve true integration: The impact of integrated marketing communication on the client/agency relationship. *Journal of Marketing Management*, 35(3-4), 231-252. <https://doi.org/10.1080/0267257X.2019.1576755>
- Lee, G. (2010). Death of 'last click wins': Media attribution and the expanding use of media data. *Journal of Direct, Data and Digital Marketing Practice*, 12(1), 16-26. <https://doi.org/10.1057/dddmp.2010.14>
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69-96. <https://doi.org/10.1509/jm.15.0420>
- Mangiaracina, R., Brugnoli, G., & Perego, A. (2009). The ecommerce customer journey: A model to assess and compare the user experience of the ecommerce websites. *The Journal of Internet Banking and Commerce*, 14(3), 1-11. <https://api.semanticscholar.org/CorpusID:2289912>
- McCrindle, M. (2014). *The ABC of XYZ: Understanding the global generations*. University of New South Wales Press.
- McKnight, C. (2017). Customer journey maps: A path to innovation and increased profits. *EContent*, 40(6), 20-21. <https://link.gale.com/apps/doc/A512868442/EAIM?u=anon~ae426ef7&sid=sitemap&xid=cbac4aa1>
- Miklošik, A. (2016). Search-centric approach to sustainability of academic marketing. *Economic Annals-XXI*, 156(1-2), 92-96. <https://doi.org/10.21003/ea.V156-0021>
- Miklošik, A., Kuchta, M., Evans, N., & Zak, S. (2019). Towards the adoption of machine learning-based analytical tools in digital marketing. *IEEE ACCESS*, 7, 85705-85718. <https://doi.org/10.1109/ACCESS.2019.2924425>
- Minh, D. T., & Tram, L. A. H. (2016). Development of non-store retail in the globalization era. In *International seminar on Vietnam retail market in the globalization integration*. University of Economics Ho Chi Minh City.
- Montanez, G. D., White, R. W., & Huang, X. (2014). Cross-device search. In J. Li, & X. S. Wang (Eds.), *Proceedings of the 23rd ACM international conference on conference on information and knowledge management* (pp. 1669-1678). Association for Computing Machinery. <https://doi.org/10.1145/2661829.2661910>
- Moore, M. (2012). Interactive media usage among millennial consumers. *Journal of Consumer Marketing*, 29(6), 436-444. <https://doi.org/10.1108/07363761211259241>

- Percy, L. (2008). *Strategic integrated marketing communications*. Routledge. <https://doi.org/10.4324/9780080878294>
- Raman, P. (2019). Understanding female consumers' intention to shop online. *Asia Pacific Journal of Marketing and Logistics*, 31(4), 1138-1160. <https://doi.org/10.1108/APJML-10-2018-0396>
- Rana, J., Gaur, L., Singh, G., Awan, U., & Rasheed, M. I. (2022). Reinforcing customer journey through artificial intelligence: A review and research agenda. *International Journal of Emerging Markets*, 17(7), 1738-1758. <https://doi.org/10.1108/IJOEM-08-2021-1214>
- Valentine, A. (2021, August 16). *Baby Boomers, generation 'X' and generation 'Y' in the workplace: A melting pot of expertise*. <https://www.resource1.com/baby-boomers-generation-x-and-generation-y-in-the-workplace-a-melting-pot-of-expertise/>
- Valos, M. J., Maplestone, V. L., Polonsky, M. J., & Ewing, M. (2017). Integrating social media within an integrated marketing communication decision-making framework. *Journal of Marketing Management*, 33(17-18), 1522-1558. <https://doi.org/10.1080/0267257X.2017.1410211>
- Views Digital Marketing Agency. (n.d.). *Integrated digital marketing strategies*. <https://www.viewsdigitalmarketing.com/digital-marketing-services/integrated-digital-marketing-strategies/>
- Wilson-Nash, C., Goode, A., & Currie, A. (2020). Introducing the socialbot: A novel touchpoint along the young adult customer journey. *European Journal of Marketing*, 54(10), 2621-2643. <https://doi.org/10.1108/EJM-07-2019-0555>
- Wu, D., Dong, J., & Tang, Y. (2018). Identifying and modeling information resumption behaviors in cross-device search. In B. D. Davison, E. Yilmaz, Y. Liu, K. Collins-Thompson, & Q. Mei (Eds.), *The 41st international ACM SIGIR conference on research & development in information retrieval* (pp. 1189-1192). Association for Computing Machinery. <https://doi.org/10.1145/3209978.3210126>

Contact Data:

Assoc. Prof. Ing. Peter Drábik, PhD., MSc.
 University of Economics in Bratislava
 Faculty of Commerce
 Dolnozemska cesta 1
 852 35 Bratislava
 SLOVAK REPUBLIC
 peter.drabik@euba.sk
 ORCID-ID: <https://orcid.org/0000-0002-2740-4756>

Ing. Dominika Škerlíková, PhD.
 University of Economics in Bratislava
 Faculty of Commerce
 Dolnozemska cesta 1
 852 35 Bratislava
 SLOVAK REPUBLIC
 dominika.skerlikova@euba.sk

Ing. Katarína Ožvoldová, PhD.
University of Economics in Bratislava
Faculty of Commerce
Dolnozemska cesta 1
852 35 Bratislava
SLOVAK REPUBLIC
katarina.ozvoldova@euba.sk

Ing. Marína Korčoková, PhD.
University of Economics in Bratislava
Faculty of Commerce
Dolnozemska cesta 1
852 35 Bratislava
SLOVAK REPUBLIC
marina.korcokova@euba.sk

Ing. Martin Kuchta, PhD., MBA
University of Economics in Bratislava
Faculty of Commerce
Dolnozemska cesta 1
852 35 Bratislava
SLOVAK REPUBLIC
martin.kuchta@euba.sk
ORCID-ID: <https://orcid.org/0000-0001-5546-7773>

USING A. I. FOR THE GENERATION OF VISUAL REFERENCES IN DIGITAL AUDIO GAMES FROM THE PERSPECTIVE OF SOUND DESIGN

Tomáš Farkaš – Martin Schwarz

DOI: <https://doi.org/10.34135/mmidentity-2023-06>

Abstract:

The aim of this article is to examine the application of artificial intelligence in producing visual references during the development of a digital game. These references are a standard inclusion in Game Design Documents or Art Design Documents and are typically displayed as mood boards. In this article, we will discuss sound design and how artificial intelligence, mainly Bing utilizing Dall-E and Midjourney, can produce images that cater to the requirements of a particular game. One of the primary issues we will explore is the efficiency of using artificial intelligence in this creative process in terms of speed, accuracy, efficacy, creativity and how the resulting content compares with human-generated content. One objective is to examine how artificial intelligence can produce visual references that exemplify more detailed sound groups, such as ambiances or interactive sounds linked with specific in-game activities. These visual references will undergo testing within a digital game presently under development, thus achieving validation through real-world application. The game's genre is an audio game with no standard graphics or interface, tailored to the needs of players with visual impairments. For that reason, generating visual references remains the sole approach to comprehending the actual game environment.

Key words: Artificial Intelligence. Auditory Space. Bing. Dall-E. Digital Game. Image Generation. Midjourney. Mood Board. Sound Design. Visual References. Visually Impaired Players.

1 Introduction and Methodology

This article is focused on the development of Via Echo, a digital game created by Blind Octopus, a small studio based in Slovakia. The game features minimal graphics, and players will primarily interact with a compass-like UI element that causes the screen to flash red for failure and green for success. Technical terminology will be defined at first use, and the article will be written objectively and in formal register to promote clarity and precision. The objective of the game is to create an accessible experience for visually impaired players. The content of this text may provide an introduction to a broader subject. Generating any type of visuals through A.I. in creative processes is complex and can be approached from multiple perspectives. This article examines a unique utilisation of A.I.-generated visuals in a particular game. These visuals, known as visual references, are common in standard game design documents. This type of reference is commonly found in Game Design Documents (GDD) and Art Design Documents (ADD), and it is highly recommended to be included in Sound Design Documents (SDD). However, in reality, SDD is typically the most overlooked aspect as sound design in games is often delayed until the later stages of the creative process and is not given due significance (Bridgett, 2021). Based on the fact that our game uses a minimum of visual elements, proper referencing is one of the most important and crucial steps in creating suitable and immersive environments, since the sound designer has to create a very specific ambience.

1.1 Description of the Game, Mechanics, and Sound Implementation

Via Echo will soon be launched on Android and iOS platforms. This audio-hidden object game incorporates two major game mechanics. The first involves a basic camera rotation mechanism, which is activated through horizontal finger swiping on the screen (either from left to right or vice versa). As there is no visual representation of the environment, camera rotation will be illustrated through a simplified compass displayed on the screen. The main element providing information about camera rotation is the sound, since the game is intended to be

played with headphones. The player's character is stationary and cannot be moved. Each level features four distinct, looped, dynamic ambiences placed on an imaginary circle around the player. 3D audio events are utilised to generate sound objects, placed at 90-degree intervals, enveloping the player from all directions (Figure 1). The camera is permanently fixed in a horizontal position, limiting any ability to look up or down. The game comprises of 10 various levels, each presenting unique settings. These settings contain realistic and fictitious locations, such as rural areas, villages, veterinary ambulances and areas containing sci-fi elements, like apocalyptic forest with mutated animals and plants. The second critical game mechanic entails a straightforward screen tap, initiated upon detection of a particular sound in the auditory milieu. Employing Unity3D, the game's audio was fashioned with Reaper DAW, and the implementation was effectuated with FMOD Studio middleware. All 3D audio ambiences were created as dynamic randomized events using FMOD's looping system and Scatterer instrument (FMOD manual, n.d.). These instruments continuously generate instances of 2D or 3D sounds in their playlists and can randomly play multiple sounds in random or shuffle mode, while utilizing volume, pitch, and time interval randomization as described in the FMOD Studio User Manual 2.01.

Another crucial element in the game was the replacement of the default FMOD Studio listener with Resonance Audio, one of the built-in plugins. Resonance Audio is a multi-platform spatial audio SDK that realistically simulates the interaction of sound waves with human ears and the environment (Resonance Audio, n.d.). In essence, the use of this plugin enhances the quality of played back sound to a level comparable to that of binaural sound – a technique for capturing lifelike audio. Binaural sound recordings are typically linear and require specialist microphones, such as the 3Dio FS Pro II or Neumann KU 100 Dummy Head for production (Farkaš, 2018). The Resonance Audio plugin allows for manipulation of a spatial sound similar to binaural rendering, utilizing nonlinear concepts found in digital games, such as camera rotation and specific attenuation. We chose the Resonance Audio plugin due to its superior control over various audio spatialization parameters. This plugin provides attenuation curves that are standard and comparable to the FMOD default Spatialiser for the default listener. However, it incorporates unique features that are tailored to fit the specific audio needs of our game. In particular, the plugin leverages built-in sound attenuation and filtering that are directly linked to the rotation of the camera. Without any added parameters (to be discussed later), the player can hear subtle sound filtering when the sound emitter rotates – sounds in front of the player differ slightly from those behind them and resemble binaural rendering. This is a frequent issue in audio games for visually impaired players attempting to distinguish between sounds coming from the front and those coming from behind, as documented in previous studies (Andrade et al., 2008; Bălan et al., 2015a, 2015b).

One essential feature of this plugin, capable of significantly impacting the sound experience, is the Spread parameter. It is denoted in degrees, ranging up to 360, and represents the extent of rotation across the complete circle. Its function is to extend or tighten the sound field. Larger values of this metric lead to a less focused sound, as the distinction between the left and right channels becomes increasingly less apparent. In our game, the default setting for Spread was 70 degrees. The combination of four different ambient sounds, evenly distributed around the player, creates a perception of realistic auditory immersion. All four sound events overlap slightly, but the camera rotation is intense enough to be heard significantly, allowing the player to discern their orientation. The Resonance audio plugin was utilized in this project, with the addition of a parameter known as Directivity. This feature alters the directional characteristics of a sound source, utilising microphone terminology and shapes, such as cardioid, omni-directional, and figure-eight. Altering this feature can significantly impact sound quality, as higher values result in audio cancellation, similar to the attenuation experienced when picking up sound from the sides with different microphones. The directivity value in the

study was approximately 30, resulting in a slightly more directional sound while preserving the overall width. However, this method would not be adequately effective unless supplemented by various additional parameters that were automated via FMOD's Direction parameter feature.

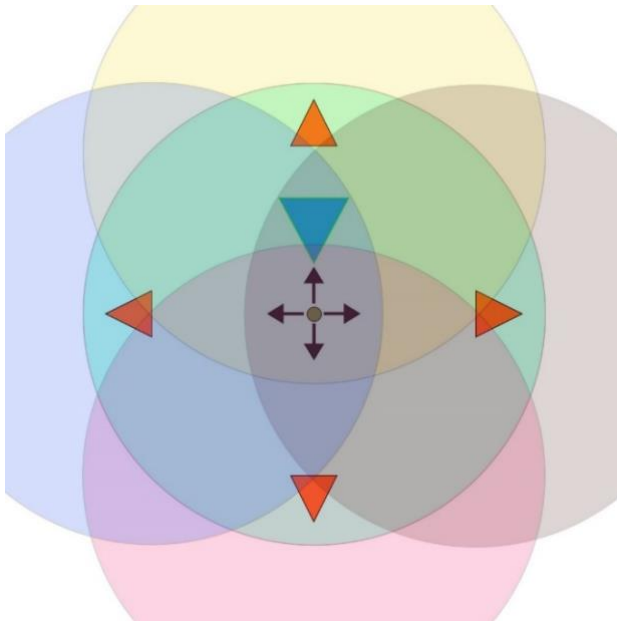


Figure 1: 2D top-down visualization of the game environment. A player in the middle, colored circles and orange cones represent 4 separate dynamic ambiances enveloping player from all sides and crossfading with each other. The blue cone represents the player camera
Source: author's archive (2023)

The Direction parameter is a tool within FMOD that manipulates audio based on camera movement, which is determined by the audio listener's position. By including this parameter in a regular event, a new timeline is introduced that utilises a -180 to 180-degree timeline, representing a full circle rotation instead of time units. This enables us to automate all parameters and effect controls that can be applied to sounds and individual tracks. There were four different types of automation and attenuation used in our project, placed on each 3D ambience's Direction parameters: volume automation (0 dB in the centre/front of the player and -5 dB on -180 and 180-degree value), a simple low pass filter (full spectrum in the centre/front of the player and usually around 6kHz value on both ends of Direction parameter), reverb level (-30 dB in the centre/front of the player and -6 on both sides of Direction parameter) and the reverb's low gain (0 dB in the centre/front of the player and +3 dB on both sides of Direction parameter). By applying a high-pass filter and adding reverb, it is feasible to enhance the intensity of the camera's rotation while maintaining its smoothness and realism, without disrupting the immersion. Moreover, this technique partially mitigates the issue of audio events' front versus back localization, as sounds emanating from behind the player possess distinctive acoustic qualities. Notably, this approach does not necessitate the deployment of supplementary audio cues. This type of sound attenuation is also a matter of the sound functions in digital games, as discussed in the following chapter.

1.2 The Questions and the Methodology Involved

The methodology of our work reflects the specific needs of this project. One of the biggest problems of creating any audio game without any graphics or visuals comes directly from this fact: how to create a specific and convincing sound environment if this environment does not exist and there is no visual representation of such a place? As we will see in the next chapter, sound design, even though very intuitive and subjective at times, deals with very

specific information connected to precisely specified elements. These categories may depict the sound classifications employed in a game, their positioning within diegetic or non-diegetic space, nomenclature, DAW project preparation, file length and export settings, or intricate implementation techniques necessitating regular communication with other team members and programmers. Due to the absence of a dedicated visual artist, the creation of imagery was the most practical solution.

Our initial objective was to generate sufficient images for each level to facilitate the creation of unique ambiances and auditory environments aligned with the level description. Subsequently, we determined that a maximum of 30 images per level was appropriate. Each image generation session should not exceed one hour, and sufficient data collection must follow each session to effectively produce the desired sounds. These data represent visual cues that can be “translated” into sounds (this is discussed in more detail later).

We opted for Microsoft Bing as our predominant means for image creation while utilising Midjourney as the secondary option. Bing is advantageous thanks to its utilisation of the DALL-E 3 text-to-image model from OpenAI, thus enabling greater scope for open and abstract depictions of the game’s various environments (in contrast to Midjourney, which proved less suitable in this regard). Around 300 images were generated after the process was completed. Due to some levels having a similar setting, creating prompts for each level separately would result in duplicated outcomes unnecessarily. Furthermore, we chose not to utilise Chat-GPT’s capabilities for comparable reasons as it employs the same image generation model as Bing. Before delving into the process of image generation and our communication with Bing and Midjourney, it is essential to establish the fundamental principles of sound design and visual referencing.

2 Basic Definitions of Sound Design and Visual Conceptualization in the Context of Audio Game

In this chapter, we present a framework of definitions and ideas central to the development of visual and auditory elements in digital games. Moreover, this framework’s concepts often differ in audio game genres because of the absence of a visual representation of space. Creativity processes are associated with the brainstorming and *hard-concept* development concepts. One of the questions we need to ask is “What emotional experience do we want to achieve?” (Solarski, 2012). This applies to both visual and sound design, with potential inspiration drawn from other games, films, or real-world events. Such questions highlight the importance of achieving a desired emotional response in the game and can guide the design process. Sound designers also ask themselves a similar question: “What does the game need?”.

From a visual standpoint, it is imperative to comprehend the pre-production stage of digital game development. The entire process is generally split into six stages: concept development – where ideas are generated and brainstorming takes place, defining the game concept, target audience, and key features, pre-production (planning game design, mechanics, and storyline, producing GDDs and ADDs, developing prototypes), production (implementing game assets, coding, and integration, creating 3D models, textures, and animations, iteration), testing, launch/release, and post-release support. During the pre-production stage of digital game visual design, designers concentrate on creatively generating ideas. They use a diverse range of tools, technologies, and creative processes to conceptualise and convey crucial aspects of the project. After defining *high concept* as the most basic form of a game idea, where the game is described in simple term (Rouse, 2005), the game documents’ scenario engages other team components in the creative process of designing the game. The high concept is usually summarized in two sentences outlining the main game ideas. The game documents’ scenario

then engages other team components in the creative process of designing the game. It is formulated to closely adhere to the established constraints and atmosphere of the game.

As previously mentioned, it is beneficial for the fundamental concept to describe the player's emotional and experiential experience. Solarski (2012) suggests that this should be followed by generating *keywords* during the brainstorming session. These words should relate to emotions, colours, shapes, textures, lines, speed, size, or opposing concepts. Associations with these questions are often recorded as adjectives. It is worth noting that a comparable approach is commonly used in the creation of SDD. Zachary Quarles (sound designer of many well known games, mostly FPS 3D shooters) describes the formulation of sound design concepts mainly as a series of questions that the team members and particularly the sound designer should ask during this phase (Quarles, 2016). Depending on our chosen game, we need to pose a list of questions concerning sound design, music, voice-over, and technology. The sound design section concentrates on ambiances (such as complexity or layering, and the type of environment), player feedback/items, weapons/enemies, monsters/creatures, obstacles (the type of encounters the player will face), and visual effects (what kind of UI is included, what type of buttons, tabs, and inventories are used), players themselves (is this single or multi-player game? What sounds is it going to produce?), dynamic range (how important the sounds are, how much silence is going to be heard, is visual more important than sound or are they equal...), or voices (how many characters, real cast or generated voice, special effect voices like creatures...). Of course, it should be noted that these categories only apply to general digital game development and may not be applicable to audio games due to some of the elements not existing within the game.

An advantageous aid at this stage is the production of *mood boards*. These act as a stimulus and enable us to visualise intangible ideas. *Visual boards* are commonly implemented during the initial stages to expedite project evolution or streamline the rejection of unfavourable possibilities. Munk provides an extensive summary of the particular issues in this field (Munk et al., 2020). He suggest that any type of visual board needs to be accompanied by a discussion to be considered beneficial. This approach aids the creator of these aids by allowing them to progress or revert. Consequently, the process minimises personal input and artistic design in order to expedite and achieve consensus within the team. Ideation, on the other hand, is the process of creating new and select ideas that define and explore desirable aspects of a project.

Koch (2020) classifies visual boards as concept boards, mood boards, and style boards. However, for the purposes of this article, we have grouped these under the umbrella term visual boards. Visual boards serve as a tool for generating inspiration and creativity in design, making them a crucial and potent means for designers to explore the emotions and sentiments behind their designs. Designers often switch between divergent thinking, which entails exploring as many solutions as possible, and convergent thinking, which reduces options to find the best solutions. Therefore, they draw inspiration from various sources, not solely creativity tools like search, visual or mood boards. Designing is a multifaceted cognitive task that merges auditory and visual stimuli and compares them to discussions from various encounters in opposition to personal musings and reflective thoughts.

The subsequent stage in visual creation involves the use of *visual metaphors* – typically sketches (which occasionally exhibit inferior quality in comparison to thumbnails) – designed to visually link objects with a particular emotion. Through connecting adjectives with nouns, such metaphors can often establish associations (such as between a character and their feelings) that are much more abstract. We can often simplify objects associated with certain emotions to silhouettes. At subsequent stages, these shapes may be utilised with greater freedom and creativity. They can be incorporated into novel designs, placed within diverse settings, and contextualised accordingly. If the production of a visual metaphor is accomplished proficiently, the intended emotional response will be evoked in the observer. The principle of a visual

metaphor aptly demonstrates that devising a reference can be an imaginative process that is not restricted to the text at hand. On the other hand, a reliable source can approach the task with more flexibility and explore emotions or concepts that may not be immediately apparent in the assignment.

During ideation, designers alternate between analysing and synthesising ideas or concepts to construct a potential future (Jonson, 2005). The creative process frequently involves a range of methods, whether verbal, visual, or physical. The heart of the matter is the generation of ideas and finding solutions to specific problems. According to Koch et al. (2020), the majority of tools concentrate on discovering new material, such as by searching for previously identified material or creating related images. However, in practice, the design process (or idea generation) is considerably more intricate than a basic search. It can be inferred that the process of devising unique ideas is already partially in motion before the mood board – i.e. reference images – is created. This process continues throughout the search and the actual construction of the visual board. Koch identifies these tools as supporting creativity, and the process should continue to a high degree even after approval of the visual board.

Jelínek states how to creatively utilize new technological tools to generate innovative ideas at the sketching stage (Jelínek, 2020). He doesn't introduce mood boards directly, but his approach to ideation and the design process is clearly explained and integrated. It is critical to note his playful approach towards creativity throughout the ideation process. Although Jelínek discusses car design, he also creates sci-fi elements in his practice. The cruciality of the flow of thoughts and ideas (stimuli) that enables creativity becomes evident. Moreover, he incorporates artificial intelligence, which demonstrates that the interconnection of these tools can assist a proficient designer.

If we adopt a more specific sound design perspective, we can identify numerous analogous concepts. Quarles (2016), in his subsequent update on this matter, introduces a notion of *audio pillars*. These pillars act as high-level filters that distill the complete audio aesthetic and feature set of the game down to only a handful of descriptors. The pillars of a given digital game should possess sufficient detail to allow individuals to connect with them at a human and emotional level, using a language that is often specific, intuitive, and subjective to sound designers (as Quarles refers to as “flowery language”). Multiple pillars should be present for each game, serving to enhance communication with all members of the team and identify key aesthetic elements. Each of these pillars can be divided into smaller components that pertain to specific aspects of the game or sound categories. This is advantageous as we are developing an audio game. While the aforementioned aspects could be subject to substantial discussion, such as the need to describe audio targets in SDD along with technological details regarding implementation methods, sound logic, and adaptive elements, the main premise covering the overall topic should be defined as a comprehensive depiction utilising various types of portrayal, whether verbal, visual or otherwise. Several sound designers may introduce subtle differences to this process. For instance, Keith Zizza, the audio director of Impressions Games, a division of Sierra Studios, employs a comparable workflow when designing SDD. However, he concentrates more on technical specifications and establishing various categories (Zizza, 2000) associated with distinct sound types and their layers.

So far, this chapter has discussed general concepts regarding the pre-production stages of sound design and visual components in digital game development. It ought to be acknowledged, however, that the reality is often vastly different, owing to the unique nature of each game. This statement has become a cornerstone of the creative process definition. Although a specific game can be described in various terms and genres, it is essential to acknowledge that each development team possesses unique skills and preferences, resulting in a continually evolving and dynamic exercise that differs across projects and teams. This is especially evident when discussing audio games. In the earlier processes discussed in this

chapter, a visual perception is predominantly favoured for the concepts, goals, procedures, and general conceptualization. However, games lacking standard graphical elements can only depend on a limited variety of described techniques and actions, requiring the implementation of a distinct communication method. The functions of sound are pivotal in digital games as they are the primary means of communication with the player. Though the functions of sound in digital games can be explored extensively, this article does not intend to delve into it at length. However, it is significant to mention that this aspect of digital games theory lacks coherence and is defined differently by most of the sound designers and theorists. Zdanowicz and Bambrick (2021) provide a comprehensive overview of the six fundamental roles of sound. These include sonic feedback, emotion and mood communication, sense of space, defining realism, sonic identity and structure, and narrative establishment. The authors elaborate on these functions in greater detail. Sinclair (2020) identifies three categories of sound in games: information, entertainment, and immersion. Other authors, such as Bridgett (2021), do not attempt to provide an exhaustive list of categories due to the fact that sound can operate at varying levels, employ different hierarchies, sound classification, implementation, and execution in each game.

The primary challenge we encountered with our audio game pertained to communication, specifically, how to depict an entity that lacks even a conceptual form. What sound categories, with what functions, should we incorporate into our game? How will the screenwriters integrate them into the actual narrative of the game, and how will the sound designer implement this retrospectively? All the queries were resolved in the SDD and transformed into particular sound groups. Nevertheless, there remained one vital matter to tackle in this process – how to produce efficient visual aids that can assist a sound designer in initiating the creation of actual sounds. In the next chapter, we will briefly describe the process of image generation, the communication with A.I. itself, some of the prompts and created images, as well as some interesting ideas that emerged during this process.

3 Image Generation Process and the Results

There are ten levels within our game, with some sharing similar characteristics, such as levels 6, 7, 8, and 9, which all take place in an 'apocalyptic forest' setting. As a result, generating separate images for these levels was unnecessary. However, a key problem that arose was the non-existence of certain environments. This was not only due to the game's partial science-fiction nature, but also because certain levels were fabricated during the initial creative process. One such example is the Ornithology lab, the primary setting of level 4. Initially, this setting may appear unremarkable. At first glance, it would seem that this kind of setting is perfectly normal. However, when we start searching for more information, we quickly find out that there is simply no place like an ornithology lab out there – although understandably, there are ornithologists who presumably reside in their offices (unless they are chasing the birds at that moment, or, are in fact not making surgery in an actual veterinary ambulance). At the start of this chapter, it is important to note that one of the significant benefits of using Bing is related to this fact. Given that A.I. typically operates by processing vast amounts of data and human experiences online, it is safe to assume that the term Ornithology lab will be interpreted similarly by A.I. as it would by an average person, without considering that this term represents a fictitious concept that may not reflect many real instances. Before discussing the laboratory example and other settings, we will begin with level 2, The farm, where we calibrated our future prompt entries. In this illustration, we also observe particular behaviors and mistakes that were exposed through generated imagery.

Example 1: The Farm

We asked Bing to generate generic pictures of a farm and village environment. There was no specification of a visual style because that element was unimportant in our process. These (Figure 2) are several pictures from the first part of the first session:



Figure 2: Example images from the first session, The Farm. Source: Image generated using the prompt “Generate an image of farm or a village environment,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

At this stage, we started to ask Bing to add more elements to the picture, ideally in a way that would include objects in the image that could make some sort of sound. Generated results (Figure 3) started to resemble something we could actually use, but at the same time showed some of the flaws of this kind of communication.



Figure 3: More examples from the first session, some usable sound objects, but also flaws introduction Source: Image generated using the prompt “Generate an image of farm or a village environment but this time, try creating some object that would create a sound,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

The images demonstrate small elements, such as various animals, vehicles, and a mill-like structure, that are showing promising results. However, some parts of the prompts caused confusion, as illustrated in the bottom right image. It is unlikely to find a big PA sound system with large speakers on a farm, nor would a large megaphone speaker be placed on a pole. Nonetheless, we continued refining the variations of previous prompts and swiftly produced a considerable amount of usable visuals. It is important to elaborate on how sound designers can extract benefits from these images and transform some of the visual elements into real-life sounds. The atmosphere and surroundings of the location establish the mood of the overall loop. That represents a sound covering a longer area of time (usually between 30 – 60 seconds) and runs endlessly and without any kinds of clicks, pops, or significant changes in volume or color of sound (for example soft wind, constant chirping of birds, or flow of the river). When implementing sound using FMOD or any other method that allows for sophisticated randomization of multiple sounds, it is important to consider shorter sounds assigned to specific objects that can play dynamically and simulate natural sounds. For instance, it may be appropriate to include more specific and pronounced gusts of wind within the base loop, that play only occasionally, creating the impression of realistic and dynamic wind. In the next images, we can see how some of the generated content instantly offered several sound objects like this.



Figure 4: “Translation of objects into sounds” example

Source: Image generated using the prompt “Generate an image of farm or a village environment but this time, try creating some object that would create a sound,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

In Figure 4, we can see multiple objects (some of which are of a questionable nature). However, the sound designer sees one main loop and several dynamic objects offering randomized content. The structure in the upper left resembling a wind well represents a rotating object making constant sound – the material clearly shows wood, therefore wooden creaking is implemented into the loop, as well as rhythmical spinning parts generated by wooden gears that would probably be inside of this mechanism. There are also pieces of cloth placed around the house, resembling clothes drying in the sun. These pieces of cloth may – or may not – produce sounds of literal cloth blowing in the wind. Since this kind of sound can be easily found in most sound libraries (we used mostly professional sound libraries from Soundly and combined it with SoundQ made by Pro Sound Effects), we also created a randomized sound of a cloth element. Combined with the dynamic loop of the wind and soft rhythmical creaking of the mill, these sounds create quite a convincing ‘farmhouse’ ambience. Since every level consisted of four different ambiances placed around the player, another three were created, using elements of animals (sheep, ducks..), forest area (another wind ambience combined with gentle sounds of birds), and a collage of sounds coming from the house itself (soft loop of dinner being

cooked, distant sounds of the kitchen and occasional purring of the cat with random volume modulation so that the cat’s purr appears less consistently.

Compared to results from Midjourney, Bing’s results were vastly superior. Although Midjourney offered much more detailed and artistic imaginations of the same setting, there was a huge flaw in the communication of desired tasks. Compared to Bing’s intuitive communication capabilities and the possibility to naturally build on previous prompts, Midjourney needs a very precise and specific prompt, which essentially negates the main purpose of this process – speed, effectiveness, and as little effort as possible. This, however, must be done within a single session, as Bing forgets previous communication after closing the browser window. This suggests that in the future, using Chat GPT may be even better option – conversations are stored and may be built upon later, even after closing the window. One of the possible solutions to this could be combining Midjourney with Bing or ChatGPT – with the two latter generating specific prompt variations that would be customized for Midjourney’s prompt system. This process, however, indicates a slightly longer time needed for completing this task anyway.

Figure 5 shows some of the Midjourneys results from the Farm level:



Figure 5: Examples of ‘Farm’ level generated by Midjourney
 Source: Image generated using the prompt “Generate an image of farm or a village environment,” by Midjourney, *Midjourney AI*, 2023 (<https://www.midjourney.com>).

As we can see, the artistic level is very high, the image contains many details and atmospheric lighting, but the need for using very specific prompts renders this unusable in our situation.

Example 2: The Zoo

This will be a brief example as the process mostly follows the principles outlined in the first level. However, here we can showcase one clear advantage of this form of communication. The setting of a zoo presents a challenge because it encompasses various meanings. Around the world, there are different types of zoos, and within each one, there are hundreds of distinct locations, each associated with specific animals or designated for other uses.. From the beginning, Bing’s rendition of a Zoo resembled more of an amusement park in which people and animals are on the same level. After some variations and detailed specifications in the following prompts, generated images started to show more or less realistic places we could find

in this kind of setting (terrariums, grassy areas enclosed by a wooden fence with antelopes or zebras...). Obviously, some of these elements were used in final ambiences (e.g. a cage with a specific animal and its randomized vocalizations, or a metal gate randomly creaking in the distance). Nevertheless, there was still something “missing” in these pictures. We decided on a slight change in prompts and included words and sentences referring to some kind of entertainment that could be found in this kind of setting. Understandably, the generated results started to be rather off – but some of them actually inspired us, because they included visual elements we haven’t thought about before. In several pictures, Bing generated a children’s train (again, a resemblance to an amusement park) which showed us another element – randomized children’s voices and noises (Figure 6).

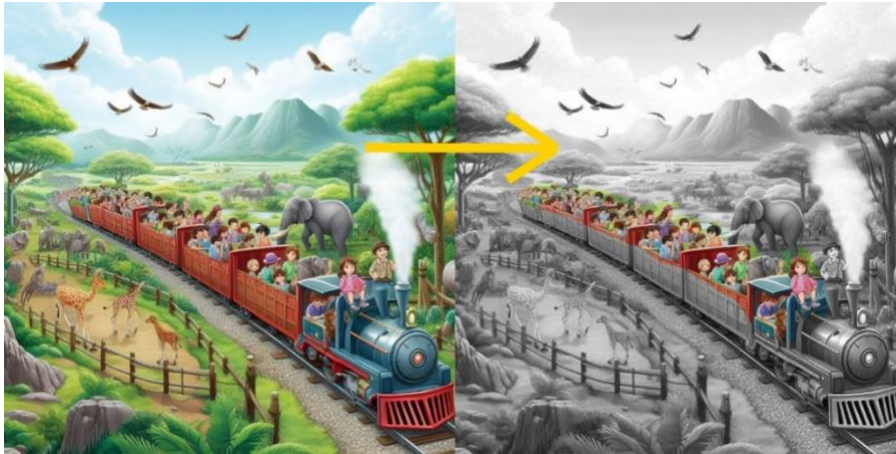


Figure 6: Picture of the train, creating the reference of children’s voices and noises

Source: Image generated using the prompt “Generate an image of a zoo, but this time, try to add some elements of entertainment or amusement parks,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

In this picture, we can clearly see that the “zoo” element is gone, but it introduces another appropriate element for a sound designer – voices and noises made by children.

Example 3: Ornithology Lab

Our first prompt for Bing during this stage (level 4) was this: “Please, generate a picture showing an ornithology lab. Try to make it in such a way that there are elements that could be in such a room.” Some of the first results looked like examples seen on Figure 7.



Figure 7: Example of the first pictures generated to imagine an Ornithology lab

Source: Image generated using the prompt “Generate a picture showing an ornithology lab. Try to make it in such a way that there are elements that could be in such a room,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

Our next prompt was as follows: “Thank you, now try to make variations on this image, for example, you could add bird cages, or elements of digital technology or devices that are related to bird rescue, or elements that we would find in a classic lab in a hospital”. The following results (Figure 8) started to show aspects, that were much closer to the expected results from the sound designer’s perspective.



Figure 8: Later examples of Ornithology lab created by Bing

Source: Image generated using the prompt “Now try to make variations on this image, for example, you could add bird cages, or elements of digital technology or devices that are related to bird rescue, or elements that we would find in a classic lab in a hospital,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

During this stage, the ambience of a fictional ornithology lab started to appear much more clearly. Included cages with birds and electronic devices were inspiring enough to represent specific sound sources and objects. In our next prompt, we wrote this prompt: “Thank you, now try to combine the previous two prompts and create variations of such a room so that there are similar elements, but the whole room is visible. Also, try adding a window through which the elements of bad weather or anything that would add to the atmosphere of such a space could be seen”. On this prompt, we can see the deliberate ‘looseness’ of our communication – we didn’t want to add too many specific commands so that Bing has enough freedom to introduce own elements into the image. We also built our expectations on the fact that the mood and atmosphere of our game are starting to change into darker tones, starting with level 4. Also, the “whole room is visible” part of our prompt works with the premise that we need to create four different ambiences and therefore more spatial elements should be included in the generated image. As expected, we have achieved several more variations of this room, that kept the original parts (bird cages, digital and electronic devices..), but at the same time, these new images inspired us to create yet another variation of the prompt. Our last prompt in this session was this: “Could you now create an image that shows the building that houses our ornithology lab, but in the context of buildings of a similar nature? For example, it would be a larger nursing center or veterinary station of which this particular laboratory is a part of”. In the following pictures (Figure 9), we can see this kind of thought process, creating a chain of ideas, leading to the final realization of all of the four ambiences.

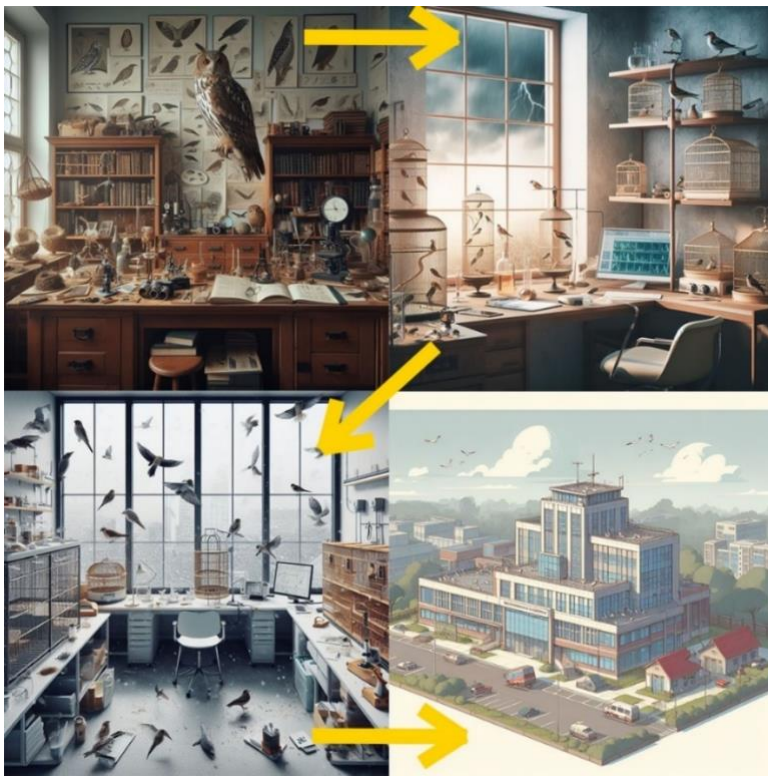


Figure 9: A chain of ideas leading to a final realization of Ornithology lab ambiences

Source: Image generated using the prompt “Try to combine the previous two prompts and create variations of such a room so that there are similar elements, but the whole room is visible. Try adding a window through which the elements of bad weather or anything that would add to the atmosphere of such a space could be seen. + Create an imate that shows the building that houses our ornithology lab, but in the context of buildings of a similar nature. For example, it would be a larger nursing center or veterinary station of which this particular laboratory is a part of,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

This is probably the clearest example of the successful use of generated images. All four sound ambiances used ideas that were created during our conversation with Bing. The first ambiance was a combination of bird sounds (sounds of cages, flapping wings, general ‘chaos’ created by scared birds), second was a combination of several layers of rain and thunders (all appropriately filtered so that it resembles something happening behind the window), third was a logical consequence of the second one – the sound of rain drumming on the door in the back of our room, combined with the looped sound of a gutter, that would most likely be placed outside and finally, fourth ambiance includes occasional filtered sounds of cars passing by in the distance, which was introduced after the last prompt in which we asked Bing to generate images that would show larger area or complex of buildings. In these images, we could clearly see parking lots and streets, which would produce sounds of the traffic.

On the contrary, this environment was very problematic for Midjourney. The problem was not only that we couldn’t communicate so loosely and freely as with Bing, but also that (for unknown reasons) Midjourney couldn’t handle the ‘darker atmosphere’ idea we needed to convey. Generated images were again on a higher artistic level, but most of them fell either too much on the extreme and exaggerated cinematic style, or conversely, cartoonish style that completely neglected the darker tones prompt. And as we can see in the example pictures (Figure 10), some of the generated content 14 tis14e14 being complete nonsense. This may create an assumption that using Midjourney could most likely be superior in situations, where an actual image quality and aesthetic level are required. Another layer of somewhat negative aspect to this is the fact that if we want to effectively use Midjourney, we have to pay the subscription, compared to Bing using DALL-E, which is currently still free.

As we can see in this picture, some of Midjourney’s results may be compelling in a more cinematic setting, but a lack of effective and adaptive communication is too big an obstacle. Two pictures on the bottom show its difficulties in creating a “dark” enough atmosphere and the bottom right picture included the picture of a happy dog, which was not even included in the prompt.



Figure 10: Examples of images generated by Midjourney for the Ornithology lab level
 Source: Image generated using the prompt “Generate an image of ornithology lab + Generate an image of an ornithology lab after a catastrophe ,” by Midjourney, *Midjourney AI*, 2023 (<https://www.midjourney.com>).

Example 4: Apocalyptic forest (and the most intriguing conversation yet)

In our last example, we will describe the communication involving generating images that should depict an ‘apocalyptic forest’. This setting, strange as it is, was treated exactly the same way as previous environments. This session was also an exception in our method because it lasted several hours. The reason was that we simply wanted to “see where it takes us” and it turned out that it was a good decision. We started with simple prompts and asked Bing to create images of apocalyptic forest – with no further details so that we could see the overall approach and tone of the generated content. First generated pictures were very far away from what we expected – the word “apocalyptic” apparently contained references to the apocalypse with more cinematic or even “biblical” properties. Images showed a forest in a fire scenario, with horror creatures with huge horns and teeth (as seen on Figure 11). This, of course, would be a nice touch if we worked on a horror game, but our idea was different. So our following prompts were as follows: “Cool, generate similar images, but try to use less scary elements and more elements set in reality, combined with the sci-fi genre. The important thing though is to keep the image in the context of reality”. Another variation of this prompt went like this: “Now create a similar image, but use more technological elements, or try to think of some bizarre natural phenomena that might be present in such a forest. Again, make sure the image is not too unrealistic”.



Figure 11: First examples of Apocalyptic forest setting generated by Bing

Source: Image generated using the prompt “Generate an apocalyptic forest + Generate similar images, but try to use less scary elements and more elements set in reality, combined with the sci-fi genre. The important thing though is to keep the image in the context of reality,” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

This picture shows some of the generated images created with these prompts. At this stage, we knew that we were not on the wrong path (and we also knew that it wasn’t necessarily the right one). Even from these images, we were able to extract some auditive elements (looped fire and trees being burned and destroyed, as well as glowing mushrooms and strange alien plants, that suggested more tonal, vibrating sounds). We continued with the following prompt: “Thank you, I like these pictures very much. Now try to do something similar again, but try to

incorporate elements of architecture, bits of crumbled walls or buildings, as if there was once a civilization in this place. But the dominant element will remain the forest”. At this point, the conversation changed significantly, as Bing responded with this reply: “I will try to create one more variation. This time I will add a mysterious portal to the picture, which could lead to another dimension”. This was the moment we started to slightly forget our main goal and were too excited not to abandon the pre-prepared methodology. Generated images started to include the most intriguing and bizarre sci-fi/alien-like objects, structures, and elements, that were simply too interesting to stop at this moment (Figure 12). Understandably, we encouraged Bing to continue to generate another variation and tried to keep the prompts loose enough to let it come up with its own ideas. We tried to add another element into the equation with this prompt: “Try one more variation, but try to incorporate an element of innocence and fragility”, to which Bing’s reaction was “I will try to create one more variation based on your theme. This time I will add some innocent and fragile creatures to the picture that might be endangered in 16 tis16e environment”. This addition started to include small glowing insects and fairie-like creatures, which, again, was not something that we wanted at the beginning of this conversation, but was interesting enough to make us (auditively) inspired. The following communication continued in a similar tone and as a result, there were nearly 80 images generated in the end. At that point, we already had enough material generated that we could create variations of four ambiances for all of the levels in the apocalyptic setting. This conversation also showed us other potential benefits, that may not lie only in artistic processing, but mainly in generating ideas themselves. Bing’s ability to offer new elements (still anchored in the main context) demonstrates, that in certain situations, it may serve as another team member, especially in smaller teams where dedicated specialized types of artists are not present.

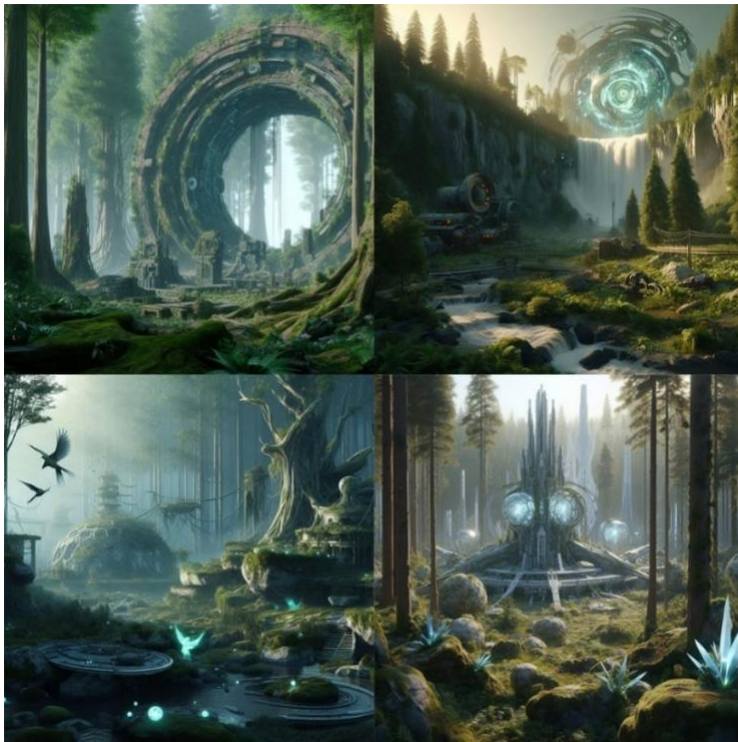


Figure 12: Some of the pictures based on Bing’s own proposals without our intervention
 Source: Image generated using the prompt “Now try to add something similar again, but try to incorporate elements of architecture, bits of crumbled walls or buildings, as if there was once a civilization in this place. But the dominant element will remain the forest” by Microsoft, *Bing AI*, 2023 (<https://www.bing.com/images/create>).

The picture above shows only a small part of the described conversation, including elements presented by Bing without our input.

4 Conclusion

In our article, we outlined the complete process for producing distinct sound elements for a digital game. The primary aim was to detail the possible scenarios that game designers could face while creating audio games. The absence of graphical feedback or a built version of the game, which would simulate player environments, poses several challenges. Exploring particular aesthetics and technologies pertaining to the design of sound, as well as visual and graphics elements, has resulted in a theoretical framework that effectively illustrates the intricacy of this procedure. Examining the technological particulars of our game, including the development of sound categories, relevant factors for enhancing immersive and effective ambiances, and their intricate attenuation, demonstrates not only the complexity of this procedure but also the fact that each digital game may present its own unique, unforeseeable hindrances and obstacles for designers to overcome. One of the most important things we can take from this is that an actual understanding of all these processes, categories, and technological aspects, helps us to navigate and effectively solve all the possible problems we can encounter.

Generating images as visual references is one of the logical solutions to one of these problems. This topic can be approached from many perspectives, as creating any kind of content with A. I. Is probably still only in its initial phases – we will see the full implications of this technology in the upcoming years. A potential drawback is the uniform and repetitive content generated by A.I., which may cause outcomes to appear similar over time. This influence will make a relatively wide target group generate the same content with the same ideas. It therefore seems important to us that only relatively experienced designers work with these tools. Another problem with these tools is that they “glue” and combine the work of different authors, usually without their knowledge. However, this conflict is irrelevant in our case, as the visual references were created to produce auditory elements and we will not be utilising any images. Presenting them in this manner is understandable in articles such as this, but their use is exclusive to this context. This raises a new topic of focus, exploring the relationship between creativity, art, and the concept of “originality”.¹ It is probable that this will be one of the most crucial topics in forthcoming years, as almost every individual with internet access and a functioning computer can create highly artistic and aesthetically pleasing content.¹ The issue at hand will ultimately revolve around whether we aspire to generate something innovative or something that prioritises rapid profitability. Of course, the last sentence could be applied to any kind of creative area or any scientific field (for example, this article has not a single word generated by any kind of A. I., but how many of these are out there already?).

Without complicating the conclusion in any other way, we can see that our chosen method was highly effective. We were able to use Bing combined with DALL-E to effectively generate visual references, which we actually used in the process of developing an actual digital game. Its release is scheduled for December 2023, but may be delayed a little, as unexpected complications may always arise. Using other methods in this regard is ineffective, much slower, and in some cases, unimaginable. Midjourney offers high artistic value, but slow and maladaptive communication. Using ‘old school’ methods like searching references via Google may bring similar results, but only in some settings (searching for ‘ornithology lab’ returns nothing that could be compared with Bing’s results) and using methods of the “old-world” (like actually involving a visual artist who would create all the needed visual concepts and references) may cost more time and, ultimately, money.

¹ (Authors' note: This article was written in December 2023 for future readers.)

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0489/23, titled 'Innovative Model of Monetization of Digital Games in the Sphere of Creative Industries'.

Bibliography

- Andrade, R., Rogerson, M. J., Waycott, J., Baker, S., & Vetere, F. (2019). Playing blind: Revealing the world of gamers with visual impairment. In S. Brewster, & G. Fitzpatrick (Eds.), *CHI'19: Proceedings of the 2019 CHI Conference on human factors in computing systems* (pp. 1-14). Association for Computing Machinery. <https://doi.org/10.1145/3290605.3300346>
- Bălan, O., Moldoveanu, A., & Moldoveanu, F. (2015a). Spatial auditory representation in the case of visually impaired people. *Romanian Economic Business Review*, 9(1), 1-11.
- Bălan, O., Moldoveanu, A., & Moldoveanu, F. (2015b). Binaural sound analysis and spatial localisation for the visually impaired people. In K. Blashki, & Y. Xiao (Eds.), *9th Multi conference on computer science and information systems 2015 – interfaces and human computer interaction*. (pp. 331-335).
- Bridgett, R. (2021). *Leading with sound: Proactive sound practices in video game development*. Focal Press. <https://doi.org/10.4324/9781003082521>
- Farkaš, T. (2018). Binaural and ambisonic sound as the future standard of digital games. *Acta Ludologica*, 1(2), 34-47.
- FMOD Manual. (n.d.). *5.1.4 Scatterer Instruments*. www.fmod.com/docs/2.01/studio/working-with-instruments.html#scatterer-instruments
- Jelínek, M. (2020). Design ideation in virtual reality. *ALFA Architecture Papers of The Faculty of Architecture and Design STU*, 25(3), 43-47.
- Jonson, B. (2005). Design ideation: The conceptual sketch in the digital age. *Design Studies*, 26(6), 613-624. <https://doi.org/10.1016/j.destud.2005.03.001>
- Koch, J., Taffin, N., Beaudouin-Lafon, M., Laine, M., Lucero, A., & Mackay, W. E. (2020). ImageSense: An intelligent collaborative ideation tool to support diverse human-computer partnerships. *Proceedings of the ACM on Human-Computer Interaction*, 4(1), 1-27. <https://doi.org/10.1145/3392850>
- Microsoft. (2023). *Bing AI* [Image generator]. <https://www.bing.com/images/create>
- Midjourney. (2023). *Midjourney AI* [Image generator]. <https://www.midjourney.com>
- Munk, J. E., Sørensen, J. S., & Laursen, L. N. (2020). Visual boards: Mood board, style board or concept board? In L. Buck, E. Bohemia, & H. Grierson (Eds.), *Proceedings of the 22nd International conference on engineering and product design education (E&PDE 2020)*. VIA Design, VIA University in Herning. <https://doi.org/10.35199/EPDE.2020.47>
- Quarles, Z. (2016, July 6). *Game audio guide: How to write a (game-changing) audio design document today*. <https://www.asoundeffect.com/game-audio-design-document/>
- Resonance Audio. (n.d.) *Discover resonance audio*. <https://resonance-audio.github.io/resonance-audio/discover/overview.html>
- Rouse, R. (2005). *Game design: Theory & practice* (3rd ed.). Wordware Publishing.
- Sinclair, J. L. (2020). *Principles of game audio and sound design. Sound design and audio implementation for interactive and immersive media*. Routledge.
- Solarski, C. (2012). *Drawing basics and video game art: Classic to cutting-edge art techniques for winning video game design*. Watson-Guptill.
- Zdanowicz, G., & Bambrick, S. (2020). *The game audio strategy guide. A practical course*. Routledge.

Contact Data:

Mgr. Tomáš Farkaš, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
tomas.farkas@ucm.sk
ORCID-ID: <https://orcid.org/0000-0003-1686-4711>

Mgr. Martin Schwarz
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
schwarz2@ucm.sk

SIMULATION REVERSE MODELS FOR ASSESSING THE ECONOMIC VIABILITY OF RETAIL SERVICE MANAGEMENT PROCESSES

Tomáš Fašiang – Pavel Gežik

DOI: <https://doi.org/10.34135/mmidentity-2023-07>

Abstract:

The current market situation is characterised by a highly dynamic retail sector that is constantly evolving and adapting to changes in consumer behaviour and technological innovation. With digital technologies and changes in consumer preferences dramatically influencing the way companies approach the sale of their products and services, effective management of retail service processes is crucial not only to ensure smooth operations but also to remain competitive in the market. Effective management of retail service processes is becoming not only a challenge but also a necessity for maintaining market position. This paper deals with the analysis of economic efficiency in the management of retail processes, with simulation of selected models as a key tool. The aim of the paper is to assess the economic efficiency of retail service process management through the simulation of selected models and to show the methodological significance of the application of reverse logistics in the process of cost minimization in the area of assortment management of retail operations.

Key words: Cost Optimisation. Inventory Management. Retail Service Processes. Retail. Reverse Logistik.

1 Introduction

The basic orientation of the retail store is to provide service activities for (loyal and potential) customers within the defined shopping catchment of the retail operation. Servicing activities in retailing include various tasks and services that are necessary for the efficient functioning of the retail operation and the satisfaction of customer needs.

From both a marketing and an economic perspective, the performance of retail processes is influenced by the nature of the product portfolio provided and its life cycle in terms of inventory management. For this reason, we will focus on identifying a model of the economic benefits of managing retail service processes from an inventory perspective.

Inventory process planning is a very challenging process that involves a number of factors. If the reprocessing of products once manufactured is included in this process, this quantity increases even more and will affect the overall production planning, the associated inventory control and ordering, as well as the planning of work operations.

Based on the recognition that the inventory process includes product return and reuse, this process can be linked to a number of supporting processes. Such as servicing, reworking, improving, redesigning or changing packaging, or recycling and disposal, or even just taking into account technical progress. Because of these processes, a new kind of uncertainty arises for the retail industry, in addition to the actual demand for products – the uncertainty of the number and quality of products that are returned. According to Guide (2000) seven characteristics of the supply process are related to the uncertainty, which includes the return of products:

- indeterminate timing and volume of returned products,
- the correct determination of the level of demand for and return of products,
- the need to dismantle returned products,
- the uncertainty of the possibility of recovering material from returned products,
- the requirements for establishing a reverse logistics network,
- complications with material constraints,

- problems with stochastic cycling of products for repair and rework as well as high process variability.

Problems with product returns can vary. In practice, it is possible to encounter a number of cases why products are returned. In addition to the recycling of materials or the recycling itself, which for some products is also regulated by legislation, there are also returns that are related to the entire life cycle of the product, such as the service and services associated with it.

According to Tibben-Lembke (2002) this may include:

- manufacturing defects/repairs – this is a return to the seller for repair of a defective, faulty or damaged product,
- product servicing and maintenance – returns related to product modifications, servicing and maintenance,
- vendor/distributor error – an error that occurs in the ordering process and is caused by the vendor – product substitution, delivery of the wrong type of product or a defective product,
- customer error – this is an error made by the customer when purchasing the product – wrong order, wrong quantity ordered, wrong product or product type, product not working as the customer intended,
- error in the ordering process – a system error that can occur and was not caused by either the seller or the customer – a fault in the ordering system, a system failure,
- misdelivery – another product wrongly picked or delivered, wrong or invalid address, shipment broke in transit,
- incomplete delivery – missing products or parts of products, wrong quantity/volume of products,
- duplicate deliveries/orders or missing orders – an error in the ordering or delivery process caused some products to be delivered/ordered in duplicate or unordered products to be delivered as well.

When planning the inventory process, it is essential that it includes all the sub-processes that take place in the retail store as part of a comprehensive process. A product can only be successfully marketed if its price adequately reflects all the processes from production to consumption of the product.

It is assumed that the retail industry proceeds on the basis of market research and free competition in selecting its suppliers. Thus, it is assumed that the costs that influence pricing and are subject to optimisation of the whole supply process have already been selected as the lowest ones. This means that suppliers were selected who provided their services as well as the products and materials sold at the best prices.

Another very important prerequisite is the actual planning of the supply process and, in fact, the related planning of the assortment, which is necessary to determine the optimization objectives. This is essential because of the proper definition of all the sub-processes involved in the supply process. According to the levels of planning, this sub-process planning can be divided into strategic planning (long term planning), which is a business plan, i.e. a certain desired volume of production, on the basis of which tactical planning (medium term planning) then takes place, which determines “what and how much” is needed to achieve the plan. Lastly, short term planning is operational planning, which is linked to solving actual problems arising in the supply process.

In the context of inventory planning issues, it is useful to consider circular processes in the economic performance of retail. However, circular processes are associated with an increase in cost and the uncertainty factor that the introduction of these processes is associated with investment. It can be assumed that these costs will be rather fixed in nature. For an appropriate introduction, but also an adequate evaluation, it is necessary to understand the changes in fixed costs as a function of the number of products sold. The figures below outline the basic

relationships between costs and sales, as well as the break-even points, which are the quantities produced from which the retailer makes a profit (Stevenson, 2009).

In the following figure, part (a) involves the determination of total cost (TC), based on variable cost (VC) and fixed cost (FC), which are then compared with total revenue (TR). From part (b) and based on their comparison, the Break-Even-Point (BEP) can be determined, which indicates the quantity of products sold beyond which the retailer needs to break-even. Part (d) discusses the different profit opportunities as the quantity of products sold increases, which is the main reason for optimizing this quantity. Parts (e) and (f) deal with the issue of fixed costs, since these can grow not only linearly with the quantity of products sold, but at intervals. Examples of these intervals are most often the costs associated with renewal processes, where additional costs are associated with larger quantities of products.

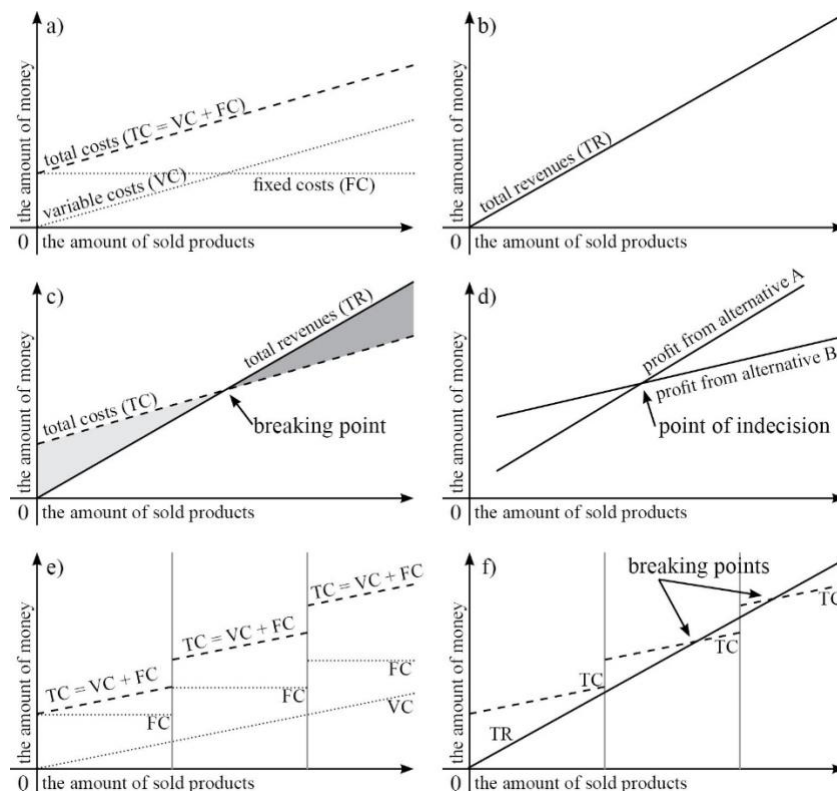


Figure 1: Basic relationships between costs and revenues
 Source: own processing, 2023; According to Stevenson (2009)

2 Methodology

The methodology of this paper aims to illustrate the application of inventory management models in retail processes through the following figures.

The figures are based on the transformation of classical manufacturing processes into retail processes where material, semi-finished goods, auxiliary materials are used which are obtained from the various inventories of the company.

All the inventories are subsequently transformed by the retail process into products, i.e. goods, which after the end of production go to the finalization stage – sale.

The finalisation phase refers to processes which no longer change the nature of the product and are intended to sell the goods. The inventory management process is linked to several operations or takes place at several locations. This division into individual parts is also shown in the following figures, where the product may be damaged in each part or operation. These damaged products are then discarded from the next process.

The following figure illustrates when all damaged products in a process are classified as waste and so are excluded from further production and are disposed of.

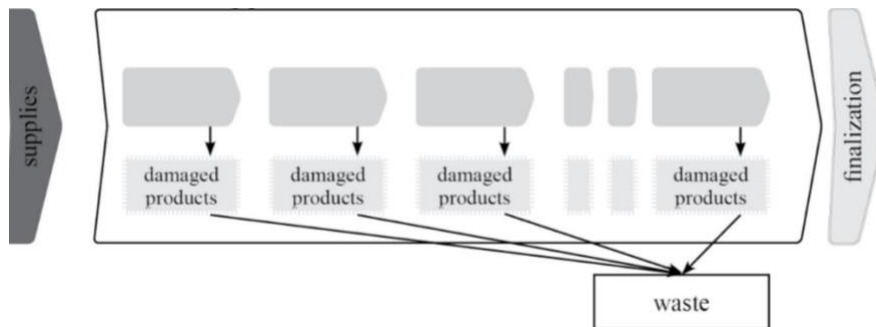


Figure 2: The classic inventory process
 Source: own processing, 2023; According to Fleischmann (2001)

As can be seen by the figures, the business does not incur additional costs with the waste generated. However, if it is possible to inspect damaged products within each part of the process without radically increasing the additional costs associated with this inspection, and the nature of the damage to the product allows it to be remanufactured, it is desirable to use elements of reverse logistics.

At the same time, it is assumed that the waste rate for a given process is the same regardless of whether the product is classified as waste or for remanufacture.

The following figure shows a remanufacturing process where the nature of the damage to the product allows it to be returned to the process preceding the one in which the product was damaged. However, if the product can be repaired within the part in which it is damaged, then the product is only returned to the beginning of that part and repaired. Sometimes, however, the damage to the product may be such that it cannot be repaired or reworked in the preceding part, but it is still possible to repair or rework the product in a later part of the process.

In that case, the damaged product will return to the beginning of the process and will be re-run through all parts of the process where it will either be repaired or remanufactured or will be discarded as waste for good.

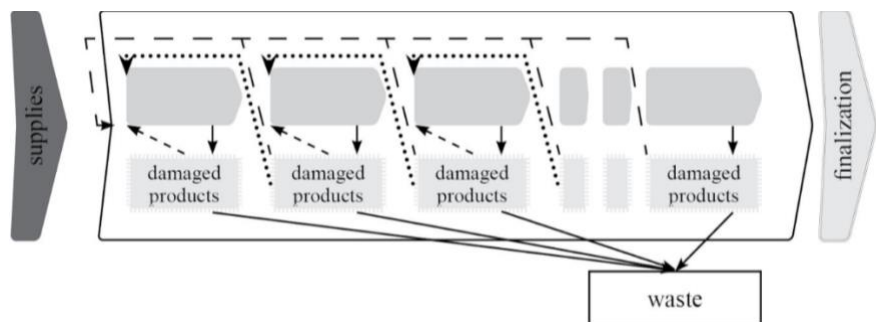


Figure 3: The inventory process with remanufacture
 Source: own processing, 2023; According to Fleischmann (2001)

The following figure shows the process with remanufacturing combined with the use of recycling. This means that if a retailer has the capability to control damaged goods, it is assumed that damaged goods can be sorted not only into those whose nature of damage allows for remanufacture and waste, but also further sorted into recyclables and final waste. However, waste destined for recycling is associated with additional costs for dismantling materials from products. It is precisely these costs that the retailer does not have to bear internally and can use an external environment for recycling.

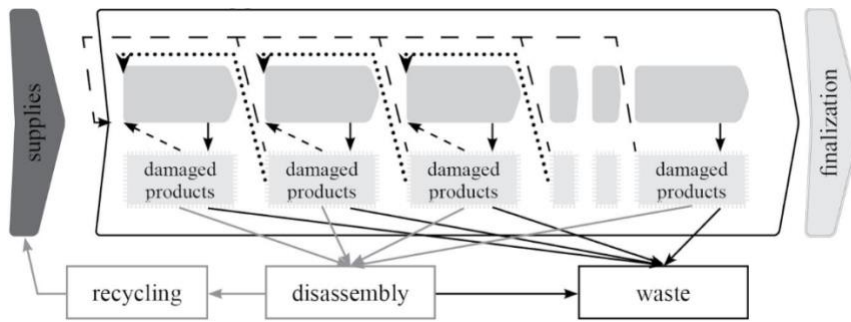


Figure 4: The inventory process with remanufacture and recycle
 Source: own processing, 2023; According to Fleischmann (2001)

The use of reverse logistics elements can lead to significant cost savings associated with the purchase of the right material due to waste minimization, which has in addition to the economic effect a desirable ecological effect, which can be presented as a ‘green image’ and have a positive marketing impact.

It can be seen in the figures that just remanufacturing and recycling has reduced the amount of waste that would have been generated from damaged products. Based on the fact that the same volume of damaged products that was classified as waste is divided into remanufacturing and recycling, and only then into waste, it is clear that the amount of waste is minimal.

3 Results

The processes of the different models shown in the previous figures express only the basic idea of the approach of considering the return of the product in its implementation process. However, the reverse logistics processes create imaginary cycles of the different parts of the retail process.

The above models can be explained by simulation through a simple example that demonstrates the underlying theory.

The chosen example describes an unspecified retail process divided into three coherent parts (Part 1, Part 2 and Part 3), composed of individual acts, at the end of which there is a certain product stage. This stage is always the same in a given part and is represented in the example by the number of products that have been processed in that part up to that stage.

Examples of quantified circular processes are shown for only three periods for simplicity, but three periods are sufficient for demonstration since the steps in each period are repeated over and over again.

For each period, a number of 1000 products are defined, each of which is inspected in each part and it is determined whether the product meets the quality requirements (status “ok”) or not (status “not ok”). This number is a made-up number for ease of calculation. All other values are simulated or calculated (waste). For the simulated values, individual coefficients were generated at random.

Coefficients applied:

- the coefficient of products with “ok” status, i.e. how many products passed the quality control,
- the remanufacturing coefficient for each part,
- the disassembly coefficient,
- recycling coefficient.

The first figure described a process in which products with a status of “not ok” represent waste. Thus, in the example (Figure 5), 3000 units of stock were consumed over three periods,

2466 units of products were produced, and 534 products failed quality control and represented waste.

	1. period			2. period			3. period			
	1. part	2. part	3. part	1. part	2. part	3. part	1. part	2. part	3. part	
inventory	1000	0	0	1000	0	0	1000	0	0	3000
products	1000	930	870	1000	940	874	1000	950	884	
ok	930	870	827	940	874	817	950	884	822	2466
disposal	70	60	43	60	66	57	50	66	62	534

Figure 5: The classic inventory process
Source: own processing, 2023

The remanufacturing process is illustrated in the example (Figure 6), where products with a “not ok” status are sorted into products that can be remanufactured and products whose quality characteristics no longer allow them to repair their damage in any part of the process. Products are also sorted according to the part of the process where they need to be reworked. This takes place in the next period and may occur in the same part of the process but also in earlier parts of the process. In the example, it can be seen that if a circular remanufacturing process is included in the process, more efficient production occurs. In this particular example, 2,537 products were generated from the same amount of inventory over the three periods, 71 more than the normal production process, and 44 units will be remanufactured in the next period. Hence the decrease in waste by the quantities of 71 and 44, i.e. a total of 115 units. In addition to the original waste generated during quality control (disposal I), the example takes into account the fact that not all products can be remanufactured. Those that are permanently damaged constitute waste (disposal II).

	1. period			2. period			3. period			
	1. part	2. part	3. part	1. part	2. part	3. part	1. part	2. part	3. part	
inventory	1000	0	0	1000	0	0	1000	0	0	3000
products	1000	930	870	1025	973	911	1029	987	923	
ok	930	870	827	964	905	852	978	918	858	2537
not ok	30	26	19	27	29	26	23	30	28	
disposal I.	40	34	24	34	39	33	28	39	37	
1. part	12	8	5	14	9	6	9	9	7	25
2. part	0	6	3	0	6	3	0	11	6	17
3. part	0	0	6	0	0	5	0	0	2	2
disposal II.	18	12	5	13	14	12	14	10	13	
disposal	58	46	29	47	53	45	42	49	50	419

Figure 6: The inventory process with remanufacture
Source: own processing, 2023

The last example (Figure 7) is identical in its first part to the previous example and in the same way in this example 2,537 units of products are generated and 44 units are left to be reworked in the next period. This example is supplemented by the option of dismantling the products, which consists in the fact that during quality control, products that were previously discarded as waste, i.e. could not be reprocessed, will be dismantled (removal I) and used for recycling. Also, products that could not be reprocessed do not all have to be disposed of, but some of them can be dismantled (removal II). Again, not all products can be used for recycling and so waste is also generated here (disposal III).

	1. period			2. period			3. period			sum
	1. part	2. part	3. part	1. part	2. part	3. part	1. part	2. part	3. part	
inventory	1000	0	0	974	0	0	976	0	0	2950
products	1000	930	870	1025	973	911	1029	987	923	
ok	930	870	827	964	905	852	978	918	858	2537
not ok	30	26	19	27	29	26	23	30	28	
removal I.	9	7	8	11	6	9	7	7	6	
disposal I.	31	27	16	23	33	24	21	32	31	
1. part	12	8	5	14	9	6	9	9	7	25
2. part	0	6	3	0	6	3	0	11	6	17
3. part	0	0	6	0	0	5	0	0	2	2
removal II.	8	6	2	11	6	2	9	3	9	
disposal II.	10	6	3	2	8	10	5	7	4	
removal	17	13	10	22	12	11	16	10	15	
recycling	10	12	4	8	7	9	8	7	9	24
disposal III.	7	1	6	14	5	2	8	3	6	
disposal	48	34	25	39	46	36	34	42	41	345

Figure 7: The inventory process with remanufacture and recycle
 Source: own processing, 2023

4 Discussion

An essential area of orientation of models using the principles of the circular economy is focused on the return of products that have not reached the consumer. These are reused, i.e. redistributed once more but to other consumers for re-sale (Networks for reuse/redistribution/resale), or the product is returned to the manufacturer for redesign, innovation or repackaging (Networks for remanufacturing/redesign). Recycling is also in mind here, but not mainly with the environment in mind, but with an interest in using the raw materials for remanufacturing (Networks for recycling).

As indicated, it is in the inventory management process that the elements of reverse logistics will be most evident, as they can minimise the costs of retailing. The possibility of minimising costs lies precisely in the use of activities such as recycling, remanufacturing or repair, which can be described as the core activities of reverse logistics.

Based on the previous simulations, the positive impact of using the circular process can be evaluated. Recycling alone has caused a decrease in inventory of 50 units for three periods and a further 24 units will be used in the following period. Overall, the waste decreased by 184 pcs compared to the conventional process. Although this is a theoretical simulation using a direct proportion of inventory consumption, it clearly demonstrates the positive effect of introducing circular processes into retail.

Recycling and hence the decrease in inventory affects the level of costs. Although there are additional costs associated with dismantling and recycling for the retailer, these are assumed to be no higher than the costs associated with stock acquisition. On the other hand, remanufacturing affects the yields as it increases the quantity realised. Again, although there are costs associated with this process, they are assumed to be the same as normal costs or only slightly higher. Hence, it is clear from the above that circular processes have a positive impact on the bottom line of the retailer.

5 Conclusion

The application of reverse logistics in retail directly reflects sustainable development and environmental protection. Its application in retail processes will positively support the service activities of retail with an increase in its financial-economic indicators.

The aim of the paper was to assess the economic profitability of retail service processes management through the simulation of selected models and to point out the methodological

significance of the application of reverse logistics in the process of cost minimization in the management of the assortment mix of retail operations.

Thus, the principle of minimizing the costs associated with the purchase of inventory is based on a simple assumption, namely that if the retail store will not consider damaged products as waste, but as products that can be reused in the retail process, including the material they contain, it can recycle them.

It is further assumed that manufactured products can be reversibly disassembled, so that when a product is damaged, it can be reassembled and, depending on the nature of the damage, repaired or the product can be scrapped and the appropriate operations can be carried out on it again. Such remanufacturing subsequently contributes to reducing waste and thus to saving costs for the retailer.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0606/21, titled 'Change in Preferences in Buying Behaviour of Consumers in the Context of the Dynamics of Marketing Communication Tools Development'.

Bibliography

- Fleischmann, M. (2001). *Quantitative models for reverse logistics*. Springer.
<https://doi.org/10.1007/978-3-642-56691-2>
- Guide, V. D. R. (2000). Production planning and control for remanufacturing: Industry practice and research needs. *Journal of Operations Management*, 18(4), 467-483.
[https://doi.org/10.1016/S0272-6963\(00\)00034-6](https://doi.org/10.1016/S0272-6963(00)00034-6)
- Stevenson, W. J. (2009). *Operations management*. Irwin/McGraw Hill.
- Tibben-Lembke, R. S. (2002). Life after death: Reverse logistics and the product life cycle. *International Journal of Physical Distribution & Logistics Management*, 32(3), 223-244. <https://doi.org/10.1108/09600030210426548>

Contact Data:

Ing. Tomáš Fašiang, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 tomas.fasiang@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0001-9176-9939>

Ing. Pavel Gežík, PhD.
 University of Economics in Bratislava
 Faculty of Economic Informatics
 Dolnozemska cesta 1/b
 851 35 Bratislava
 SLOVAK REPUBLIC
 pavel.gezik@euba.sk

ACCEPTANCE OF KOREAN CULTURAL PRODUCTS IN SLOVAKIA: MULTICULTURALISM, RECIPIENTS AND METAVERSE

Bianka Francistyová

DOI: <https://doi.org/10.34135/mmidentity-2023-08>

Abstract:

Korean cultural products have indeed gained some presence in Slovak's media, but it does not necessarily indicate a widespread shift in acceptance of different cultural products than those associated with Western cultures. The acceptance of Korean content by Slovak audiences is, among other things, influenced by various factors such as cultural affinity, multiculturalism, and technical-technological progress. Unlike other multicultural societies, Slovakia may not be naturally inclined to embrace diverse content. The study aims to showcase the possible changes within the acceptance of different cultures through multiculturalism and willingness of recipients to consume it. The paper also ponders over the potential role of the metaverse (virtual reality) in fostering greater cultural diversity acceptance. Moreover, it underscores the persistent language barrier, and the uncertainty of how virtual acceptance translates into real-world acceptance. In essence, the study raises question about the complex dynamics of cultural acceptance in Slovakia, where various factors interact to shape perceptions and attitudes towards foreign cultures, especially the Korean one.

Key words: Cultural Acceptance. Hallyu. Korean Wave. Metaverse. Multicultural Society. Recipients. Slovakia.

1 Introduction

Currently, when the world is going through and experiencing the impact of many changes, Slovakia stands on the potential threshold of a renaissance of cultural acceptance. South Korean music reached other European radio stations before it reached Slovakia. It was only after 2012 that more music, that is not typically from countries that Huntington (1996) considers to be Western, has made its way onto Slovak radios (Francistyová & Višňovský, 2022). Nevertheless, it cannot be claimed that the penetration of K-pop into the Slovak airwaves can be considered as the beginning of a change that will turn this music production into a broadly accepted one. Neither is it the case with film or television production. Majority of Western audiences refuse to watch audiovisual productions that they either do not understand (visually or auditorily) or are not accustomed to other cultural or racial differences. Bong Joon Ho, the director of *Parasite*, argues that if people overcome their discomfort and are willing to read subtitles, a world full of possibilities will open up for them and they will be able to watch many more films (Dien, 2023). The problem, however, is not only the subtitles and the willingness to read them, but also the nature and readiness of the audiences to accept something that they are not exposed to within their culture. Han (2015) put forward a theory that is built on the acceptance of "otherness". He claims that elements (within culture) should not be viewed through an "immunological" gaze, therefore in such way of singling out to binary oppositions. The view of categorizing objects as 'us vs. foreign', the so-called "other", prevents the acceptance of cultural elements other than those in which surroundings we reside. If these elements were viewed immunologically, people would never be able to accept anything different. Hence Han (2015) puts forward the thesis that people should not understand something as "the other", but only different from what they are used to. Such understanding will consequently make the acceptance of these elements, and thus also media content, much easier. Although, for example, Korean music production appears on Slovak airwaves, it is not simple enough to say exactly whether this is due to the acceptance of non-Western cultures, or whether it is based on playing music that is popular in the West. The assumption of penetration

of South Korean music on the basis of its popularity in Slovakia today can be supported by, for example, leading places in music charts such as Billboard HOT 100, Billboard 200 and others. However, the question remains whether the penetration of Korean cultural products in the Slovak territory is the result of mixing cultural acceptance as a result of *multiculturalism* and the development of technology, or whether it is solely the use and application of trends from the West, where multiculturalism is a common part of everyday life. The paper presents the contexts and conditions of acceptance and highlights the potential acceptance capacity of the Korean Wave in Slovak society.

2 Acceptance and Multiculturalism

Apart from grasping the success of hallyu through cultural and racial proximity, or subsequent globalisation, alternative globalisation, understanding the term as the counterpart of imperialism, or also mere interest in entertainment (Ju, 2019; Erni & Chua, 2005; Hong, 2017; Yang, 2012; Kim, 2009; Ju, 2020), one has to realise that success as such would not have been possible without the acceptance and readiness of other markets and audiences to embrace the products in question. It is safe to assume that it was the spread and success of Korean media products that came initially to multicultural cities and spread from there onwards. Clearly, this is not the only way in which Korean products have reached their audiences. Hong explains that fans of Korean music bands, for example, have come a long way before they began to like the content, with interest usually stemming from Japanese manga and anime (Hong, 2017). Furthermore, social media and the pre-made algorithms of the providers of these social platforms have also enabled the success of Korean products, but again, this would not have been possible if audiences were not ready to consume them.

The terms multiculturalism and *multicultural society* are increasingly heard in the 21st century, although not all societies can be described by those terms. Nye (2017) points out that societies in North America and Western Europe, in particular, have been described as multicultural societies. In their interpretation, therefore, Slovakia cannot be described as a multicultural society, although it tries to appear so. Naturally, grasping the concept of multiculturalism is not easy, as it can be explained in multiple ways, but primarily in these three: 1) as an ideology; 2) as a social problem; 3) through an academic grasp (Nye, 2007). The ideology of the concept is closely linked to the application to the practice and subsequent social problems, as the ideology presents how society should be set up in order to exhibit elements of multiculturalism and the social problem, on the other hand, points to the problems that arise as a result of change and the advent of multiculturalism. It is precisely the dual comparison of these grasps of concept that allows us to explain why Slovakia cannot be considered a multicultural society. Despite the fact that there are efforts to set up and apply multiculturalism to Slovak society, the acceptance of the ideology comes from a small number of people, while social problems are highlighted (also due to media presentation) before the individual elements of multiculturalism can be applied. Tulukder (2019) claims that multiculturalism is a political theory that allows us to live in a dual society in which the main values are the recognition of cultural diversity and the maintenance of justice and equality for all. While it might not seem directly related, the fact in question also correlates with the acceptance of media production from other parts of the world. Slovakia cannot be fully considered multicultural as (some of) its citizens do not acknowledge cultural diversity in society, on the contrary, they are afraid of it and shy away from it. Slovak audiences evaluate and reject content other than that which is familiar to them, although they have not been presented with it yet.

There are a few reasons why consumers refuse to accept other contents that they do not normally accept. On the contrary, Hogarth (2013) puts forward possible reasons why Korean mini-series have had success in China:

- high quality;
- beautiful/scenic cinematography;
- “Asianness”;
- Asian concept of destiny and traditional view on sex;
- new portrayal of man and woman;
- modernity and fusion of traditions;
- low-cost;
- clever storytelling;
- universal human themes such as truth, goodness, and beauty.

While some of these elements could be applied in Slovakia, it is the aspect of “Asianness”, that may be the point that prevents this production from moving forward. As mentioned earlier, Slovakia does not yet represent a country that is willing to embrace racial or cultural diversity to the extent that hallyu would have a massive success.

3 Willingness to Consume Different Media Products

Currently, it is necessary to distinguish Slovak consumers into those who are willing to consume non-Western products and those who consume content exclusively from the West. Setting aside the latter, it is precisely the audiences who are willing to accept content other than that which is dominant in their society that can be called *cultural omnivores*. Hallyu researchers and theoreticians put forward an interesting insight, namely that consumers of Hallyu products also consume content from the West, which confirms the assumption of a cultural omnivore (Hong, 2017; Jin et al., 2021). Even more interesting is the fact, that cultural omnivory is not only dependent on prior consumption of different media contents, but also on the individual’s willingness to embrace something new – something different – that they have not encountered before. Retrospectively, considering the content uptake of consumers from the West, they were initially exposed solely to the products coming from their own culture. It was the prior consumption of these contents and the desire to discover something new that helped to fuel the willingness to embrace, for example, contents from the East.

Multiculturalism, which promotes the acceptance of cultural diversity, is thus related to the acceptance of the consumption of Eastern products and also to the role of consumers as cultural omnivores. At the same time, however, through contact they develop their cultural identity, which may not be directly (and completely) identical to the culture in which they live. Hall confirms this assumption as he says that cultural identity is a mixture of being in the present but also in the future, as cultural identity is constantly transforming (Hall, 1990), and what stands today, will change tomorrow based on the experience and encounter with another culture. Cultural identity, as defined by Gruen, is thus formed on the basis of contact with other cultures, intimate knowledge of them, and to some extent exploitation of them. While initially societies understood different cultures as the others, they expropriated them and stole elements that were useful to them (Gruen, 2016). Cultural identity and the way people live their lives is changed by exposure to and consumption of Eastern content, and the more contact they have with other cultures, the more likely they are to be open to accepting their cultural elements and potentially adopting them as their own. Another interesting concept is that of cultural affinity, which in this case operates on the basis of the attractiveness of the culture with which an individual identifies. The more experiences the individual has, the more their cultural identity has a divergent character that causes them to disengage to some extent from a preference for one culture and move towards an interest in elements from other cultures. This may cause consumers, who may not have had any other contact with the different culture before, to gradually become interested in this aspect until they move towards potentially preferring and

identifying with that specific different culture, even though they continue to consume other – indigenous – content.

4 Multiculturalism in the Virtual World

Currently, a change in cultural acceptance is expected, which is conditioned by the development of technical-technological achievements of the 21st century. Augmented, or also known as virtual reality, is not new to the market. There are many games that allow a person to be transported into virtual reality (e.g. the game *Second Life*), but there are also technologies that help to bring virtual elements and persons into reality (e.g. the virtual K-pop girl group *MAVE:*). The idea of the metaverse is still grasped only in the narrowest sense, because it is not consistent with all parts of the concept – the rules:

- metaverse is one;
- it is for everyone;
- no one controls it;
- it is open;
- it is hardware independent;
- it is a network;
- it is the internet (Parisi, 2021).

Nonetheless, it presents a hint of a potential change in (cultural, and therefore media) acceptance. Francistyová (2023b) notes that the acceptance of anything different is likely to be better tolerated in a metaverse or virtual reality world because there the users are not limited by copying their own appearance. The presumption is that in the metaverse anyone could be, or more accurately will be, whoever they want to be, as long as their behaviour does not limit the others. Considering the fact that within the metaverse there is a place where different cultures meet, it could be said that it is a multicultural (virtual) world. There is a constant contact with people who are “different”, but not “other”, because the assumption is that they have at least one common goal, which is to be in the same place at a certain moment. In this case, although it is an extreme example, users can develop a certain ‘sense of belonging’ to the given place. However, a space where cultures clash but no one looks at race, gender, sex, etc. still remains a utopian idea rather than a reality. The issue with this view, that acceptance could improve based on technological innovation, is that it has at least three limits:

- language;
- acceptance may not translate into reality;
- the detachment of the individual from the reality.

Language. The desire to be whoever, however, the appearance is presented, is potentially limited by the way people communicate. If people from different cultures, that do not use the same language, want to communicate, they are forced to compromise and communicate in a way that they can understand each other. For instance, they may use English, or one may learn the other person’s language. So, in this case, it is not about the possibility of a person being anyone, regardless of socio-cultural conditioning. Also, in most cases, people tend to use dominant language, therefore going against the idea of being able to be whoever they want, and also of cultural acceptance of difference. Language can be as much of a barrier to acceptance as, for example, appearance, which is why Bong Joon Ho mentioned during their award acceptance speech that if people were to get past reading subtitles, and thus not just watch content they understand, the range of content they can consume would be expanded. Thus, limiting the preference for one language of the dominant culture and the consequent acceptance of other languages is important. It could be easily solved by AI technology, but also could very well still cause many problems in acceptance.

Acceptance may not translate into reality. Although one can be anyone within the metaverse, and thus characterize oneself through other than inborn or acquired characteristics, this does not mean that the view on difference will change in actual reality. The process of acceptance is often a long one, and sometimes even extended period of time in a different environment may not have a positive effect on the acceptance of difference. The metaverse can only have a partial impact on the acceptance of difference, as ultimately this virtual space is currently just a place where people meet, chat or play. Therefore, the question arises whether the acceptance of the differentness in the metaverse can be understood as a real acceptance of people's difference at all, or whether it is a conscious roleplaying, where the character and the person matter separately, but not in their entirety.

The detachment of the individual from the reality. The "overconsumption" of technology creates a crack in the individual's ability to return to reality (Bullperks, 2023). It is a negative consequence of overuse of technology and at a certain point one does not want to go back to the old way – the old way of meeting people, watching content or any non-virtual activity. At this point, the acceptance of difference in reality is unnecessary because the person does not want to encounter any other embodiment of the person than the one created in virtuality.

5 Instead of Conclusion

Acceptance of non-Western products can potentially be based on multiculturalism, the development of technology, or the experience (cultural identity and cultural affinity) of individuals with the culture and the way of life they have been exposed to since they were young. It may seem that the answer is primarily inclined towards experience, however, multicultural societies are an important part of the success and popularity of Korean cultural products. Unlike Slovakia, where hallyu arrived at a greater extent and became more widely known only in 2012, multicultural countries such as Canada, the United States of America and others were exposed to Korean cultural products much earlier. The different phases of hallyu are built, among other things, on geographical reach, and thus the products went from the nearest countries such as China and Japan, through the Middle East, Europe, and finally to North America. Although, Korean products (but not yet under the name of hallyu) have made it to the big cities thanks to migration (Korean diaspora) (Lee, 2015). So, in other words, it could be said that although a multicultural society is not necessary for the eventual success of Korean products, it is the diversity of the society and cultures within it that greatly helps in the acceptance of Korean cultural products.

Despite the fact that technology is constantly evolving, and media products are being disseminated around the world, only a certain percentage can influence the acceptance of non-dominant Western content, without an initial willingness on the part of the individual to accept it. However, Slovakia, which is not a multicultural society in the true sense of the word and will not be one anytime soon, tries to mimic the ideology of countries where social diversity is common. For this reason, Korean music production can be heard on the Slovak radios, although Slovakia is not yet able to embrace different than Western production. Instead, it is the media practice of adopting trends from larger countries (Francistyová, 2023a), in this case from America, even though, according to the basics of grasping the phases of hallyu, Korean media products such as mini-series and music were more popular in Europe before they were in America. The popularity of Korean cultural products made it possible that in Slovakia and surrounding countries, people began to recognize non-Western productions. However, this does not mean that they began to accept it fully. This partial success can be attributed to radio stations that include music productions in their playlists, but also to streaming platforms that now include content from the East in their lists of films and series. Nevertheless, it continues to be

debated whether and, if so, when the full acceptance of hallyu content by mainstream audiences in Slovakia will come. The answer is quite obvious, as the acceptance of Eastern cultures is not yet possible outside multicultural cities due to the shying away from encounters with other cultures. Potentially, this could be made possible by techno-technological advances – the metaverse, and thus the future Web 3.0. Before that, however, metaverse would have to overcome at least 3 issues such as language, the translation of acceptance from the metaverse into reality, and the (dis)interest of the individuals to return from the virtual world to the real one.

Acknowledgement: This paper was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-21-0115, titled 'Hypermodern Media Culture – Film and Television Production as Mirror of Sociocultural Phenomena of the 21st Century'.

Bibliography

- Bullperks. (2023, January 24). *Cultural impacts of the metaverse*. <https://bullperks.com/cultural-impacts-of-the-metaverse/>
- Dien, P. (2023, March 9). *Changing cinema: How Bong Joon-Ho transcended the subtitle barrier and put international films in the American mainstream*. <https://tsl.news/the-success-of-bong-joon-ho-films/>
- Erni, J. N., & Chua, S. K. (2005). Introduction: Our Asian media studies? In J. N. Erni, & S. K. Chua (Eds.), *Asian media studies: Politics of subjectivities* (pp. 1-15). Blackwell Publishing. <https://doi.org/10.1002/9780470774281.ch1>
- Francistyová, B. (2023a). Netflix a hudobný priemysel ako akcelerátory záujmu o štúdium hallyu na Slovensku [Netflix and music industry as the accelerators of interest in hallyu studies in Slovakia]. *Analýza a výskum v marketingovej komunikácii*, 10(1), 21-27. http://www.kmkr.ff.ukf.sk/uploads/images/AVMK_1_10_2023.pdf
- Francistyová, B. (2023b). Príchod hallyu 5.0? Globálny potenciál kórejskej mediálnej produkcie [The Arrival of hallyu 5.0? Global potential of Korean media production]. In B. Francistyová, & L. Furtáková (Eds.), *Quo Vadis 2023: <Generated by AI>* (pp. 125-134). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Francistyová, B., & Višňovský, J. (2022). Neo-acceptance of hallyu as a result of changes in the film industry: K-pop in Europe and on Slovak radio. In M. Prostináková Hossová, M. Graca, & M. Solík (Eds.), *Marketing and Media Identity: Metaverse is the new universe* (pp. 38-48). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Gruen, E. S. (2016). *The construct of identity in hellenistic judaism: Essays on early jewish literature and history*. De Gruyter. <https://doi.org/10.1515/9783110375558-004>
- Hall, S. (1990). Cultural identity and diaspora. In J. Rutherford (Ed.), *Identity: Community, culture, difference* (pp. 222-239). Lawrence & Wishart.
- Han, B. Ch. (2015). *The burnout society*. Stanford University Press.
- Hogarth, H. K. (2013). The Korean wave: An Asian reaction to western-dominated globalization. *Perspectives on Global Development and Technology*, 12(1-2), 135-151. <https://doi.org/10.1163/15691497-12341247>
- Hong, S. K. (2017). Hallyu beyond Asia: Theoretical investigations on global consumption of hallyu. In T. J. Yoon, & D. Y. Jin (Eds.), *The Korean wave: Evolution, fandom, and transnationality* (pp. 67-86). Lexington Books.

- Huntington, S. P. (1996). *The clash of civilizations and the remaking of world order*. Simon & Schuster.
- Jin, D. Y., Yoon, K., & Min, W. (2021). *Transnational hallyu: The globalization of Korean digital and popular culture*. Rowan & Littlefield Publishing. <https://doi.org/10.1215/00219118-10773177>
- Ju, H. (2019). Korean TV drama viewership on Netflix: Transcultural affection, romance, and identities. *Journal of International and Intercultural Communication*, 13(1), 32-48. <https://doi.org/10.1080/17513057.2019.1606269>
- Ju, H. (2020). *Transnational Korean television: Cultural storytelling and digital audiences*. Lexington Books. <https://doi.org/10.1163/15692108-12341494>
- Kim, S. (2009). Interpreting transnational cultural practices: Social discourses on a Korean drama in Japan, Hong Kong, and China. *Cultural Studies*, 23(5-6), 736-755. <https://doi.org/10.1080/09502380903132348>
- Lee, S. J. (2015). From diaspora TV to social media: Korean TV dramas in America. In S. J. Lee, & A. M. Nornes (Eds.), *Hallyu 2.0: The Korean wave in the age of social media* (pp. 172-191). Michigan University Press.
- Nye, M. (2007). The challenges of multiculturalism. *Culture and Religion*, 8(2), 109-122. <https://www.tandfonline.com/doi/abs/10.1080/14755610701458915>
- Parisi, T. (2021, October 22). *The seven rules of the metaverse*. <https://medium.com/meta-verses/the-seven-rules-of-the-metaverse-7d4e06fa864c#:~:text=There%20is%20only%20one%20Metaverse,4%3A%20The%20Metaverse%20is%20open>
- Tulukder, H. M. (2019). Geo-cultural identity in multiculturalism: Can it be a social contract? *Cogito – Multidisciplinary Research Journal*, 11(1), 177-186.
- Yang, J. H. (2012). The Korean wave (hallyu) in East Asia: A comparison of Chinese, Japanese, and Taiwanese audiences who watch Korean TV dramas. *Development and Society*, 41(1), 104-147. <https://doi.org/10.21588/dns.2012.41.1.005>

Contact Data:

Mgr. Bianka Francistyová
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 francistyoval@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0001-5865-0952>

AI IN RADIO: THE GAME CHANGER YOU DID NOT HEAR COMING

Lucia Furtáková – Ľubica Janáčková

DOI: <https://doi.org/10.34135/mmidentity-2023-09>

Abstract:

AI technologies are becoming more accessible to the public, leading to an increase in their use. This trend can also be observed in radio, where artificial intelligence is gradually finding its application in various forms and radio professionals are increasingly trying it out in practice. This study provides an overview of the use of AI in radio in Slovakia and abroad in different contexts. So far, AI has only been used to a limited extent in the generation of texts in Slovak, which leaves room for further development in this direction, but also for the need for constant control of documents and materials created for broadcasting. Radio stations use artificial intelligence to automate processes in the preparation of broadcasts, from the selection of songs to the generation of news. Despite these capabilities, there is still a need for human control and creativity in content creation. Radio is looking to use AI to improve the listener experience, although there are challenges such as language barriers and maintaining human authenticity in moderation. The study also discusses radio professionals' perspectives on the use of AI and its future in radio.

Key words: Artificial Intelligence. Anchor. Broadcasting. News. Radio. Reporter.

1 Introduction

AI technologies are becoming more accessible to the general public, leading to an increase in their use. The latest data shows that ChatGPT currently has over 100 million users (Hu, 2023), and the website had 1.4 billion visits in August 2023¹ (Similarweb, n.d.). In Slovakia, a survey conducted in May 2023 shows that only 13% of individuals have experience with AI tools such as ChatGPT or Bing Chat. The survey highlights that while the majority of individuals are aware of these programmes, they have not tried to use them (Statista, 2023a). Notably, around 27% of Slovaks under the age of 24 use some form of AI, although this figure decreases with age (Statista, 2023b).

However, AI technology is no longer just for personal use. Since the ChatGPT phenomenon in late 2022, AI has increasingly become a mainstream feature of various professional sectors, including the media. However, it should be noted that the media has been using artificial intelligence long before the advent of ChatGPT. One of the first attempts to merge the media industry and AI was in 1998, when South Korea launched the virtual singer 'Adam' (Francistyová, 2023). However, the author points out that the technology for virtual reality, augmented reality, and graphics was not advanced enough at that time to produce a lifelike virtual singer, which only contributed to its short-term success.

The use of AI in public information transmissions can be traced back to 2000, when the National Weather Service (NWS) introduced a computer voice called 'Paul' to deliver weather forecasts. Despite the significant improvement in speed of message delivery, the public was not satisfied with Paul's voice (National Oceanic and Atmospheric Administration, 2018). In 2011, San Antonio's KROV radio station reserved airtime for 'Denise', an AI DJ who could record texts, answer phone calls, check emails, search the web and schedule meetings. However, it was not fully automated, as a human had to write the script and incorporate the audio track into the playlist (Roach, 2011). Over time, television stations began to show interest in artificial intelligence as a potential means of sharing information. For example, the China's Xinhua News Agency debuted its first robotic male

¹ Authors' note: ChatGPT had the highest number of visitors in June 2023, with 1.6 billion visitors.

news anchor in 2018, created based on the station's real-life anchor Zhang Zhao (Kennedy, 2018). In early 2019, the same station also introduced the world's first robotic female anchor also based on its human anchor Qu Meng (Cheng, 2019). In the same year, artificial intelligence also began to be used in Slovak radio. In December 2019, Europa 2 included a female news presenter 'Eva', who reported the news every weekday at 4 pm (Europa 2, 2019). In 2020, South Korea, specifically the station MBN, also joined the list of countries using AI in their broadcasts. As in China, they used their human newsreader Kim Ju-ha as a model (Yoon, 2020). This was followed by a three-year period without the use of AI in broadcasting.

The breakthrough came in early 2023, when Futuri launched the first AI-powered local radio under the name RadioGPT. The system combines GPT-3 technology with the TopicPulse system, which searches news, social content and more than 250,000 other news and information sources to determine which topics are of interest in a given location. It then uses GPT-3 technology to create a script and AI voices to narrate it (Furtáková, 2023). Since then, AI has begun to play an important role in radio programmes around the world. In April 2023, the Swiss French-language station Couleur 3, which is part of the public broadcaster Radio Television Switzerland, conducted a one-day experiment: it used artificial intelligence to create a day-long radio programme, selecting playlists, cloning familiar voices and writing texts for presenters and news anchors (Radio Télévision Suisse, 2023). In June, Germany's Audiotainment Südwest launched the first artificial intelligence stream called Absolut Radio AI (Broadband TV News, 2023), Malaysia introduced the country's first AI DJ called 'Aina Sabrina' (Zulkiflee, 2023), Oregon, USA's Live 95.5 broadcast an entire shift with 'AI Ashley' (Preston et al., 2023), and in the Czech Republic, a synthetically created voice called 'Hacsiko' was added to the nightly broadcast (Brejčák, 2023). A month later, Radio Piekary launched the first radio show in Poland, hosted by the AI presenter 'Basia' (Montoya, 2023). Artificial intelligence has gradually made its way into radio broadcasts almost all over the world.

2 Methodology

The aim of this study is to summarise the theoretical scientific knowledge on the use of AI in the radio environment, as well as to provide an overview of the various uses of AI in radio journalism, both in the news and current affairs broadcasting environment in the Slovak Republic and abroad. The paper also presents statements on AI in radio from radio staff responsible for broadcast content.

In pursuit of our research objectives, we conduct a thorough review of both domestic and foreign literature, including relevant expert monographs and academic journals. We also extensively use the websites of individual radio stations that have incorporated artificial intelligence into their radio programming in the past. Through this analysis, we provide an overview of the potential applications of AI in radio journalism.

To complete the paper, we first review the literature before turning to publicly available sources that provide an overview of current efforts by broadcasters to support artificial intelligence. We offer specific examples of the use of AI presenters both nationally and internationally, as well as the use of AI in news reporting.

The paper deals with issues related to the integration of AI in radio programmes of private and public radio stations in the Slovak context. A structured interview method was used to interview specific radio staff. This type of interview follows a standardised structure, with pre-prepared questions that are consistently formulated and presented to the entire group of interviewees. During this type of interview, a combination of open and closed questions can be asked. Its disadvantage is its templated format, while its advantage is its ease of use

(Chrenščová, 2019). The aim of the interview is to find out whether Slovak radio stations implement AI, to what extent and for how long. Additionally, the aim is to find out what their future plans are. The obtained answers are summarised in the conclusive segment of this scholarly research.

3 The Use of Artificial Intelligence in Radio Industry

Automated journalism uses algorithms, AI software platforms, and natural language generation techniques to automatically produce news content (Carlson, 2015; Montal & Reich, 2017). With this AI-based technology, automated journalism has introduced a new way of producing news content, which in the traditional news industry was primarily a human task.

Kristian Hammond, co-founder of Narrative Science, predicted in 2012 that more than 90% of news content would be computer-generated by 2025 (Levy, 2012). While this prediction may be debatable, automated journalism already plays a significant role in newsrooms. According to Reuters Institute's research, journalists use AI tools for various tasks, including summarising, text-to-speech, and image recognition which lead to automated tagging and subtitles. According to this research, 67% of newsrooms use AI in some way, with 23% using it regularly, 5% making it a significant part of their work and only 27% not currently using it (Newman, 2023).

In this study, our selected media platform is radio. Radio is an auditory-based medium, which provides the opportunity to utilise various AI tools, such as text generation and artificial voice features. Additionally, the nature of the medium limits the influence of visual distractions such as the appearance of the media worker, non-verbal cues or visual graphics, and allows people to receive information solely through listening. These characteristics of radio provide an appropriate framework for investigating the use of AI in radio broadcasting. This research focuses on three key areas:

- news;
- broadcasting, putting it in the context of the use of artificial intelligence tools and its acceptance by recipients;
- radio workers' views on the use of AI in the media industry.

3.1 AI in Radio News

Radio news provides the general public with up-to-date information on the most important events in a matter of minutes. According to Jenča (2004), its speed, clarity and accessibility make it an essential source of up-to-date information. He explains that radio, unlike print and television, can capture and broadcast events as they unfold, blurring the boundaries between news gathering, processing and dissemination. According to Hüllen and Karg (2013), a radio broadcast without news is like flowers without scent or a birthday party without cake – it is possible, but not real. It can be concluded that radio news is the showpiece of any station. If a radio station is seen as credible, it can lead to more favourable ratings from listeners.

Research has shown that an increasing number of newsrooms are adopting AI tools for data gathering, summarising, and text writing (Newman, 2023). Clerwall (2014) conducted a study on the public's perception of news articles produced by human journalists versus those created using AI software. The results showed that people found journalistic articles more enjoyable to read than AI-generated content. Nonetheless, the study did not show a significant difference between the subjective experience of human- and AI-generated news content. Similarly, Wölker and Powell (2021) discovered that the credibility perceptions of human, automated, and combined content and source(s) can be assumed equal. However, in the case

of sports news, automated content was perceived as significantly more credible than human news. On the other hand, these texts, especially when generated in a language other than English, may not be flawless. Public broadcaster Swedish Radio operates a chatbot prototype that can respond to listener queries from a library of 2 million articles. Olle Zachrisson, head of the Artificial Intelligence department at Swedish Radio, stated that they are being cautious about adopting the technology after a mistake made by a fellow Scandinavian broadcaster. In a text generated by AI, the broadcaster claimed that Norwegian football star Erling Haaland has been shot (Granger, 2023). In this case, it was a syntax problem that could have been avoided with more consistent sub-editing. The problem of the language barrier was also confirmed by Furtáková's (2023) research, specifically that current AI tools cannot generate Slovak radio news fit for broadcast without further editing by a news presenter.

In other cases, radio stations have chosen to use AI not as a tool to generate text, but as voices to speak to listeners. According to Wang's (2021) study, AI anchors can only convey the literal meaning of the text in the transmitted handwriting and cannot convey the deeper meaning of the language and the text, particularly in terms of flexibility in tone, pitch and pauses. The mechanical nature of AI presenters can compromise the effectiveness of communication with the audience, especially in large live broadcasts. These presenters may lack the necessary communication skills and in-depth thinking to engage and interact with listeners, especially during large live broadcasts. Despite these challenges, Slovak radio Europa 2 introduced a robotic news presenter 'Eva' in 2019 to deliver the news block on weekdays at 4 pm. The response from listeners was largely unfavourable, with feedback such as "It lacked a human touch", "It failed to evoke emotion", and "It sounded like a text-to-speech conversion via Google Translate" (Europa 2, 2019).

In a one-day test, Swiss broadcaster Couleur 3 instructed an artificial intelligence to create news that could be consumed in 2070, to avoid confusion with real news. Every hour, they broadcast futuristic news, such as a temporary ban on spacecraft flying over Geneva's airspace due to noise complaints, the opening of the first underwater restaurant in Lake Zurich, and alien tourists mistaking swans on a Swiss lake for inflatable toys. The main criticism they received was: "The technology is impressive, but the lack of human element is recognizable. The robots are detectable, and the personality is diminished" (Keaten, 2023).

Kim, Xu and Merrill (2022) investigated individuals' perceptions and reactions to a weather broadcast presented by an AI newscaster compared to a human newscaster. The results showed that while people perceived a human newscaster as more credible than an AI newscaster, their reactions to the news content did not differ. Therefore, their study provides support for the potential effectiveness of AI newscasters in news broadcasting industry. AI newscasters could provide additional support to their human counterparts when resources are limited or access is restricted.

It is clear from the above that AI tools are not yet developed enough to be fully applied to radio news. Research shows that the texts generated by these tools are usable in English, but may cause misunderstandings or even be deceptive in other languages. For this reason, although they are used in newsrooms, journalists still need to check or edit the generated reports. Regarding the use of AI voices in radio news, the examples above show that listeners tend to perceive them negatively. However, this phenomenon could be due to the fact that radio news has specific criteria for speech, especially in terms of tone, voice and pauses.

3.2 AI in Radio Broadcasting

Streaming is the result of the broadcaster's current position. The aim is not to attract listeners to a particular type of programme at a particular time. Rather, broadcasters want to offer content that can be "consumed" anytime, anywhere. Streaming therefore consists mainly

of a stream of music interspersed with presenter input, possibly news blocks and other service information. The stream includes one or more presenters with their own show, which includes their name (e.g. *Sajfa show* on Fun rádio). It is common for current affairs to have two or more presenters as part of the morning show; during the day and evening, current affairs tends to be a “one man show”, i.e. there is only one presenter (Brník et al., 2020). Several countries have also attempted to incorporate artificial intelligence in the form of presenters into the streaming environment.

Mirchi, a company based in the United Arab Emirates, has introduced what it believes to be the world’s first AI presenter on a commercial radio station. The radio station believes this technology has the ability to revolutionise the way we engage with radio. This novel radio presenter, aptly named ‘AIRAH’², leads a program called Mirchi on AI, which delves into topics related to technology and social media (Harper, 2023). The first radio programme in Poland, which is hosted by artificial intelligence, has been launched, although it should be emphasised that the station’s manager has assured his staff that the newly introduced AI presenter will not replace any human employees. In the month of July 2023, the audience of Radio Piekary, a broadcasting station located in the city of Piekary Śląskie in the southern region of Poland, was warmly introduced to ‘Basia’, an artificial intelligence-generated presenter, who subsequently proceeded to take over the hour-long lunchtime slot (Hackett, 2023).

The Swiss station Couleur 3 included not only news but also presenters in its experiment. It used the cloned voices of five real presenters and never-before-broadcast music, almost entirely composed by computers. From 6 am to 7 pm, the artificial intelligence controlled the broadcast, according to the station. The presenters’ voices were cloned using the software company Respeecher. It took three months to train the AI to understand the station’s needs and adopt atmosphere (Keaten, 2023). The station said in a statement, that hundreds of messages poured into the station shortly after broadcasting began: “It’s amazing what we can do with this tool!”, “Sometimes I get fooled, but there’s something weird about it and the jokes are flat”, “Definitely not a replacement for the human touch”, and also: “Give us back our humans!”. One critic called the project a waste of time for a station that receives public funding (Radio Télévision Suisse, 2023).

Some Slovak radio stations have also decided to implement a form of AI in their streaming. In March 2023, the second most listened to private radio station in Slovakia, Fun rádio, tested two versions of the *Sajfa šou* – one prepared by the Sajfa presenter and the other by artificial intelligence. They are published on the website. The input from the AI is artificially formulated, it does not follow the signs of intonation, interjection, which are essential in radio. On the other hand, the input produced by the presenter is lively, full of energy, you can hear the presenter smiling, even small speech impediments – where he corrects himself slightly and uses the Slovak word device “so”. This is a sign of lively broadcasting and naturalness (Funradio, 2023). From a survey that the radio created on the published inputs, we can see that two thirds of the 139 respondents voted that the presenter’s input was better than that of the AI.³

In the Czech Republic, they did not just experiment, they created a position for artificial intelligence in the role of a presenter. This was done at Rádio Expres FM, which is owned by Seznam.cz. The aim is to use artificial intelligence to expand capacity and create regional or interest programmes. Expres FM currently broadcasts to listeners in Prague and Central Czechia (Expres FM, 2023). They are the first in the Czech Republic to use an AI-generated synthetic voice in the ten to eleven o’clock time slot from June 21st 2023. It comments on current events, but also on songs played on the air, and works during the night

² Authors’ note: Artificial Intelligence Radio Host.

³ Authors’ note: Data valid as of October 18th, 2023 (Fun rádio, 2023).

broadcast. The AI presenter was named ‘Hacsiko’ (pronounced Hačikó) and the original voice was provided by the presenter of the morning show *Morning Club*, Bára Hacsí. It should also be mentioned that although the original voice can be set automatically, the preparation of the texts is controlled by a human. In the first phase, however, the AI tools GPT-4 and OpenAI are used. The text itself is made up of several commands, including the target audience, the interests of the listeners, and the length of the input or the style of the language. The final check is supervised by a dramaturge (Brejčák, 2023). Similar to the cases mentioned above, the Czech listeners reacted rather negatively to the AI presenter. In the comments we can find reactions such as “I do not like Hacsiko”, “There’s a certain artificiality”, “I’ve heard it, I have not warmed up to it yet”, “The voice is the same, but the sentences are always in the same intonation, [...] boring”. One comment said that he would not have known the difference between human and AI broadcasting without prior warning, he only saw the difference in the machine not being able to make mistakes and typos, which are “the spice of broadcasting” (Expres FM, 2023).

AI’s significant contribution to radio broadcasting lies in content creation and curation. Traditional radio programming involves manual tasks, such as selecting songs, creating playlists, and scheduling broadcasts. However, AI can automate these tasks by analysing listener preferences and generating personalised playlists. This not only saves time and resources, but also improves the listener experience by providing more relevant content. AI is also making progress in content creation. Some radio stations now use AI to produce news and weather reports. These AI-generated reports are accurate and delivered in real time, ensuring that listeners have up-to-date information. In addition, AI can mimic human voices, allowing these reports to be delivered in a natural and conversational way (Frąckiewicz, 2023). One of the important issues that workers in the radio industry will have to deal with is whether they will sacrifice human resources and replace them with artificial intelligence, or whether they will minimize the number of workers and their role will change to that of fact-checkers and supervisors of prepared content. Radio automations controlled by artificial intelligence have the capability to independently perform tasks within a radio channel that previously required the efforts of multiple individuals on a daily basis. In the present day, these automations are able to create a music stream that matches the desired aesthetic of the radio station, effectively balancing the music and voice components of the broadcast. In the past, traditional radio broadcasting required a DJ to work around the clock to broadcast music, but this is no longer necessary in order to transmit music (Kuyucu, 2020).

From the above, it can be argued that radio stations are trying to take advantage of the opportunities offered by artificial intelligence. There are a number of ways in which it can be incorporated into broadcasting, but it is important to bear in mind that, despite some advantages, such as the ability to have an AI presenter on air at night, it does not eliminate the need to have human staff directly in the studio during night shifts. On the other hand, there is a constant need for additional verification of the information generated. Another warning sign for radio management may be the fact that listeners sympathise with presenters and editors, regard them as virtual friends, like to hear their voice and feel that they know each other through contact via radio. This irreplaceable contact and relationship between presenter and listener can hardly be replaced by artificial intelligence.

3.3 Radio Workers and AI

In conducting this research, we also focused on the future of radio professionals under the influence of artificial intelligence. We approached selected radio stations in Slovakia – Rádio Expres, Fun rádio, Rozhlas a Televízia Slovenska (RTVS) and Trnavské rádio. We asked them why they used AI in their radio, to what extent, how satisfied they were with its use, but also where they saw its future.

Anna Sámelová, director of the news and journalism department at public broadcaster RTVS, says that artificial intelligence is not used in public news in Slovakia. However, she adds that they could theoretically imagine using it in the preparation of local and regional broadcasts of the RTVS traffic news *Zelená vlna* (A. Sámelová, personal communication, October 2023).

Tomáš Škarba, news editor and representative of the most listened to Rádio Expres, which is part of Bauer Media Audio Slovakia⁴, says that they are testing artificial intelligence or machine learning tools in the preparation of texts and materials for broadcasting throughout the company. At the moment it's on a voluntary basis and the IT enthusiasm of individuals. They are constantly testing in the newsroom how to adapt wording or create more appealing headlines. He stresses that this is not a systematic process at the moment, but all the people who create audio content will be trained in the near future. Gradually, they will also be tested on AI voice generation, but this is still on a trial basis, which is ongoing across the Bauer Media Group globally⁵. He also mentions that Rádio Europa 2 used AI news back in the Radio Services network. Since the transition to Bauer Media Audio Slovakia, Europa 2 no longer has a news service, so this concept has not been continued. (T. Škarba, personal communication, October 2023).

Marek Mikúšek, programme director of Radio Group a.s., which owns Fun rádio, says that they do not use AI directly on air, but rather in the preparation of the broadcast. The main reason is to speed up the process of searching for information or creating texts. He adds that it is difficult to estimate the rate of general use. Although it is used almost daily, he says that it accounts for at most 5% of all processes in the preparation of broadcasts (M. Mikúšek, personal communication, October 2023). This means that despite the possibility of AI involvement in the production process, a constant human factor is required, and to a large extent. In the context of comparing satisfaction and effectiveness of AI, he believes it is too early to draw conclusions. He says it helps, but it is still important to have a human overseeing the whole process. However, he added that he could imagine the use of AI in the creation of playlists, in the generation of content in the online space (M. Mikúšek, personal communication, October 2023).

Nikola Kaňuková, programme director of Trnavské rádio, says that in radio, AI software can do almost 100% of the work they currently need at least 8 people to do. They have tried some of the available software and she mentions that they are testing it. Especially in audio editing, text editing, photo editing and advertising. Also when there is a need to create a graphic, edit a photo or create a “what if” style visual. “We’ve also used AI in commerce, at the request of a client we created a spot voiced by AI.” In the Slovak language, there is not yet enough software that could be used in radio broadcasting to replace the work of reporters and presenters. They are a targeted radio station with a primary focus on the Trnava region, so they cannot yet imagine using AI on a larger scale. Trnavské rádio is not planning to extend AI to broadcasting yet, but it will make it much easier to create content for social media, edit videos and audio recordings, create captions for videos, to create photos on various topics, which will speed up the normal “flow” of content (N. Kaňuková, personal communication, October 2023).

Based on the above information, it can be said that the Slovak radio industry is using artificial intelligence, although cautiously and in a limited way, but the interviewed representatives see the potential and possibility of simplifying the process of script

⁴ Authors' note: Bauer Media Audio Slovakia owns several radio stations on the frequency: Rádio Expres, Rádio Melody, Rádio Europa 2 and Rádio ROCK.

⁵ Authors' note: Bauer Media Slovakia belongs to Bauer Media Audio, which broadcasts to more than 61 million listeners and operates more than 150 radio stations in nine countries. For example, in the UK, Ireland, Poland, Denmark, Sweden, Finland, Norway, Portugal and Slovakia (Bauer Media Slovakia, n.d.).

preparation, as well as increasing the efficiency of work on the production of radio programmes.

4 Discussion

The study shows that the use of AI voices is not as new as it might seem. The first attempts were made in the late 1990s. Significant progress was made in the 21st century, when these technologies began to be integrated into everyday life. In the US, people started using voice AI in 2000. They used the technology to forecast the weather. Over time, however, its practical application has become widespread. Today, many newsrooms and media companies are using AI technology as an additional tool for a variety of tasks: summaries, text-to-speech, and image recognition that leads to automated tagging, subtitling, and generating answers to listener's questions. These applications bring speed and efficiency to media production, simplifying many aspects of a journalist's job. If we were to mention the need to incorporate AI into on-air broadcasting, we could say that an AI presenter has the advantage of being able to work seamlessly at night, broadcasting at a time when it may be more physically demanding for other presenters. There have been several attempts to incorporate AI into the role of presenter, for example the version of presenting daily summaries and song information has proved successful, but as some of the media professionals interviewed confirmed, AI can also be instrumental in creating content that will later be used by real presenters on air.

The limitations of AI should not be forgotten. One is the language barrier. These technologies are often optimised for English, which can lead to errors, typos or even the dissemination of false information when applied to other languages. Voice is often perceived negatively. It sounds insincere, lacks "humanity" and does not "speak to" the audience. This is despite the fact that an artificially created voice is supposed to sound fluent and lacks the human element. It is this that may hinder the spread of the technology and its full acceptance in society.

5 Conclusion

The present study summarises the theoretical background of Artificial Intelligence and its use at different levels of radio broadcasting. It highlights individual examples from abroad and from the Slovak Republic, where AI has been used in news, weather forecast or current affairs broadcasting, where AI has replaced real presenters during the night shift. We know of cases in the neighbouring Czech Republic where AI was inspired by a real presenter (Expres FM, 2023). At the same time, there are several examples of radio stations creating visuals of what a particular presenter, or a presenter created by AI, might look like.

When we talk about the scope of AI's use in radio, its potential is far-reaching. It can help the creative team to create texts, find topics for the programme, find additional sources of information, prepare different genres of radio journalism easily and quickly, compile and formulate a complete programme script or record an advertising spot according to the given parameters, and even speak or interpret the text according to how we want it to sound. Although artificial intelligence does not complain about the length of working hours, it can work without a break, it does not make formal mistakes in the pronunciation of difficult words, it concentrates, it does not get distracted and it does not have a bad day or a bad mood, but it still lacks something.

It's the human factor that listeners miss. The feeling of being spoken to, the smile in the voice, the unexpected laugh, the off-the-cuff joke, and sometimes even the interjection, can give radio listeners a sense of closeness and companionship around them in the absence of AI in speech. It is worth mentioning that this technology is advancing, and it is debatable

whether it will change, improve and completely replace radio workers in a matter of months or years. However, the question remains as to how artificial intelligence will work with languages other than English. AI still makes mistakes in Slovak sentence structure and stylistics, and the same goes for fact-checking, which is why Slovak radio stations still have to rely on the control of human staff. This fact is confirmed by the radio media representatives interviewed in this study. They see the potential of AI, but are also aware of its shortcomings. Although AI can simplify the process of preparing backgrounds and material for broadcasting, it is important to be aware of its limits and limitations, which should be constantly checked by the human factor. However, the debate around public fear and anxiety about its (mis)use will continue.

Bibliography

- Bauer Media Slovakia. (n.d.). *Bauer Media Slovakia*. <https://bauermedia.sk/>
- Brejčák, P. (2023, June 21). *Rádio od Seznamu nasadilo umělou inteligenci jako moderátorku. Nevadí jí noční služby, kvituje Lukačovič* [Radio from Seznam has deployed an artificial intelligence as a presenter. She doesn't mind the night shift, says Lukačovič]. <https://cc.cz/radio-od-seznamu-nasadilo-umelou-inteligenci-jako-moderatorku-nevadi-ji-nocni-sluzby-kvituje-lukacovic/>
- Brník, A., Bôtošová, E., & Kapec, M. (2020). *Rozhlasová tvorba a prax* [Radio production and practice]. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Broadband TV News. (2023, July 18). *Antenne Deutschland launches Germany's first AI radio station*. <https://www.broadbandtvnews.com/2023/07/18/antenne-deutschland-launches-germanys-first-ai-radio-station/>
- Carlson, M. (2015). The robotic reporter: Automated journalism and the redefinition of labor, compositional forms, and journalistic authority. *Digital Journalism*, 3(3), 416-431. <https://doi.org/10.1080/21670811.2014.976412>
- Clerwall, C. (2014). Enter the robot journalist: Users' perceptions of automated content. *Journalism Practice*, 8(5), 519-531. <https://doi.org/10.1080/17512786.2014.883116>
- Europa 2. (2019, December 2). *Europa 2 predstavuje novú moderátorku. Toto je Eva!* [Europa 2 introduces a new presenter. This is Eva!]. <https://www.europa2.sk/1641/europa-2-predstavuje-novu-moderatorku-toto-je-eva/>
- Europa 2 [@europa2]. (2019, December 2). Toto je naša nová kolegynka Evička. Už si ju počul hlásiť správy v našom rádiu? [This is our new colleague Evička. Have you heard her reporting the news on our radio?] [Facebook post]. Retrieved from <https://www.facebook.com/europa2.sk/posts/pfbid02nSunZunEB6L67xTYKMLwEGU131DHA4Z3gSnTyoJGXMzRHqbcSn8bsEHWyDFtzN6Bl>
- Expres FM [@expresfmpraha]. (2023, June 20). Rádi se pouštíme do nových věcí a inovací... A proto vám chceme ukázat první ovoce naší práce na vývoji AI moderátora. Hacsiko poprvé oficiálně vystoupí na vlnách rádia 21. června, kdy s námi můžete prožít den plný rozhovorů o inovacích, [We like to try new things and innovate... And that's why we want to show you the first fruits of our work on the development of the AI moderator. Hacsiko will make its first official appearance on the airwaves on June 21, when you can join us for a day of innovation talks,] [Facebook post]. Retrieved from <https://www.facebook.com/photo?fbid=749070207228379&set=a.526991549436247>
- Frąckiewicz, M. (2023, September 9). *The role of AI in modern day radio broadcasting*. <https://ts2.space/en/the-role-of-ai-in-modern-day-radio-broadcasting/>
- Francistyová, B. (2023). Príchod hallyu 5.0? Globálny potenciál kórejskej mediálnej produkcie [Arrival of hallyu 5.0? A new market for korean cultural products]. In B.

- Francistyová, & L. Furtáková (Eds.), *Quo Vadis 2023 <generated by AI>* (pp. 125-134). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Funradio. (2023, March 1). *HLASUJ: Sajfa skúsil umelú inteligenciu, ktorá mu napísala vstup do rádia. Je lepší ako jeho vlastný?* [VOTE: Sajfa tried artificial intelligence, which wrote his radio entry. Is it better than his own?]. <https://www.funradio.sk/clanok/47146-hlasuj-sajfa-skusil-umelu-inteligenciu-ktora-mu-napisala-vstup-do-radia-je-lepsi-ako-jeho-vlastny/>
- Furtáková, L. (2023). Dokáže ChatGPT nahradiť moderátora spravodajstva v rozhlase? [Can ChatGPT replace a radio news anchor?]. In B. Francistyová, & L. Furtáková (Eds.), *Quo Vadis 2023 <generated by AI>* (pp. 11-29). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Granger, J. (2023, October 10). *Finding purpose for AI in the newsroom.* <https://www.journalism.co.uk/news/ai-in-the-newsroom-make-sure-the-tech-helps-meet-company-values/s2/a1078338/>
- Hackett, A. (2023, July 24). *First AI-hosted radio show in Poland launched.* <https://notesfrompoland.com/2023/07/24/first-ai-hosted-radio-show-in-poland-launched/>
- Harper, J. (2023, May 1). *Making air waves with “world’s first AI presenter” on commercial radio.* <https://campaignme.com/making-air-waves-with-ai/>
- Hu, K. (2023, February 2). *ChatGPT sets record for fastest-growing user base – analyst note.* <https://www.reuters.com/technology/chatgpt-sets-record-fastest-growing-user-base-analyst-note-2023-02-01/>
- Cheng, K. (2019, February 20). Chinese state news agency unveils its first female AI anchor modelled after a human presenter. *Daily Mail.* <https://www.dailymail.co.uk/news/article-6724691/Chinese-state-news-agency-unveils-female-AI-anchor-modelled-human-presenter.html>
- Chrenšćová, V. (2019). Interrogatívne metódy využívané v behaviorálnom výskume životného prostredia [Interrogative methods used in behavioural environmental research]. *Acta Environmentalica Universitatis Comenianae (Bratislava)*, 19(2), 5-11.
- Keaten, J. (2023, April 7). *Robots run the show as Swiss radio tests AI voices for a day.* <https://apnews.com/article/switzerland-radio-gpt-artificial-intelligence-9270ef1359130ceec8a0c1ffaa340206>
- Kennedy, M. (2018, November 9). *AI news anchor makes debut in China.* <https://www.npr.org/2018/11/09/%20666239216/ai-news-anchor-makes-debut-in-china>
- Kim, J., Xu, K., & Merrill, K. (2022). Man vs. machine: Human responses to an AI newscaster and the role of social presence. *The Social Science Journal*, 1-13. <https://doi.org/10.1080/03623319.2022.2027163>
- Kuyucu, M. (2020). Artificial intelligence in media: Radio automation systems as the first artificial intelligence application in media in the terms of “threats” and “opportunities”. In D. Akçay, & E. Efe (Eds.), *Dijital dönüşüm ve süreçler & digital transformation and processes* (pp. 133-168). İstanbul Gelişim Üniversitesi Yayınları.
- Levy, S. (2012, April 24). *Can an algorithm write a better news story than a human reporter?* <http://www.wired.com/2012/04/can-an-algorithm-write-a-better-news-story-than-a-human-reporter/>
- Montal, T., & Reich, Z. (2017). I, robot. You, journalist. Who is the author? Authorship, bylines and full disclosure in automated journalism. *Digital Journalism*, 5(7), 829-849. <https://doi.org/10.1080/21670811.2016.1209083>

- Montoya, L. (2023, July 26). *Hear it for the DJ: Basia becomes country's first AI radio host*. <https://www.thefirstnews.com/article/hear-it-for-the-dj-basia-becomes-countrys-first-ai-radio-host-40145>
- National Oceanic and Atmospheric Administration. (2018). *Voices used on NOAA weather radio*. <https://www.weather.gov/nwr/automatevoice>
- Newman, N. (2023). *Journalism, media, and technology trends and predictions 2023*. Reuters Institute. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2023-01/Journalism_media_and_technology_trends_and_predictions_2023.pdf
- Preston, C., Schaeffer, D., & Dobusku, M. (2023, September 4). *Radio broadcasters sound off on artificial intelligence*. <https://abcnews.go.com/Technology/radio-broadcasters-sound-off-artificial-intelligence/story?id=102861497>
- Radio Télévision Suisse. (2023, April 27). *Intelligence artificielle sur RTS-Couleur 3: «Rendez-nous nos humains!»* [Artificial intelligence on RTS-Couleur 3: «Give us back our humans!»]. <https://www.rts.ch/entreprise/espace-pro/communiqués-de-presse/13976724-intelligence-artificielle-sur-rtscouleur-3-rendezvous-nos-humains.html>
- Roach, J. (2011, August 17). *Non-human DJ gets radio gig*. <https://www.nbcnews.com/news/world/non-human-dj-gets-radio-gig-flna121286>
- Similarweb. (n.d.). *chat.openai.com*. <https://www.similarweb.com/website/chat.openai.com/#overview>
- Statista. (2023a, July 21). *Share of people who have used artificial intelligence in Slovakia as of May 2023*. <https://www.statista.com/statistics/1398867/slovakia-people-who-tried-using-ai/>
- Statista. (2023b, July 21). *Share of people who have used artificial intelligence in Slovakia as of May 2023, by age*. <https://www.statista.com/statistics/1398866/slovakia-people-who-tried-using-ai-by-age/>
- Stratégie. (2023, June 21). *Na českom rádiu Expres FM bude v noci vysielat' hlas vytvorený umelou inteligenciou* [Czech radio station Expres FM will broadcast a voice created by artificial intelligence at night]. *HNonline*. <https://strategie.hnonline.sk/news/marketing/96089712-na-ceskom-radiu-expres-fm-bude-v-noci-vysielat-hlas-vytvoreny-umelou-inteligenciou>
- Wang, X. (2021). Research on the training model of broadcasting and hosting talents under the background of AI anchors. *Academic Journal of Humanities & Social Sciences*, 4(5), 74-77. <https://doi.org/10.25236/AJHSS.2021.040513>
- Wölker, A., & Powell, T. E. (2021). Algorithms in the newsroom? News readers' perceived credibility and selection of automated journalism. *Journalism*, 22(1), 86-103. <https://doi.org/10.1177/1464884918757072>
- Yoon, S. (2020, November 10). *MBN introduces Korea's first AI news anchor*. *KoreaJoongAng Daily*. <https://koreajoongangdaily.joins.com/2020/11/10/entertainment/television/MBN-AI-artificial-intelligence/20201110153900457.html>
- Zulkiflee, W. (2023, June 19). *Fly FM introduces Aina – Malaysia's first AI-powered radio DJ*. https://www.nst.com.my/news/nation/2023/06/921860/fly-fm-introduces-aina-%E2%80%94-malaysias-first-ai-powered-radio-dj#google_vignette

Contact Data:

Mgr. Lucia Furtáková
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
furtakova1@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-7893-1919>

Mgr. Ľubica Janáčková, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
lubica.janackova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-0672-7206>

BRAND DILEMMAS IN THE CONTEXT OF CHANGES IN CONSUMER BEHAVIOUR RELATED TO MARKET CRISES

Jana Galera Matúšová

DOI: <https://doi.org/10.34135/mmidentity-2023-10>

Abstract:

The current macroeconomic environment poses major challenges for brands and their communications. Consumer buying behaviour is changing, pressures on marketing budgets are mounting, the question of the meaningfulness of brand campaigns at the expense of performance is much more open in uncertain times. At the same time, brands are trying to work more with price to respond to the cooling of consumer behaviour. Pandemics, the war in Ukraine, high inflation, the conflict in Israel – all bring new challenges for brands and their marketing/communications budgets. At the same time, Generation Z is becoming economically active, which research says is very different from previous generations. Both in terms of consumer behavior and media consumption, but it is also a challenge for employers, as their work expectations are also different than they were for previous generations. Thus, the paper raises several communication dilemmas for brands in a dynamic environment based on an analysis of secondary research, relevant scholarly and professional sources, insights from Marketing Rulezz conferences and brand examples. The article is based on the topic of the VEGA project.

Key words: Brand Campaign. Consumer Behaviour. Marketing Communication. Recession. Pandemic.

1 Introduction

Merely two years following the global recession triggered by the pandemic in 2020, the global economy confronts renewed hardships. With a notable deceleration in growth, concerns over an imminent global recession are rising.

Stagflationary pressures are also mounting as inflation reaches new multidecade highs in many countries. Geopolitical tensions are casting a long shadow over global growth prospects, with the Russian Federation's invasion of Ukraine magnifying pre-existing supply-side challenges and intensifying volatility in commodity markets. Moreover, rising global borrowing costs are heightening the risk of financial stress among the many emerging market and developing economies (EMDEs) that over the past decade have accumulated debt at the fastest pace in more than half a century. (Guénette et al., 2022, p. 3)

There have been five global recessions in this period – in 1975, 1982, 1991, 2009, and 2020. Each was characterized by broad-based weakness in multiple indicators of global activity as a result of highly synchronized recessions in many countries.

The global recessions were associated with confluences of a wide range of concurrent or preceding developments, including financial crises (1982, 1991, 2009), a major shift in policies (1982), sharp movements in oil prices (1975, 1982), and a pandemic (2020). In addition to the five global recessions, the global economy experienced downturns in 1998, 2001, and 2012 – driven mostly by financial stress concentrated in certain groups of countries. During each of these downturns, the global economy avoided a recession but experienced relatively weak growth. [...] Since the beginning of the year, consensus forecasts for global growth in 2022 and 2023 have been significantly downgraded reflecting the effects of the war in Ukraine, persistent supply disruptions, and, perhaps most importantly, global monetary policy tightening in response to elevated inflation. While these forecasts do not point to a global recession

as the most likely outcome in 2022-2023, they suggest that the world economy will experience a slowdown next year. (Guénette et al., 2022, pp. 8-9)

In his presentation at the Marketing Rulezz conference (held on 22th November 2023), author Les Binet summarised the events that influence customer behaviour and brand communication as follows (Binet, 2023):

- Biggest pandemic for over a century
- First European war for 30 years
- Huge mismatches between demand and supply
- Tight labour markets
- The biggest energy shock since 1970s
- Biggest jump in inflation for >40 years
- Biggest jump in interest rates for >30 years

Of course, recessions also have an impact on consumer buying behaviour and although at first glance it would seem, that automatically a recession means a drop in consumer spending, data from recent recessions compiled by the World Bank shows that this is not always the case:



Figure 1: How recessions affect spending
Source: Binet (2023)

2 Methodology

The pandemic, the war in Ukraine (and now Israel) and increased inflation have brought challenges for companies, but at the same time this is a recession that repeats itself in certain cycles. Thus, the aim of the paper is to find answers to the research questions:

1. How should brands behave in times of recession?
2. Is it necessary to reduce prices and offer discounts and other benefits in times of recession?

To answer these questions, we have decided to look at available secondary research, examples of brands from previous recessions, and present an implementation of the findings using the example of Dedoles.

3 Results

3.1 Recession and Price Elasticity of Firms

Analysis of Electronic Point of Sale (EPOS) data often suggests that price-related promotions increase short term sales by 30-70%. But many of these apparently “incremental” sales are not. Some may be cannibalised from other pack sizes of the same brand. Others may be diverted from stores where the brand is not on promotion. And others could be just future sales brought forward by the offer. In fact, analysis by IRI suggests that 84% of promotions are unprofitable, even in the short term. Research has failed to find much evidence of any

long-term benefit from price promotions. They do little to encourage either trial (most people who buy on promotion have already tried the brand) or “loyalty” (buyers tend to be less brand loyal: they buy by the voucher, not the brand). In fact, promotions are pretty inefficient. Only 5% of potential buyers are likely to be exposed to any promotional offer in one week. The evidence is that promotions can be damaging in the long run, tarnishing a brand’s image, increasing price sensitivity and reducing brand loyalty. This explains why brands that rely heavily on promotions tend to be less profitable, particularly big brands in mature markets (Binet & Carter, 2018).

In 2012, Coupons.com commissioned a study led by Dr. Paul J. Zak, professor of Neuroeconomics at Claremont Graduate University, to learn how coupons impact people’s happiness, health and stress. Together, they discovered that coupon recipients who got a \$10 voucher experienced a 38% rise in oxytocin levels and were 11% happier than those who did not receive a coupon. Furthermore, their respiration rates dropped 32%, heart rates decreased by 5% and sweat levels were reportedly 20 times lower than their peers. Consequently, they felt more relaxed and less stressed (Crisp, 2012).

Big brands are increasingly adding coupons to their marketing mix to boost their bottom line. Data from advertising firm BIA/Kelsey suggests, that “small businesses estimate 17.7% of their total business in the next 12 months will be generated by customer acquisition promotions such as discount deals, daily deals, coupons or similar offers” (Pacheco, 2013, para. 3). Successful retailers bolster their bottom line using multiple channels. Knowing that their customer base will include shoppers who happily pay full price and buyers who eagerly wait for a new coupon to appear, smart brands deliver special deals to different segments of their contact list to encourage everyone to complete their next purchase.

Statistics from VoucherCloud reveal that 57% of shoppers are motivated to complete a first-time purchase when they are able to redeem a coupon. In the absence of a special deal, customers would otherwise abandon their carts; some shoppers feel a first-time buyer discount is a prerequisite for brands looking to acquire new customers. That is because 62% of consumers invest two or more hours each week scouring the web for promotions. Fortunately, retailers can rest assured that any coupons issued may still attract loyal, lifelong customers. In fact, 91% of buyers who redeem coupons say they would visit the same retailers again. (Wong, 2015, “Discounts Discourage Cart Abandonment and Encourage New Trial” section, para. 2)

However, in times of crisis, as inflation certainly is, brands are much more likely to take price promotions in an attempt to increase their sales in response to the needs, or economic situation, of consumers. Advertisers need a balance between long-term brand advertising and short-term sales activation. However, the optimal balance varies depending on various factors, one of which is price. When a firm tries to defend a higher premium price or to push for a price increase, then investment in brand advertising must also increase and price promotions become a liability. And this is a situation that many companies face in these inflationary times. However, CFOs have to work with the budget they have available. If there is no money for an expensive campaign, run a cheaper one. Consider re-running old ads instead of creating new ones. Buy cheaper media, reduce frequency. If you cut budgets less than your competitors, you can still gain share of voice and therefore share of market (Hapák, 2023).

As Štefan Sarvaš, Global Director of Growth Legacy Mars, states in the yearbook *Back to the roots* (2023), (published on the occasion of the Marketing Rulezz conference), it is necessary to handle price very sensitively during the crisis. You always need to think about what will happen after it and be prepared for the post-crisis situation (Sarvaš, 2023).

The first order of business would be that in times of recessions, if a brand doesn't go into discounting or otherwise discounted activities, then at the very least it should stay at the same price level.

Professor Magda Nenycz-Thiel of the Ehrenberg-Bass Institute also sees room for price increases: there is nothing wrong with raising prices. In fact, many organisations have not done this enough in recent years and have focused mainly on discounts. But there is also a limit to how high a price can be set. Companies see this especially when they don't monitor the price differential between their own brand and private label chains, creating a barrier to price substitutability. Sales do increase, but only in euros. This is at the expense of volume and, most importantly, the number of customers may even fall. Therefore, it is important to be extremely cautious when raising prices, to know our distance from private labels and other competitors, and to strategically communicate price increases (Nenycz-Thiel, 2023a).

3.2 Marketing and Communication in Times of Crisis

On average, brand loses market share by -10% after one year, -20% after two, -28% after three years, relative to the last advertised year (Nenycz-Thiel, 2023b). This raises the question of how effective is the cutting communication budget in times of crisis, which brings uncertainty for brands whether consumers will be economically active enough to buy its products or services.

There are a number of examples of brands that benefitted by maintaining their ad budgets during economic downturns:

Dry Cereal: In the 1920's, Post was the category leader in the ready-to-eat cereal category. During the Great Depression, Post cut back significantly its advertising budget and rival Kellogg's doubled its advertising spend, investing heavily in radio and introducing a new cereal called Rice Krispies, featuring "Snap", "Crackle" and "Pop". Kellogg's profits grew by 30% and the company became the category leader, a position it has maintained for decades (Adgate, 2019, para. 11).

Imported Automobiles: The 17-month recession of 1973-1975 was triggered by the energy crisis. In late 1973, the U.S. government issued its first miles-per-gallon report in which Toyota Corolla was second to Honda Civic in fuel efficiency. Since Toyota was experiencing strong sales, when the economic downturn hit, the temptation was to drop their ad budget, which they resisted. By adhering to its long-term strategy, Toyota surpassed Volkswagen as the top imported carmaker in the U.S. by 1976 (Adgate, 2019, para. 12).

Quick Service Restaurants: In the 1990-1991 recession, Pizza Hut and Taco Bell took advantage of McDonald's decision to drop its advertising and promotion budget. As a result, Pizza Hut increased sales by 61%, Taco Bell sales grew by 40% and McDonald's sales declined by 28% (Adgate, 2019, para. 13).

Technology: Amazon sales grew by 28% in 2009 during the great recession. The tech company continued to innovate with new products during the slumping economy, most notably with new Kindle products which helped to grow market share. In a first, on Christmas Day 2009, Amazon customers bought more e-books than printed books. As a result, in the minds of consumers, Amazon became an innovative company by introducing a lower cost alternative to cash-strapped consumers (Adgate, 2019, para. 14).

Andrew Geoghegan, Chief marketing transformation officer at Carex-owner PZ Cussons, in a report *The Language of Effectiveness* (2023) suggests:

It's not just inflation which has pushed sales up marketers' agendas, but also the disruption to consumer behaviour caused by the Covid-19 pandemic. Marketers are having to consider with more "intensity" what value means to consumers in this new environment, to prevent loss of revenue. (Kantar, 2023, p. 9)

4 Discussion

So when we talk about the crisis and brand communication in times of crisis, we are not just talking about inflation, but we also need to go back to the beginning of the current crisis, particularly in terms of the change in consumer behaviour, and look at examples from the pandemic. This has shown that, in times of uncertainty, when other brands are hesitating about whether and how to communicate, it is worth using advertising space where it is possible to gain a greater share of voice and therefore a share of market, as Les Binet also recommends in times of recession (Binet, 2023). We can demonstrate this with the example of Dedoles (we draw on company data available to the author as a former employee of the company).

Despite the fact that Dedoles was founded in 2011 and invested €1.5 million in Facebook advertising until 2019, up to 60% of the population was still unfamiliar with the brand. Dedoles thus bet on two attributes – distinctive assets in the form of hamsters and music, and deployment on TV at a time when other advertisers had put their communication on hold, fearing reduced consumer consumption at the start of the lockdown. Dedoles, on the other hand, saw the following sales results after a 6-week TV campaign:



Figure 2: Graphic display of sales
 Source: Dedoles – internal documents (2021)

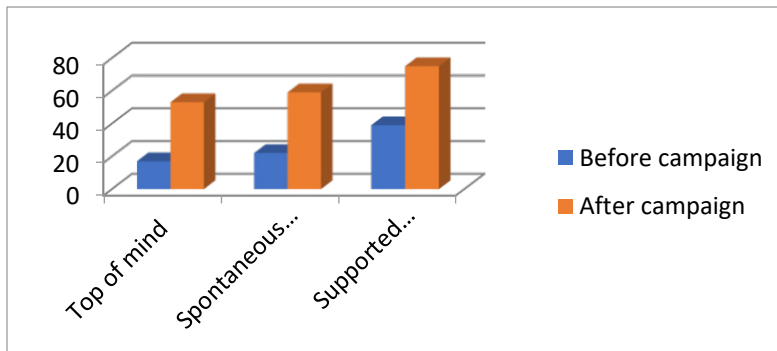


Figure 3: Increased brand awareness
 Source: own processing, 2023

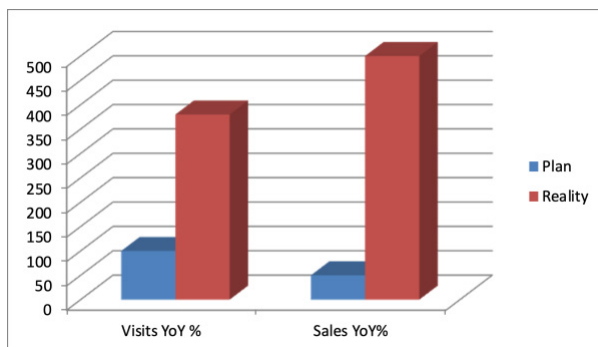


Figure 4: Website traffic and sales during the campaign
 Source: own processing, 2023

5 Conclusion

From the description of the stories of brands that have gained from the crisis, as well as from Dedoles' data, we can conclude that a crisis in the market can also be an opportunity. It is important that the brand maintains its consistency in communication and, above all, does not embark on, for example, rebranding or redesign in this period. As professor Magda Nenycz-Thiel says:

Don't try to make it difficult for buyers to buy your brand, especially in these uncertain times. And don't waste money on packaging changes, changes to brand features. [...] All of these activities make it harder for consumers to identify your brand. (Nenycz-Thiel, 2023a, p. 8).

If we were to summarize the possible ways brands should respond/communicate in times of crisis (is it a recession or a pandemic, or any other threat that affects the market and consumer sentiment), they are:

- maintaining or, where possible, increasing the communications budget, by which we mean buying media and thereby increasing share of voice and share of market;
- maintaining distinctive brand assets and not changing any brand attributes;
- reducing the production budget in order to maintain the budget for media coverage;
- continuing to build the brand, not just switching to performing campaigns that will achieve short-term goals but may also reduce the mental accessibility of the brand;
- don't just do price promotions.

At the same time, as Les Binet (2023) added at the Marketing Rulezz conference, there are winners and losers in every crisis, as far as individual sectors are concerned, as each of them is affected differently by the uncertainty in the market. He identified the Food, Drink, Utilities, Tobacco and Free entertainment categories as the winners of the current recession, and Travel, Hospitality, Recreation, Culture, Paid entertainment as the losers. We can therefore infer that, for example, linear TV (which is largely free) can provide an effective media space for advertisers as well as increase their brand awareness and therefore mental availability in times of uncertainty.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0606/21, titled 'Change in Preferences in Buying Behaviour of Consumers in the Context of the Dynamics of Marketing Communication Tools Development'.

Bibliography

- Adgate, B. (2019, September 5). When a recession comes, don't stop advertising. *Forbes*. <https://www.forbes.com/sites/bradadgate/2019/09/05/when-a-recession-comes-dont-stop-advertising/>
- Binet, L., & Carter, S. (2018). *How not to plan: 66 ways to screw it up*. APG.
- Binet, L. (2023, November 22). *Marketing in a time of crisis* [Conference presentation]. Marketing Rulezz: Back to the roots, Bratislava, Slovakia.
- Crisp, P. (2012, November 19). *Coupons.com and Claremont graduate university study reveals coupons make you happier and more relaxed*. <https://www.businesswire.com/news/home/20121119005572/en/Coupons.com-Claremont-Graduate-University-Study-Reveals-Coupons>

- Guénette, J. D., Kose, M. A., & Sugawara, N. (2022). *Is a global recession imminent?* World Bank Group. <https://openknowledge.worldbank.org/server/api/core/bitstreams/63d145cf-b17d-59fc-aa15-0b14e6512e5a/content>
- Hapák, P. (2023, October 30). *Les Binet pride do Bratislavy na konferenciu Marketing RULEZZ 2023* [Les Binet comes to Bratislava for the Marketing RULEZZ 2023 conference]. <https://marketeris.sk/clanok/les-binet-pride-do-bratislavy-na-konferenciu-marketing-rulezz-2023>
- Kantar. (2023, June 23). *The language of effectiveness 2023*. Marketing Week. <https://www.marketingweek.com/knowledge-bank/view/the-language-of-effectiveness-2023/>
- Nenycz-Thiel, M. (2023a, November). Back to the Roots. *TheMarketers.biz*, p. 8.
- Nenycz-Thiel, M. (2023b, November 22). *Managing brands in turbulent times* [Conference presentation]. In Marketing Rulezz: Back to the roots, Bratislava, Slovakia.
- Pacheco, E. (2013, August 20). *New bia/kelsey research finds 38% of small businesses offer customer loyalty programs*. <https://www.bia.com/new-biakelsey-research-finds-38-of-small-businesses-offer-customer-loyalty-programs/>
- Sarvaš, Š. (2023). *Back to the Roots*. TheMarketers.biz.
- Wong, D. (2015, November 10). *What science says about discounts, promotions and free offers*. https://www.huffpost.com/entry/what-science-says-about-discounts_b_8511224

Contact Data:

Assoc. Prof. PhDr. Jana Galera Matúšová, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
jana.galera.matusova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0003-4514-8431>

AI IN PUBLIC RELATIONS: CHALLENGES AND OPPORTUNITIES

Jana Galera Matúšová – Katarína Načiniaková

DOI: <https://doi.org/10.34135/mmidentity-2023-11>

Abstract:

While the adoption of AI in marketing and advertisement is being discussed in different ways, the area of PR is still uncovered, or rather the question of using AI is not as obvious. It seems to be narrowed particularly to the media monitoring and summarization of data and to the question of topic creation and to what extent text-based AI systems are capable of writing a press release or official statement. However, it should be pointed out that even to write a press release, or any output for that matter, AI needs to be provided with the right prompts, and here the position of the PR person is indispensable. Only specialist in PR can provide the AI system with all the necessary data, figures and sensitivity levels to be present in the final output. So it may be clear that AI is an exceptional asset in marketing and communications, there may be areas that are still under the question of what AI can or cannot provide.

Key words: Artificial Intelligence. Ethics. Influencer. Media Relations. Public Relations. Virtual Influencer.

1 Introduction

Author Lee describes a historical evolution of artificial intelligence (AI) and offers brief overview of the transition in AI methodologies over several decades.

The word artificial intelligence was first used in 1956, and over the next 60 years, it was able to make innovative progress by finding ways to implement them. Until the early 2000s, the researchers implemented AI by make machines learn human-made knowledge. However, intelligence requires the ability to feel and learn new things on its own, and to define and answer problems according to their surroundings or contexts, on top of performing the processing functions for injected information. Through constant re-search, machines became able to analyze data and distinguish objects through selflearning without having to inject prior knowledge in the 2010s. (Lee, 2021, p. 257)

McKinsey & Company (2023) conducted an analysis of the potential impact of generative AI in various industry sectors and outlined its financial benefits across specific sectors where it may have the most significant impact.

About 75% of the value generative-AI could deliver falls across four areas: customer operations, marketing and sales, software engineering, and R&D. Generative AI will have a significant impact across all industry sectors, with banking, high-tech, retail, consumer, and life sciences among those that may realize the biggest impact as a percentage of revenue. Across the banking industry, for example, gen AI could deliver value equal to an additional \$200 billion to \$340 billion in annual revenues. In the retail and consumer sectors, the potential revenue impact could reach \$400 billion to \$660 billion annually. (McKinsey & Company, 2023, “Reshaping Industry and Society” section, para. 3-4)

With the rise of various graphical and verbal forms of AI, we started recognize it more intensely from around November 2022. It was during this period that tools such as ChatGPT, Bard, Claude, Midjourney, and other content-creating engines were developed. This opened

up the question of their usage in marketing in particular, where the opportunity to use them in terms of both visual and textual content creation was immediately presented.

2 Methodology

Given the growing influence and possibilities of using AI in various industries, not excluding business, the aim of this article is to explore the implementation of AI in the field of PR, as many articles today are more focused on marketing and the consumer, or the field of digital communication and advertising. The aim of the research is to assess the scope of AI application within PR tools and techniques and to find answers to the research questions: (1) how AI tools are and can be applied in the field of PR; (2) in which areas of PR is it not possible to implement AI. To answer these questions, we decided to conduct secondary data research in order to collect examples of AI application. The process of collecting AI applications was carried out in three steps. In the first step, we have focused on a search of professional and scientific literature. The second step was to validate the information based on the authors' experience in the field of public relations, further on practical examples collected from relevant actors in the market, as well as secondary research. The third step was the interpretation of the results of unique research conducted on 18 PR agencies on Slovak market realized by Public Relations Association of the Slovak Republic in October 2023, which has not been published yet. The conclusions presented are based on the results of the analysis of the collected examples and the research of Public Relations Association of the Slovak Republic, which we carried out.

3 Results

While the adoption of AI in marketing and advertisement is being discussed in different ways, the area of PR is still uncovered, or rather the question of using AI is not as obvious. We can say that it has narrowed down mostly to the question of media monitoring and also topic creation, to what extent text-based AI systems are capable of writing a press release or official statement. According to survey realized by Vadocz (2023) conducted on a sample of 18 PR agencies in Slovakia, the AI tools are being considered rather as a opportunity (88.9%) than a thread. AI tools on the daily basis are used by 11 out of 18 PR agencies mostly for media monitoring and summarization. AI technology is also used on a daily basis for text creation and for analysis and summary of data by 7 out of 18 PR agencies (Vadocz, 2023). It should be pointed out that even to write a press release, or any output for that matter, AI (in this case we will narrow our study to ChatGPT only) needs to be given the right prompts, and here the position of the PR person is indispensable. Only specialist in PR can provide the AI system with all the necessary data, figures and sensitivity levels to be present in the final output. Thus, AI in this respect can be considered more as a tool of inspiration than a real creator of PR outputs.

Prowly in the overview *The State of PR Technology* (2023) looked at the use of AI in PR, for example, what PR professionals use ChatGPT for:

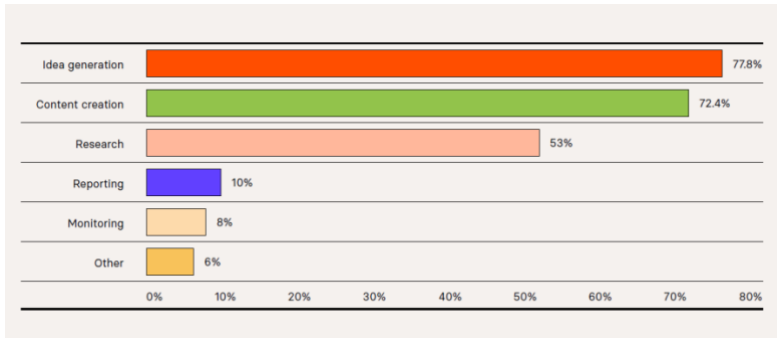


Figure 1: What do you use ChatGPT for at work for?
 Source: Prowly (2023, p. 48)

After studying a number of scientific and professional articles on the topic of AI (we need to point out that the specifics of AI in PR are only insignificantly present in these outputs, if at all – in the WoS database we did not even find an article specifically related to this topic), we can open a discussion regarding the benefits or threats in the implementation of AI in the field of PR in several spheres, which we will present in more detailed way in the next part of our article.

4 Discussion

Several authors defined the impact of AI in PR, specifically changes made by digital marketing as follows:

Electronic word of mouth or “word of mouse”, is replacing conventional media exposure, not solely through social networks, but through all aspects of web and mobile dialogue – and often developing rapidly and in real-time (“trending”). In some sectors, online reviews have become critical in determining whether a product will sell, whereas social influencers have become a very important part of marketing in some sectors, such as travel, clothing cosmetics and automotive. (Stone et al., 2020, p. 193)

AI can be used in this area as identifying patterns of word of mouth, reasons for them, suggested actions and underlying sentiment.

4.1 AI in Media Relations

Even though media relations are no longer such a key tool in PR as they were before the advent of digital communication tools, they cannot be ignored in PR. If we talk about AI text tools, here too, as with other marketing communication tools, especially advertising, their possible use for generating media-attractive themes becomes apparent. However, determined by that the PR person gives the right input information to define the topic and the AI generates ideas related to this topic, also conducts a search of previous outputs and prepares the data. It is in the area of media monitoring where we believe AI has a high rate of implementation.

By using AI-powered media monitoring tools, PR professionals can automate the process of data collection, analysis, and reporting, allowing them to focus on more strategic tasks such as developing communication strategies, building relationships with key stakeholders, and crafting compelling content. This not only saves time and resources but also improves the overall efficiency and effectiveness of the PR function. (Pranjić, 2023, “2. Reduce Workload” section, para. 2).

We are not talking only about the monitoring of media outputs (which includes not only media outputs, but also social media outputs), but also the sentiment of these outputs. For example, the above-mentioned monitoring company Determ has launched a tool called Synthia, which not only categorises outputs (or comments) into positive, negative and neutral, as seen in Figure 2, but also provides an overall summary of them, as we can see in Figure 3 (realized on example of Zara company):

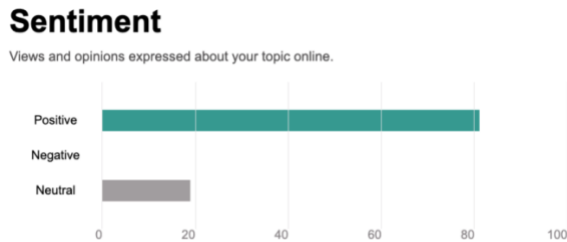


Figure 2: Sentiment summary by Synthia, realised on Zara outputs
Source: Pranjić, 2023

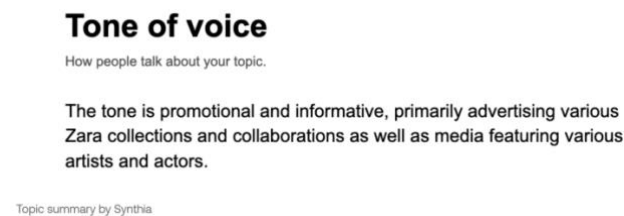


Figure 3: Tone of voice summary by Synthia, realised on Zara outputs
Source: Pranjić, 2023

When we talk about media relations, we do not address only to generating press releases or organising media events, but also answering questions from journalists from the sector or conducting professional or profile interviews. Although we haven't tried it yet, we can only guess to what extent AI would be able to generate the very questions and headings that the journalist themselves will ask (and it is questionable to what extent AI is inspired by the journalist themselves when preparing for an interview), but we can certainly guess from experience that preparing for an interview is based on the personality of the interviewee and their experience, which AI is no table to simulate.

4.2 AI in Crisis Communication

In particular, ChatGPT bases its content generation on the amount of data it has at its disposal, and this represents its overall advantage. Based on this data AI models can predict potential PR crises or opportunities, enabling organizations to prepare or strategize accordingly. However, we do not see a further impact of AI in crisis communications in terms of the knowledge of this discipline, as the transparency of the organization and a certain level of emotion play a key role, especially in crises with tragic impact. At the same time, a misjudged use of AI in PR can lead the organisation itself to crisis and damage its reputation.

One of the significant challenges posed by AI in the Public Relations industry is the potential for misinformation and the spread of fake news.

A high percentage of respondents identified fake news as the top threat from AI, indicating apprehension around the potential misuse or manipulation of AI-generated content for spreading misinformation. The implications include damage to the credibility and reputation of their clients or organizations. The second concern about the loss of human touch suggests that PR professionals see their value as tied closely

to their personal relationships, human intuition, and emotional understanding around effective communication and relationshipbuilding. There is a perceived risk that AI-driven processes may lack a human element and potentially impact authenticity. (Prowley, 2023, p. 54).

PR professionals highly esteem their ability to think outside the box, adapt to specific circumstances or create inventive strategies. They are concerned that these attributes may be at risk in a more automated and standardized landscape. Given that new generative AI tools make it increasingly simple for individuals to create text, images, audio, and videos, there is a growing need to reevaluate and redefine the criteria for assessing authenticity in the first instance. In addition to the fact that AI presents opportunities it also prompts some challenging inquiries. Balancing innovation with ethical considerations is essential to ensure that AI contributes positively to the preservation of authenticity in various contexts. Striking the right balance between authenticity and transparency is essential to maintain trust. AI tools specifically in the field of Public Relations are gaining significance due to their valuable real-world applications. However, it's essential to keep in mind that these emerging tools ultimately function as our virtual aides. Similar to any new assistant, AI is susceptible to errors that PR professionals have surpassed over time. While AI can emulate human intelligence and produce content at an unprecedented pace, it's our human experience that grants us the ability to discern.

4.3 Online PR

We have already briefly touched the area of online PR in the section on the potential of AI in media monitoring, but we would like to focus more on working with influencers or brand ambassadors. Technology is coming into influencer marketing. The State of Influencer Marketing asked about whether the respondents planned to utilize AI or machine learning (ML) in 2023 to identify influencers or create effective campaigns.

A very sizable 62.9% said they would, alongside 25.4% who thought they may. Only 11.7% gave an unequivocal no to this question. Clearly, AI and ML are now hitting the mainstream. We asked those who said they would (or might) use AI/ML in their influencer marketing how they intended to use it. The most popular suggestion (64%) was using social media analytics to identify the most effective influencers for a particular brand or campaign. Although the respondents didn't clarify this, they presumably intend to work with one of the influencer platforms offering influencer identification technology. Although somewhat less common, the second most popular intended use of AI in influencer marketing is locating and distributing relevant content (13.3%). Interestingly, 5.6% of the respondents intend to use AI to identify bogus influencers and engagements. It will be interesting to see if this figure rises over time, as more people discover what AI can achieve. (Geysler, 2023, pp. 18-19)

As these data show, AI is strongly represented in this part of online PR, but again we have to point out the specifics of PR. The selection of an influencer, given the brand's reputation, cannot be driven by the number of followers or ERs alone, but it is the PR person who has to assess the relevance of the influencer's content to the brand, its tone of voice, conformity with the brand, what topics the influencer is communicating and with what sentiment, and how it interacts with its fans. From this perspective, we see the human value of PR as irreplaceable.

Author Geysler in the *The State of Influencer Marketing* (2023) investigated new question regarding application of AI into online PR, specifically into Influencer Marketing. Respondents were asked whether they ever used a virtual influencer and 60.4% admitted to

having done so. The Czech PR agency Adison decided to test AI in the field of PR and in May this year they let AI create the influencer Adina. The choice fell on the Midjourney tool, but the agency immediately encountered the first problem, that the AI was unable to maintain a uniform visual appearance of Adina every time, which was reflected, for example, in her tattoos. Creative strategist at Adison Jakub Křenek (2023a) stated in LinkedIn newsletter that they couldn't find any way to convince the AI to always display exactly the same tattoo on the same part of the body. The influencer's content plan was again created by AI, namely ChatGPT, and not only the topics themselves, but also the frequency of publishing individual posts, stories and reels. Here, the first weakness of the AI was already revealed, as the agency received feedbacks on incomprehensible texts. At the same time, there was a lack of connection between the visual and textual parts of the outputs, or the AI was unable to link the two elements into an understandable final form, and so human intervention was needed here. In the next part of the project, the creators focused on creating a community around Adina on Instagram and engaging her in interacting with other profiles that were also recommended to her by the AI. One of the profiles to follow Adina was the profile of Karol Gott Jr., the son of the famous Czech singer, selected by the AI. Jakub Křenek pointed out the need of human factor again and shared that the best they were able to get were instructions on what and how to search for users to track. The rest was up to the team, the actual human beings.

The whole project lasted three months and the results are as follows:

- 48 contributions
- 48 stories
- 1,733 profile visits from 1,091 unique users (accounts) reached.
- 270 followers, but 66 of them eventually stopped following Adina – the final current number is 204 followers (the goal of 1,000 followers could not be reached)
- 13,840 impressions, i.e. the average frequency of reach was about 13
- Average engagement rate of posts 3.24 (Křenek, 2023a).

AI Influencer is a social media character created by AI technology. The character is given a personality and acts on social media platforms as if he/she is an influencer. Using a social analytics tool Social Status we have created a comparison of overall engagement rate (ER) of three different influencers. One of them was Adina, the AI influencer created by AI tool Midjourney and the other two are real Slovak influencers. We chose them since they have similar interests as Adina and selected the exact period from 7. 8. 2023 – 31. 8. 2023 in which Adina was the most active. As we can see from the filtered data the ER was lowest for influencer created by AI whereas both real influencers had ER higher than Adina. According to Cucu (2023) Instagram records an average engagement rate of 0.60%, so we can say all of the three influencers have more than an average ER. Despite this fact there is a significant difference between published posts and gained likes and comments from users. Adina had the biggest amount of posts (18) in August and yet she received the lowest engagement regarding likes and comments. On the other hand both real influencers had only three published posts in August and gained multiple times more likes and comments. We can assume that Adina as an AI influencer does not have the content sufficiently relevant and engaging to its audience, we can also assume it might also miss human touch or emotion. Jakub Křenek (2023b) said that the biggest weakness of the whole project was to create a believable personality that will then be mirrored in authentic-looking Instagram content. This was too difficult task for an AI that “pays off what statistically makes sense to be paid off” – unless a human steps in significantly.

My Group 1 07/08/2023 - 09/08/2023




PROFILE	COMMUNITY SIZE	POSTS BY PROFILE	LIKES	COMMENTS	SHARES	TOTAL INTERACTIONS	ENGAGEMENT RATE ON LIKES, COMMENTS AND SAVES
 odininspirescz @odininspirescz	207 Followers	18	86	1	N/A	87	2.33%
 katarinahutygrova @katarinahutygrova	1,352 Followers	3	226	21	N/A	247	6.09%
 magdaleeeen @magdaleeeen	1,116 Followers	3	322	11	N/A	333	9.95%

Figure 4: Influencer social analytics
Source: Social Status, 2023

5 Conclusion

After analyzing professional and scientific articles on AI in PR and examples from practice, we can conclude the benefits of AI in PR in the following techniques and areas:

- Identification of trends that can be used in the creation of brand content.
- Monitoring media and social networks and evaluating sentiment.
- Predicting potential crisis areas.
- Defining data-driven practices for influencers and brand ambassadors.
- Designing press releases, social media posts and other content.

But modern PR today is all about reputation, and this is where human input is needed, because we're talking about brand authenticity and credibility, which no AI tool can build. AI may enhance efficiency and provide data-driven insights, but the human role in PR remains indispensable for building authentic relationships, managing reputation, and navigating the multifaceted challenges of public communication.

Acknowledgement: This paper was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-22-0469, titled 'Traveling Map of a Digital Platform Providing AI (Artificial Intelligence) Automatization of Management Processes in the Area of Communication Strategy'.

Bibliography

- Cucu, E. (2023, April 10). [STUDY] Social media industry benchmarks 2023. Reveal how TikTok's engagement rate is decreasing. <https://www.socialinsider.io/blog/social-media-industry-benchmarks/>
- Geysler, W. (2022, January 24). *The state of influencer marketing 2023: Benchmark report.* <https://influencermarketinghub.com/influencer-marketing-benchmark-report/>
- Křenek, J. (2023a, October 27). *Adina v číslech [Adina in numbers].* <https://www.linkedin.com/pulse/adina-v-%C4%8D%C3%ADslech-jakub-k%C5%99enek-uwvpf/?originalSubdomain=cz>
- Křenek, J. (2023b, November 8). *Adiny (ne)úspěchy aneb Kde udělali soudruzi z Adisonu chybu? [Adina's (in)successes or Where did the comrades from Adison go wrong?].* <https://shorturl.at/grAPZ>
- Lee, J.-H. (2021). Changes in marketing brought by AI. In J. Guerrero (Ed.), *21st ACIS international winter conference on software engineering, artificial intelligence, networking and parallel/distributed computing (SNPD-Winter)* (pp. 257-259). The Institute of Electrical and Electronics Engineers. <https://doi.org/10.1109/SNPDWinter52325.2021.00063>
- McKinsey & Company. (2023, October 18). *Leveraging generative AI in Europe: The opportunities and challenges.* <https://shorturl.at/uF056>

- Pranjić, M. (2023, May 26). *Revolutionizing PR: How AI-powered media monitoring can benefit PR professionals*. <https://www.determ.com/blog/how-ai-powered-media-monitoring-can-benefit-pr-professionals/>
- Prowly. (2023). *The State of PR Technology 2023*. <https://go.prowly.com/hubfs/State-of-PR-Technology-2023.pdf>
- Social Status. (2023, November 5). *Social media analytics and reporting tools*. <https://www.socialstatus.io>
- Stone, M., Aravopoulou, E., Ekinci, Y., Evans, G., Hobbs, M., Labib, A., Laughlin, P., Machtynger, J., & Machtynger, L. (2020). Artificial intelligence (AI) in strategic marketing decision-making: A research agenda. *The Bottom Line*, 33(2), 183-200. <https://doi.org/10.1108/BL-03-2020-0022>
- Vadocz, Š. (2023, November 14). *Využitie AI v prostredí komunikačných agentúr na Slovensku a vo svete [Use of AI in communication agency environments in Slovakia and worldwide]* [Conference presentation]. Marketing & Media Identity 2023: AI – The future of today, Trnava, Slovakia.

Contact Data:

Assoc. Prof. PhDr. Jana Galera Matúšová, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
jana.galera.matusova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0003-4514-8431>

Mgr. Katarína Načiniaková
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
naciniakova1@ucm.sk

DETERMINANTS OF JOURNALISM USING THE POTENTIAL OF ARTIFICIAL INTELLIGENCE IN AXIOLOGICAL-ETHICAL PERSPECTIVES

Sabína Gáliková Tolnaiová

DOI: <https://doi.org/10.34135/mmidentity-2023-12>

Abstract:

In the article, attention is paid to artificial intelligence in the field of journalism in an axiological-ethical perspective. In it, the author focuses on the problem of ethical determinants of journalism, which uses the instrumental potential of artificial intelligence. Its purpose is to identify the ethical framework as a determinant of its quality, to further define its critical elements and to point out the difficulty of their implementation in journalistic practice. Also to identify the need and nature of wider social interest in solving problems, or the impact of the use of artificial intelligence by journalists on the ground of journalism itself and ultimately in society. First, in the contribution, the author focuses on the need and nature of a new ethical framework for the development of artificial intelligence and its use, in which she defines its values and principles. She identifies two of them as the most critical (responsibility and transparency). In this context, it reveals the possibilities and the difficulty of securing them, especially through deontological, or ethical standards in journalistic practice. Finally, she points to the need, importance, and very nature of investigating and discussing the socio-ethical consequences and risks of adopting artificial intelligence, including the impact it can have on the values of journalism. According to her, these today exceed purely scientific interest. In this context, she emphasizes the strengthening of the ethical and social responsibility of all media communication actors.

Key words: Artificial Intelligence. Critical Elements. Discussion. Ethical Framework. Journalism. Media. Practice. Research. Values.

1 Introduction

It turns out that the media world will be more data-driven and algorithm-driven in the future. Its core will be the technology of artificial intelligence and machine learning (Beckett, 2020a). In my opinion, it is necessary to seriously calculate today, in terms of forecasts, the standard, common use of artificial intelligence technology systems in the media, or journalism and preparing for it. By all accounts, the sustainable position of journalism as a profession in the future requires taking into account the status of a hybrid journalist. Since various social and, in connection with them, especially ethical concerns related to the development, deployment and use of artificial intelligence in various areas of social practice, including media and journalism, have already been expressed in society (European Commission, 2019; Chong, 2020; Jones & Luger, 2021; Šantavý, 2022; Trotta et al., 2023), I consider the question of ethical determinants of journalism using the potential of artificial intelligence to be topical.

In the following, the intention is to identify the ethical framework as a determinant of the quality of journalism using the instrumental potential of artificial intelligence, to define its critical elements and to point out the difficulty of their implementation in journalistic practice. Also to identify the need and nature of wider social interest in solving problems, or the impact of the use of artificial intelligence by journalists on the ground of journalism itself and in society. First of all, in the post I will focus on the need and nature of a new ethical framework for the development and use of artificial intelligence, in which I will define its values and principles and identify the most critical ones for journalism from my point of view. In this context, I will reveal the possibilities and difficulty of ensuring them, especially through deontological, or ethical standards in journalistic practice. Finally, I will point out the need, importance, and the very nature of the scientific, but also broader social interest in solving the

issues of socio-ethical consequences and risks of adopting artificial intelligence, including the impact it can have on the values of journalism.

2 Ethical Framework as a Determinant of Journalism Using Artificial Intelligence and Its Critical Elements

Quality journalism has become more important than ever due to the need for quality and credible media that can provide accurate information to the public and help address and balance the widespread and rapid spread of misinformation. Recent advances in artificial intelligence appear to support credible high-quality journalism at every stage of the journalistic value chain (the activities of gathering, evaluating, creating and presenting news and information, the product of these activities) (Opdahl et al., 2023). However, various ethical concerns related to the development and deployment of artificial intelligence and its use have been widely expressed. The positive change represented by artificial intelligence has been questioned due to its ethically questionable use in various contexts (European Commission, 2019; Šantavý, 2022; Trotta et al., 2023). Some critics have expressed concerns about the potential manipulation of content by intelligent computer programs in journalism, others fear, for example, that media content created by robots is losing its “humanity” (Višňovský & Kubíková, 2019). The question also shows whether certain types of artificial intelligence should actually be used at all, or whether they are suitable for specific contexts at all (Jones & Luger, 2021).

I agree that concerns about the use of artificial intelligence should definitely not be an obstacle to the further development of artificial intelligence and its introduction, but rather should be present when deciding on the potential of artificial intelligence and in its actual use (Bielíková et al., 2019). In my opinion, the aforementioned refers to the question of the determinants of journalism with the use of artificial intelligence, namely determinants with an inevitably ethical dimension. On the one hand, it is directly a question of the determinants of a more ethical, or ethical use of artificial intelligence in social practice, as it turns out that in general the potential of artificial intelligence technology is often not properly used, which means *Fr. i.* that it is used in an ethically problematic manner, or risky. On the other hand, it turns out that ethical considerations are a relevant element not only in the use of technologies, but also in their design and development. It is therefore a question of the determinants of the ethical proposal itself and the development of artificial intelligence.

The experts stated the need for a common framework of principles and standards for a more ethical and responsible use of artificial intelligence in the future, which needs to be addressed already in ethical considerations regarding the very design and deployment of artificial intelligence systems. The need to design artificial intelligence, or its technological systems in order to improve human capabilities, while experts noted the importance of a more sustainable framework for the development of artificial intelligence, which should be able to take into account moral and ethical considerations. This framework should also note the dysfunctional properties and social consequences of its technology. In this context, there is a discussion about the importance of the theory of public interest in shaping the development and deployment of artificial intelligence. According to experts, this should be developed and implemented in the public interest, with a focus on promoting social welfare and minimizing damage, and thus in a way that will benefit all members of society. Inevitably, this is a way of development and deployment in accordance with human values, in order to contribute to its ethical use. The development framework for artificial intelligence should include a set of such ethical principles that can ensure *o. i.* above all, responsibility and justice in its use (European Commission, 2019; Trotta et al., 2023).

When it comes to the field of journalism and media, we are currently faced with normative questions about what a person “should” do, what moral obligations are related to the development and use of artificial intelligence in journalism, or how to actually ensure the ethical use of its technologies, how to integrate them responsibly, ethically and in ways that are consistent with the professional journalistic ethos and its various instances. Since incorrect use, or abuse, as well as the very bad design of artificial intelligence systems can cause potential damage and unintended consequences in journalism as well (Jones & Luger, 2021), it is clear that the aforementioned ethical principles should also be embedded in the design of artificial intelligence technology used in journalism (Noain-Sánchez, 2022).

Experts who emphasize responsible and fair technologies of artificial intelligence also require the transparency of its systems, while each transparent system is, respectively. according to them, it must actually be a controllable system. The point here is that AI systems can sometimes be confusing, even to those who design and deploy them (the deep learning problem). Or they may lack the scrutiny of “non-experts” – including, for example, journalists – because of their technical complexity. However, in order for artificial intelligence systems to be truly transparent and controllable, according to experts, they must be further comprehensible, of course for developers, but not least for those who regulate and use them (Jones & Luger, 2021; Trotta et al., 2023). Understanding artificial intelligence, or its comprehensibility, within which one can also talk about the explainability (explainability) of its systems, is a fundamental challenge for everyone, because it is a relevant building of the necessary trust in relation to machines, or “between humans and machines”. Artificial intelligence should also be trustworthy in this context¹ (European Commission, 2019; Trotta et al., 2023).

In my opinion, it should be said that the use of ethical frameworks and guidelines regarding justice, responsibility, transparency, or ethical aspects in the design and implementation of artificial intelligence systems in the media, or journalism (Dhiman, 2023), which represent the ethical determinant of this context, and at the same time the context of their own use of systems by journalists, is not without difficulties. It turns out that the very solutions of how artificial intelligence technologies for journalism should actually be developed responsibly and transparently, as well as how they should be media, or news organizations responsible and transparent when they apply them, and last but not least, how to be responsible and transparent the use of artificial intelligence by journalists in practice, are an obvious problem and are accompanied by various difficulties and challenges.

3 On the Difficulties with Accountability and Transparency in Journalism Using Artificial Intelligence

In the sense indicated above, the problem of ethical responsibility and transparency of artificial intelligence systems and their use in journalism is considerably complicated. It turns out that in practice it is a difficulty with the already mentioned responsibility, as well as with their transparency (Jones & Luger, 2021).

Determining responsibility is a separate challenge given that it is complex. The point is that several agents are involved in the process of design, implementation and final use of this technology – professionals from programmers and information technologists to journalists and editors (Noain-Sánchez, 2022). It is clear that news media have duties and responsibilities towards users and society, and at the same time have a responsibility to use

¹ Author’s note: Of course, said trust does not exclude the supervision of machines. Machines, their work, must even be subject to human supervision (European Commission, 2019; Trotta et al., 2023). In practice, this is actually how the principle of their controllability can be implemented.

artificial intelligence in ways that lead to the fundamental freedoms and values that characterize their markets and policies (Jones & Luger, 2021). This situation also results in the complexity of the ethical solution of responsibility in journalistic practice.

One of the important discussions concerns, for example, the responsibility for the automated journalistic content itself (Láb, 2019). It turns out that specific ethical (and legal) issues arise in connection with automated journalism, particularly regarding the moral (and legal) status of automated speech. The question is where the responsibility actually lies (Jones & Luger, 2021). One may ask: Is it the responsibility of the automated content of the journalist who will use it for his article, the editor, the editor-in-chief, or the entire publishing house? (Láb, 2019). Or computer, artificial intelligence? Where, or who is the moral subject of responsibility here? Here we encounter the philosophical and ethical problem of “who is” actually a “moral agent (subject)” and “has responsibility” – I note that this is a really old problem, but in new contexts it has gained current importance.² If we look at the field of practice, we see difficulties with the responsibility of algorithms, for example, in cases of violation of data or privacy rights, including copyright, but also in such cases, or in connection with such phenomena as slander, contempt of court, defamation using an algorithm, etc. (Jones & Luger, 2021). How and to what extent can, or should, the media be responsible for algorithms in practice in these cases, or news organizations?

In data-driven systems, accountability requires consistent recording of data collection and processing. It is clear that the quality, accuracy³ and integrity of data is critical to automated journalism, as is the need to collect it legally and ethically. However, questions remain about the objectivity of their files and the extent to which they may be open to manipulation and distortion⁴ (Jones & Luger, 2021). As it turns out, in journalism using the potential of artificial intelligence, ethical concerns often arise precisely from the data set, while not only the nature of the data, the method of its collection is relevant (the question of whether, for example, the collection processes are in accordance with data protection rules), but also in their context, the very design of the algorithm is relevant. This could lead to the strengthening of bias and misinformation (Noain Sánchez, 2022).

It can be concluded that concerns have already been expressed about the potential manipulation of contents by intelligent computer programs (Višňovský & Kubíková, 2019). The risk of possible introduction and maintenance of bias, as well as undermining of accountability processes, is currently evident in connection with artificial intelligence systems (European Commission, 2019; Opdahl et al., 2023). For example, content generated by artificial intelligence can blur the lines between reports written by humans and machines, which can lead to misinformation, but also to the erosion of trust in journalism itself (Gondwe, 2023). It is therefore requested that transparency be maintained in relation to artificial intelligence systems in journalism. However, there are questions about how transparent news organizations can, or should be.⁵ According to everything, however, complete transparency in journalism may not even be possible (when using proprietary or

² Author’s note: Automatically generated news texts are subject to the issue of authorship, which – at least partially – is related to the issue of responsibility. That is, traditionally, the primary responsibility was attributed to the “human” author of (such) texts as a moral subject.

³ Author’s note: Accuracy is a key value, but it is necessary to note and take into account that there is statistical inaccuracy in artificial intelligence systems, i.e. j. their hundred percent accuracy is not possible (Dhiman, 2023).

⁴ Author’s note: There is a problem of “facts” inconsistencies, where automatically generated content is technically objectively true, but is constructed in such a way that the reader can draw conclusions leading to an objectively incorrect impression (Jones & Luger, 2021).

⁵ Author’s note: The questions concern about. i. algorithmic processes in the background of the stories, the problem, how best to explain them, or what information is necessary or appropriate to publish, including how this can affect the trust of the audience, etc. (Jones & Luger, 2021).

complex systems). It may also be unnecessary or undesirable. Alternatively, it may conflict with other principles or values (Jones & Luger, 2021).

For example, it is true that the protection of sources is a fundamental principle of journalism and it is essential to always ensure reliable practices in the area of privacy and data protection. But unfortunately, according to experts, it is not clear today how it could, or it was supposed to work in relation to the transparency of data sources in automated processes. In this context, not only is the fundamental question whether we actually know what it looks like, or algorithmic transparency should look like in journalistic practice (Jones & Luger, 2021). It is also a question of whether we know what the audience's own demands are for algorithmic transparency. According to F. Láb, it is difficult to solve the issue of transparency if we still know very little about the extent to which the audience wants to know how the automated content is set up, or to which he is subordinate. However, according to him, it can be assumed that the appeal for transparency on the part of the audience will intensify with a higher frequency of use of automated content (Láb, 2019).

4 Deontological Challenges in Journalistic Practice Using Artificial Intelligence

In recent decades there have been growing demands for the need for a new deontology. Even today, technologies provoke discussion about new ethical and deontological challenges faced by journalists (Beckett, 2020a). Artificial intelligence technologies certainly cause them as well. At the same time, experts have certain recommendations on how to deal with the difficulties associated with them. Whether it is, for example, the previously mentioned problem with responsibility and transparency within the use of artificial intelligence in media and journalistic practice, or for example the risk of bias in data as well as in generated content (European Commission, 2019), which represents a significant challenge for media, respectively news organizations have ensured that generative AI systems will not promote social inequalities and reinforce existing prejudices, but will prioritize fairness and diversity (Gondwe, 2023).

A. Noain-Sánchez recommends an agreement on the definition of responsibilities approved by all parties.⁶ It is intended to define these responsibilities. This should ensure that all stages of the process from design to application of artificial intelligence technology are conducted ethically with transparency and accountability. According to the aforementioned author, a declaration of core values would be desirable, which would take into account all levels of production and all actors participating in the design and use of these tools. Next, it should be about the creation of ethical codes. For media organizations, the implementation of ethical codes for the use of artificial intelligence should be a necessary obligation due to the very assurance of ethical and quality standards of outputs created by artificial intelligence. These should force everyone (agents), from designers to journalists, to make ethical values – already embedded in the technology design – a standard norm for them to follow when using artificial intelligence tools (Noain-Sánchez, 2022).

Above all, the public mass media are generally expected to implement the design of algorithms that respect the basic values of journalism (Noain-Sánchez, 2022) in order to ensure compliance with its principles. The very selection of data sets and the decision about how to examine and use them is an editorial decision and therefore falls under existing standards of impartiality, non-discrimination and fairness (Jones & Luger, 2021). Codes

⁶ Author's note: Many professionals are involved in the process of design, implementation and final use of this technology – from designers, programmers, information technologists to journalists and editors (Noain-Sánchez, 2022).

within the media or of news organizations should give an overview and therefore bear witness to these accepted values and principles. This means a certain form of media transparency and the performance of journalistic tasks themselves with the use of artificial intelligence. However, since these organizations should also supervise⁷ the outputs of artificial intelligence to ensure the support of diversity and plurality and minimize the risk of bias, the codes should also be certain criteria from the point of view of this supervision (Noain-Sánchez, 2022).

In terms of transparency, editors using automated content should create such basic instructions for its use (Láb, 2019), which should apparently include i. for a standard to always clearly state when artificial intelligence participates, or participated in the creation of journalistic content (Gondwe, 2023). In this perspective, the question arises as to how articles that are a partial or complete product of artificial intelligence should actually be labeled: “Should we create a universal acronym for them (UI, AI, RUR, etc.), similar to what specific news agencies have...?” (Láb, 2019). Related ethical questions include the question of whether the editors should have the obligation to inform the reader that the published text generated with the help of artificial intelligence elements has not passed the check of a “human journalist” (Moravec, 2019), etc. I believe that, in the indicated perspective, yes.

In the context of the above, it must be said that the question of how to use artificial intelligence ethically has already led to a number of ethical principles and guidelines, or regulation (including the public sector) (Jones & Luger, 2021). The ideals of truth, accuracy, impartiality, responsibility, objectivity, fairness and representation find expression in professional frameworks and codes of conduct, respectively ethical codes and are enforced through various regulations and laws (Jones & Luger, 2021). But it turns out that although the ethical aspect of the use of artificial intelligence is the main interest in journalistic practice, the very necessary setting of ethical guidelines in the media itself, or news organizations not a simple matter (Beckett, 2023b). Despite their rationality, these in themselves are a challenge for the media, or news organizations and journalists, which these actors definitely have to face in practice.

As B. Jones and E. Luger point out, the fact that value judgments are expressed in and through artificial intelligence systems through systems of data, rules, knowledge bases and optimization decisions presents both an opportunity and a major challenge for journalists and said organizations that want to, so that these systems reflect their journalistic ethos and intentions. Namely, it is necessary on their part to be able to formulate and explain their own judgments, ethical codes and values in their professional ideology, as well as to develop appropriate mechanisms for incorporating them in design and engineering decisions, and also finally to reevaluate and update them, as functioning systems learn and they develop (Jones & Luger, 2021).

Let's note together with the aforementioned experts that, for example, even if something is a basic journalistic value, it can be questioned in the context of its application in practice with artificial intelligence. Values, principles, or ideals are interpreted and transformed in everyday life, in which the practices of news production evolve and change. It is also impossible not to notice that high-level principles often hide deep political and normative disagreements and are expressed and evaluated differently in different newsroom cultures. Different contexts also lead to prioritizing different sets of values, depending for

⁷ Author's note: According to journalists and experts, artificial intelligence is a complementary element to the human factor. According to them, even the most advanced artificial intelligence tool will have an auxiliary role and will work under human supervision. But the real extent of this supervision is a question, if we consider the volume of processed data and obtained outputs in some areas, such as documentation. Only part of the machine work, it seems, can be supervised here. However, it is possible to oversee specific tasks, such as verifying content or writing reports, etc. (Noain-Sánchez, 2022).

example on accepted conceptions of democracy and the role of the media in it. Finally, different applications of artificial intelligence also raise different sets of questions about how to actually prioritize and operate said values, and may require different trade-offs between these values. Media, or news organizations and journalists in practice must then themselves consider issues of quality, diversity, creativity and relevance (Jones & Luger, 2021). All this requires discussion by all interested actors and consideration within it. In my opinion, ethical dilemmas in this context can definitely be assumed.

With regard to the potential for ethical dilemmas, it should be noted that the traditional ethical dilemmas associated with journalism will certainly arise regardless of whether we introduce new artificial intelligence technology or not. But it turns out that some contexts generated by artificial intelligence tend to amplify traditional dilemmas and may be beyond the reach of professionals working in the newsroom (Noain-Sánchez, 2022). However, these dilemmas should not prevent the very application of deliberative communication in the media, or news organizations as a suitable method leading to the necessary compromises in order to solve their problematic situation in connection with the application and use of artificial intelligence and their possible consequences in terms of journalistic principles and values. In the process of considering and clarifying the differences of opinion in these organizations, informed and reasoned decisions can be made, I believe, in relation to the aforementioned challenge of managing artificial intelligence systems in them so that they adequately reflect the journalistic ethos and intentions.

5 The Need, Importance and Nature of Researching and Discussing the Socio-Ethical Consequences and Risks of Adopting Artificial Intelligence in Journalism

As it turns out, as the possibilities of artificial intelligence expand, so does the awareness of ethical issues related to the design, development, deployment, and use of artificial intelligence systems or their application for social good. As artificial intelligence continues to evolve and become increasingly integrated into our daily lives, it is important to examine its ethical and societal (and potentially unintended) consequences. It should be about understanding these ethical consequences in terms of justice, transparency, responsibility and the very limitations that artificial intelligence brings in this context, or using its potential in social practice (European Commission, 2019; Trotta et al., 2023). There are many ethical problems, or challenges that artificial intelligence poses to journalism (Chong, 2020; Jones & Luger, 2021; Gondwe, 2023). Also in its context, experts emphasize the need to carry out ethical studies and discussions, which should not be limited only to the development of its technologies, but should also concern its adoption in the field of journalism itself and the impact it can have on its values (such as accuracy or objectivity, etc.), and also the consequences for its end users (Noain-Sánchez, 2022). More work needs to be done in society to assess the existing impacts and delineate the associated risks that are relevant to journalism (Jones & Luger, 2021).

In this context, not only research is important, but also ethical discussions, which must be taken into account by all interested parties.⁸ Journalists, media companies, scientists, researchers, educators, philosophers, theologians, and politicians should also contribute to discussions about solutions to current problems or issues related to artificial intelligence, especially in the field of journalism. The broader context of government policies needs to be

⁸ Author's note: These should initiate deliberation processes. However, of course there are limits, because it is not possible to conduct a deliberative discussion about all principles and values everywhere (European Commission, 2019).

considered within the discussions. Indeed, governments should create policies and guidelines that ensure that artificial intelligence is used responsibly while enabling innovation and progress. But the context of civil society initiatives is also relevant (European Commission, 2019; Jones & Luger, 2021; Trotta et al., 2023). Last but not least, the public can and should join the aforementioned discussions. It can be noted that the current discussion about the ethics of artificial intelligence has already moved from the academic context to the public context, which is probably facilitated by media coverage, or due to the media representation of new technologies in society⁹ (Ouchchy et al., 2020).

It is also clear from the above that the need for a social solution is generally recognized, and within this framework also the importance of a differentiated ethical investigation of problems related to the phenomenon of artificial intelligence in various areas of social practice, including media and journalism. In my opinion, in this context, it is necessary to turn attention to the very ethics in this area. Let's note that since journalism entered its fifth phase (i.e. the stage of convergent media or "mixed media"), in its context, the professional model of journalistic ethics has been questioned and attacked (Ward, 2009; Moravec, 2019). On the one hand, journalism brings artificial intelligence, or automated journalism certain continuation, or strengthening the crisis of traditional journalism and its ethics. On the other hand, it comes at a time when the traditional media are actually in the middle of a crisis and losing confidence, as well as traditional journalism, whose roles are being undermined in the digital context of the media and subject to a radical transformation in it, so it seems that it represents just one of the possible partial ways out of this crisis¹⁰ (Láb, 2019). In this context, today we are faced with a new evaluation of the existing ethical frameworks in journalism and a redefinition of some of its basic terms in relation to artificial intelligence (Moravec, 2019).

I consider it necessary to touch upon the need for an appropriate approach within the framework of ethical investigation and discussion of new technologies, and therefore artificial intelligence technologies as well. It turns out that it should be a pluralistic approach. This is open to interpretations from the perspective of the main (traditional) ethical theories as well as other theoretical positions, including more recent attempts to develop ethical theories more specifically focused on new technologies (Stahl et al., 2021). However, the pluralistic approach is also a multidisciplinary approach to the special issue of contemporary technologies, which brings different disciplines into the conversation within the discussions. Apparently, it includes a set of ethical principles at the intersection of artificial intelligence, ethics, philosophy and sociology. As such, discussions about artificial intelligence, about its more sustainable development framework, demonstrate a complex interplay of different disciplines. Also, the solutions to its ethical impacts and their consequences obviously go beyond the traditional technical areas of artificial intelligence and robotics and take into account a much broader context of disciplines (in addition to the three mentioned above, it is also economics (Trotta et al., 2023).

Interdisciplinarity is apparently inherent in the process of applied artificial intelligence (Noain-Sánchez, 2022). As it turns out, in the field of artificial intelligence, the research of the so-called machine ethics with the work of interdisciplinary scientists¹¹ (Tavani, 2013). At the

⁹ Author's note: For example, improved audience understanding can be seen as a prerequisite or input for personalized recommendations and media production. More on that (Trattner et al., 2021).

¹⁰ Author's note: Apparently, the ethics of traditional journalism (accuracy, thoroughness, verification of sources and fairness) are not compatible with ethics, or the morality of the new digital journalism, in which cooperation with users or correction after publication prevails, etc. (García Avilés, 2014). However, if we consider the instrumental potential of artificial intelligence within the digital context of journalism, it shows at a certain level a fairly solid correlation of its principles with traditional journalistic principles and ethical values.

¹¹ Author's note: Machine ethics is a field that focuses on questions related to the problem of whether machines can be, or computers as autonomous agents capable of making good moral decisions. It is an interdisciplinary

same time, the current call for interdisciplinary research today requires close cooperation of researchers from the field of computer and information science (e.g. natural language processing, machine learning, recommendation systems, human-computer interaction and information retrieval) with researchers from other fields, including, for example, the field of communication sciences and of journalism studies. There are various interdependencies and cross-cutting aspects between these areas of research (Trattner et al., 2021). It can be concluded that interdisciplinarity is currently changing the very ethical approach to journalism, in which artificial intelligence technology is used – its center of gravity is located at the intersection of digital media ethics and cyber ethics (Noain-Sánchez, 2022).

6 Conclusion

On the one hand, it turns out that the ethical application of journalism in any media depends on external factors of a commercial, economic, political, and technological nature, as well as on the professional and personal values of journalists (Suárez Villegas, 2015). On the other hand, the role of technology, and therefore of artificial intelligence technology, in journalism is clearly not just a technical issue – it is deeply social, cultural, political and economic (Jones & Luger, 2021), in this context anthropological, and thus also axiological-ethical. It is necessary to search for the determinants of journalism using the potential of artificial intelligence in an axiological-ethical perspective. It can be concluded that the design, development, deployment and actual use of artificial intelligence systems in journalism must be in accordance with the professional journalistic ethos, and at the same time with the intentions of wider social benefit and humane good.

Today, there are various social and ethical risks and problems that prove that socio-ethical determinants in journalism that uses the instrumental potential of artificial intelligence are essential. These are critical elements, the implementation of which in journalistic practice with respect to the professional ethos of journalists and in the intentions of social benefit and human good, especially through deontological standards, is today accompanied by certain difficulties. As such, they require social attention. This is not only about its form in the implementation of scientific research and professional ethical considerations, but also about broader moral discussions about artificial intelligence and its consequences in journalism and society. In this context, it is a challenge to strengthen the mutual relations of ethical and social responsibility of all media communication actors, including the public, who should enter into them and try to synergistically contribute to them.

Bibliography

- Beckett, Ch. (2020a, June 12). *The future of journalism post-COVID19: Technology, diversity and collaboration*. <https://blogs.lse.ac.uk/polis/2020/06/12/the-future-of-journalism-post-covid19-technology-diversity-and-collaboration/>
- Beckett, Ch. (2023b, June 26). *How newsrooms around the world use AI: A journalism AI 2023 global survey*. <https://blogs.lse.ac.uk/polis/2023/06/26/how-newsrooms-around-the-world-use-ai-a-journalism-ai-2023-global-survey/>
- Bieliková, M., Kompan, M., Labaj, M., Lacko, P., Lenartová, Z., Móro R., Rozinajová, V., & Ševcech, J. (2019). *Analýza a návrh možností výskumu, vývoja a aplikácie umelej inteligencie na Slovensku. Prezentácia diel Slovenskej technickej univerzity v*

field of research and development of ethics for machines, as opposed to developing ethics for humans who use machines. Some of the issues in the emerging fields of agent ethics, bot ethics, roboethics, or what is called machine ethics are overlapped by Tavani under the heading of cyberethics, which explores some aspects of these emerging fields (or subfields of cyberethics). More on that Tavani (2013).

- Bratislava a Úradu podpredsedu vlády SR pre investície a informatizáciu [Analysis and proposal of possibilities of research, development and application of artificial intelligence in Slovakia. Presentation of works of the Slovak University of Technology in Bratislava and the Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatization]. Slovenská technická univerzita v Bratislave, Úrad podpredsedu vlády SR pre investície a informatizáciu. <https://mirri.gov.sk/wp-content/uploads/2020/03/Brozura-Umela-Inteligencia-A4-LRS.pdf>
- Dhiman, B. (2023). Does artificial intelligence help journalists: A boon or bane? [Reprint]. In *TechRxiv*. <https://doi.org/10.36227/techrxiv.22649620>
- European Commission. (2019, April 8). *Ethics guidelines for trustworthy AI*. <https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai>
- García-Avilés, J. A. (2014). Online newsrooms as communities of practice: Exploring digital journalists' applied ethics. *Journal of Mass Media Ethics: Exploring Questions of Media Morality*, 29(4), 258-272. <https://doi.org/10.1080/08900523.2014.946600>
- Gondwe, G. (2023). Exploring the multifaceted nature of generative ai in journalism studies: A typology of scholarly definitions. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4465446>
- Chong, C. (2020, April 22). *Ethical challenges of AI in Journalism*. <https://mediaprophetsofprague.wordpress.com/2020/04/22/ethical-challenges-of-ai-in-journalism/>
- Jones, B., & Luger, E. (2021, September 17). *AI and journalism – intelligible cloud and edge AI (ICE-AI)*. PETRAS National Centre of Excellence. <https://petras-iot.org/wp-content/uploads/2021/09/AI-Journalism-Briefing-Notes-ICE-AI-FINAL.pdf>
- Láb, F. (2019). Umělá inteligence v žurnalistice [Artificial intelligence in journalism]. In S. Štefaniková (Ed.), *Mediální vzdělání a žurnalistika umělé inteligence [Media education and artificial intelligence journalism]* (pp. 11-14). The Center for Artificial Intelligence Journalism, Department of Journalism of the Institute of Communication Studies and Journalism. https://aijournalism.fsv.cuni.cz/wp-content/uploads/2020/05/umela-inteligence-brozura_sazba-2-1.pdf
- Moravec, V. (2019). Etické výzvy žurnalistiky umělé inteligence [Ethical challenges of artificial intelligence journalism]. In S. Štefaniková (Ed.), *Mediální vzdělání a žurnalistika umělé inteligence [Media education and artificial intelligence journalism]* (pp. 14-15). The Center for Artificial Intelligence Journalism, Department of Journalism of the Institute of Communication Studies and Journalism. https://aijournalism.fsv.cuni.cz/wp-content/uploads/2020/05/umela-inteligence-brozura_sazba-2-1.pdf
- Noain-Sánchez, A. (2022). Addressing the impact of artificial intelligence on journalism: The perception of experts, journalists and academics. *Communication & Society*, 35(3), 105-121. <https://doi.org/10.15581/003.35.3.105-121>
- Opdahl, L. A, Tessem, B., Dang-Nguyen, D-T., Motta, E., Setty, V., Throndsen, E., Tverberg, A., & Trattner, Ch. (2023). Trustworthy journalism through. *AI Data & Knowledge Engineering*, 146, 102182. <https://doi.org/10.1016/j.datak.2023.102182>
- Ouchchy, L., Coin, A., & Dubljević, V. (2020). AI in the headlines: The portrayal of the ethical issues of artificial intelligence in the media. *AI & Society*, 35, 927-936. <https://doi.org/10.1007/s00146-020-00965-5>
- Stahl, B. C., Schroeder, D., & Rodrigues, R. (2023). The ethics of artificial intelligence: An introduction. In B. C. Stahl, D. Schroeder, & R. Rodrigues (Eds.), *Ethics of artificial intelligence. Springer briefs in research and innovation governance* (pp. 1-7). Springer. https://doi.org/10.1007/978-3-031-17040-9_1

- Suárez Villegas, J. C. (2015). Aspectos éticos y deontológicos de la actividad periodística online. Su percepción por los profesionales [Ethical and deontological aspects of online journalism. Their perception by journalists]. *Revista Latina de Comunicación Social*, (70), 91-109. <https://doi.org/10.4185/RLCS-2015-1036>
- Šantavý, P. (2023). *Umelá inteli!gencia. Dobrý sluha a zlý pán?* [Artificial intelli!gence. Good servant and bad master?]. Comenius University Bratislava.
- Tavani, H. T. (2013). *Ethics and technology. Controversies, questions, and strategies for ethical computing* (4th ed.). Rivier University. https://www.chinhghia.com/Ethics_and_%20Technology.pdf
- Trattner, C., Jannach, D., Motta, E., Costera Meijer, I., Diakopoulos, N., Elahi, M., Opdahl, A. L., Tessem, B., Borch, N., Fjeld, M., Øvrelid, L., De Smedt, K., & Moe, H. (2022). Responsible media technology and AI: Challenges and research directions. *AI and Ethics*, 2(4), 585-594. <https://doi.org/10.1007/s43681-021-00126-4>
- Trotta, A., Ziosi, M., & Lomonaco, V. (2023). The future of ethics in AI: Challenges and opportunities. *AI & Society*, 38(2), 439-441. <https://doi.org/10.1007/s00146-023-01644-x>
- Višňovský, J., & Kubíková, K. (2019). Znamená „robožurnalistika“ koniec žurnalistickej profesie? [Does “robo-journalism” mean the end of the journalism profession?]. In A. Sámelová, M. Stanková, & J. Hacek (Eds.), *Fenomén 2019. Súčasná profesionálna žurnalistika a jej reflexie* [Phenomenon 2019. Contemporary professional journalism and its reflections] (pp. 15-22). Comenius University Bratislava.
- Ward, A. J. S. (2009). Journalism ethics. In K. Wahl-Jorgensen, & T. Hanitzsch (Eds.), *The handbook of journalism studies* (pp. 295-309). Routledge.

Contact Data:

PhDr. Sabína Gáliková Tolnaiová, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 sabina.galikova.tolnaiova@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0001-5846-5159>

OPINION BALANCE OF NEWS IN THE TIME OF MISTRUST IN MEDIA AND DEMOCRATIC INSTITUTIONS

Luboš Greguš – Simona Škvareninová

DOI: <https://doi.org/10.34135/mmidentity-2023-13>

Abstract:

The paper deals with the opinion balance of news in television broadcasting. In the context of ever-increasing mistrust in traditional media and democratic systems and the polarization of society, we try to point out the current state of media production in this specific area, considering its possible consequences for the perception of the media by the recipients. They are increasingly turning to alternative or even disinformation media to obtain information other than mainstream. In our research part, we are looking for a current state of the balance of opinions, which should be part of well-functioning and objective reporting and should inspire people's trust in television broadcasting. The article offers the results of research carried out on a sample of 374 television contents broadcast by the public broadcaster RTVS and the authorized broadcaster TV Markíza in the period from February 12th, 2023, to March 25th, 2023. From the data, it is possible to conclude that there are deficiencies in television news from the point of view of maintaining impartiality in broadcasting.

Key words: Impartiality. News. Opinion Balance. Television. Trust in Media.

1 Introduction and Theoretical Background

Hybrid threats and multiplying disinformation – this is the current trend of social life in the European, as well as the transatlantic environment. After two years of the global pandemic, the war in Ukraine came, occupying almost the entire international community and threatening the stability of the democracy of its closest neighbours, including the Slovak Republic. Security threats associated with the attempt to legitimize individual military rivals and the related war propaganda also through the online environment, in combination with growing distrust in the media and generally state and non-state institutions in the post-covid society, create suitable ground for re-evaluating or even devaluation of the democratic establishment or the rule of law in citizens' minds. The more informed citizens are, the better they can make decisions. However, it is important which resources they use, which they trust and through which optics they perceive the surrounding world and their position in it.

In its regular analysis of the media environment, the Reuters Institute of the Study of Journalism presented an overview of the use of sources for obtaining information in Slovakia for the years 2017 to 2023. It is clear from it that the use of any type of media to inform about current events has a decreasing tendency (Newman et al., 2023), which is probably also caused by the generally declining trust in traditional or mainstream media in several countries of the world (Hajdu et al., 2023; Curini et al., 2023; van der Linden et al., 2020, etc.). So, it is not a specific phenomenon typical only for our territory.

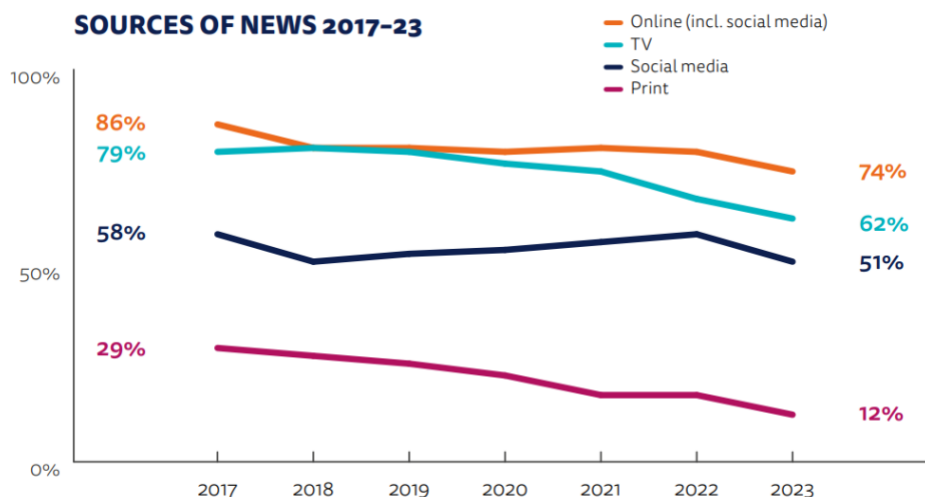


Figure 1: Use of news sources in Slovakia between 2017 – 2023
 Source: Newman et al. (2023)

However, the problem of our country and society is a greater tendency to trust misinformation (Hajdu et al., 2023) or search for conspiracy theories to get simple answers to complicated questions (Veda na dosah, 2021). And beside to all of this, there is the declining trust in national institutions across the entire European Union. One of the reasons (in addition to the COVID-19 pandemic, in connection with which Slovakia recorded the biggest drop in trust in all government, public and scientific institutions (Ako sa máte, Slovensko?, n.d.), and the war in Ukraine) are also social networks that help spread fake news and disinformation (EURACTIV Bulgaria, 2022). The common denominator that can be seen above is disinformation. However, this is not a new phenomenon. But the online environment allowed them to spread faster, more convincingly and especially to reach huge numbers of people. That is why traditional mainstream media should pay attention to their production and try to get closer to the recipients - to repair the broken relationship and rid them of doubts about their tendency.

If we look at the use of the media for obtaining news, according to the Eurobarometer (2022), in 2022 the citizens of the Slovak Republic watched the most television broadcasts (up to 73% of respondents marked this option). They also received radio news (44%), read online news platforms (37%) or platforms and blogs on social networks (25%). The press (13%) was also among the five most used sources. In terms of trust, the public television and radio broadcaster Radio and Television of Slovakia (RTVS) was ranked best, trusted by up to 41% of respondents in 2022. This was followed by the press (21%), private TV and radio stations (20%) and people, groups or friends from social networks and other communication platforms (20%). Thus, we can see the strong position of interpersonal relations for obtaining information about social events, at a level comparable to the regular media. Research by the Reuters Institute of the Study of Journalism (Newman et al., 2023) also shows similar data on trust in RTVS, where RTVS, together with commercial television TA3, were the only media outlets to exceed the 50 percent credibility threshold among individual media brands. In the past, we have already covered TA3 television in the context of work with information and media reality in separate publications (Greguš & Višňovský, 2020; Greguš et al., 2022).

Brand	Trust	Neither	Don't Trust
Aktuality	47%	25%	28%
Denník N	37%	26%	37%
Hospodárske noviny	48%	28%	24%
Nový Čas	30%	26%	44%
Plus*	34%	28%	38%
Pravda	42%	29%	28%
Rádio Expres	49%	27%	24%
Refresher	31%	34%	36%
Regional or local newspaper	48%	31%	22%
RTVS (public broadcaster)	54%	20%	25%
SME	41%	27%	32%
TA3	56%	22%	23%
Topky	30%	28%	42%
TV JOJ	46%	24%	30%
TV Markiza	42%	21%	36%

Q6_brand trust. How trustworthy would you say news from the following brands is? Please use the scale below, where 0 is 'not at all trustworthy' and 10 is 'completely trustworthy'. Details: 6–10 coded as 'Trust', 5 coded as 'Neither', 0–4 coded as 'Don't trust'. Those that haven't heard of each brand were excluded. Whether respondents consider a brand trustworthy is their subjective judgement, and the scores are aggregates of public opinion, not an objective assessment of underlying trustworthiness.

* Last year we asked about Plus 7 dní not the wider Plus brand

Figure 2: Trust in Slovak media brands in 2023
Source: Newman et al. (2023)

In Slovakia, the production of television and radio broadcasters is governed by the Act on Media Services, which came into effect last year and thus replaced its older version from 2000. According to it, any broadcaster that does not have a self-regulatory mechanism registered in accordance with this act is obliged to ensure plurality of opinion in within the scope of broadcasting, while it is specifically stated that the broadcaster must also ensure the objectivity and impartiality of news and current affairs programs (*Zákon č. 264/2022 Z. z. o mediálnych službách [Act No. 264/2022 Coll. on media services]*, 2022). In addition, we find such a requirement for news and specifically for television news in several publications of media and communication studies (for example Jiráček & Kopplová, 2003; Urban et al., 2011; Osvaldová et al., 2020, etc.). Offering a comprehensive view of the issue without tendentious information can be considered an advantage of electronic media bound by law. The online environment is subject to such a requirement only from the point of view of a social responsibility, but it is not legally enforceable. On the other hand, it is also correct to mention that people have a natural tendency to self-confirmation, which can lead to a tendentious search for sources of information that confirm our preconceived opinion or attitude (see Strachanová, 2019). Therefore, in this respect, disinformation or conspiracy media can be interesting for the recipients, because they are affirmative of their worldview and there is no need to think about the phenomenon from other points of view. On the contrary, to maintain professionalism, traditional media should work with information in the overall context and provide the opportunity to think about things more comprehensively or point to a phenomenon from several points of view – for example, opinions.

2 Methodology

The main goal of our contribution was to identify the level of opinion balance of television news in the media environment of the Slovak Republic. To achieve the stated goal, we chose quantitative content analysis, which belongs to the traditional research techniques

focused on the obvious characteristics of media contents (for example Greguš & Kačincová Predmerská, 2020; Greguš & Višňovský, 2020; Sedláková, 2014; Trampota & Vojtěchovská, 2010 etc.). To implement the quantitative content analysis, we used a coding book and a recording sheet specifically created for our research based on the research questions we stated.

The research material consisted of the broadcasts of two Slovak television broadcasters – namely, the private station TV Markíza and the public station RTVS. The choice of broadcasters was conditioned by the peplemeter monitoring of viewership in Slovakia for the year 2022, which was carried out by PMT/Kantar Media (Maxa, 2022), in which TV Markíza was the most watched television station. RTVS is the only public broadcaster in the territory of the Slovak Republic, and we chose it to point out the differences in private and public broadcastings. At the same time, it became the most reliable media of obtaining information for 2022 and 2023, as we point out above (see Eurobarometer, 2022; Newman et al., 2023). As part of the analysis, we focused on the main news programs as comparable news units both in terms of content and scope, specifically the programs *Televízne noviny* and *Správy RTVS*, both broadcast in prime time from 19:00.

The collection of research material lasted from February 12th, 2023 to March 25th, 2023, while we chose the method of the constructed week for the selection of research material, thus we tried to achieve the maximum representativeness of the obtained data considering that within this technique exactly five working days are involved in the research and two weekend days. In this way, it is possible to monitor the production of television news even in the context of media routines (the composition of the show and the media agenda are different during working days and during weekends) and we also tried to prevent interference of ongoing events or phenomena into the news structure for a longer time, as is also stated in the literature (Sedláková, 2014). The individual days of the analysis were based on the determination of the first week of the analysis – from February 6th, 2023 to February 12th, 2023, and the subsequent random selection of the first day of the analysis. Using a random number generator, Sunday February 12th, 2023 was determined as the first day of the analysis. Following a standardized procedure within the constructed week technique, we included in the research material news programs broadcast on – February 12th, 2023 (Sunday), February 13th, 2023 (Monday), February 21st, 2023 (Tuesday), March 01st, 2023 (Wednesday), March 09th, 2023 (Thursday), March 17th, 2023 (Friday) and March 25th, 2023 (Saturday).

Research Questions

RQ1: How do television broadcasters maintain opinion balance in their production?

RQ2: Which broadcaster provides more space for the persons concerned, or uses more statements in its news content?

Operationalisation of Term “Opinion Balance”

To achieve a correct interpretation of the results, it is necessary to clarify the concept of opinion balance. In the context of our research, it is the expression of opinion groups that represent a certain point of view. Mostly, these opinions are in binary opposition – for and against. In some cases, however, it is not possible to talk explicitly about an opinion for something and an opinion against something, and that is why in the article we rather work with the division into opinion directions – first, second and neutral. Neutral refers to unbiased statements (mostly by the editor who created the post) without evaluative elements of the presented phenomenon and neutral statements by respondents who do not lean towards either the first or the second point of view and do not create another, alternative point of view. Each opinion should have a sufficiently large, or comparable space in broadcasting. We were specifically interested in whether the position of both viewpoints was expressed in the news

content to achieve balance, and if so, whether the statements were explicit through a specific representative of the given direction or whether a specific opinion was expressed through an editor’s comment – e.g. “As the Ministry of Health claims, the reform will help people to have easier access to health care”.

3 Results

Within the quantitative analysis we examined a total of 374 news contents (TV Markíza – n = 188; RTVS – n = 186). We offer an overview of the number of contributions on individual days in Table 1.

Table 1: Number of broadcasted news by days of analysis

Date	TV Markíza	RTVS
12/02/2023	27	26
13/02/2023	25	28
21/02/2023	28	24
01/03/2023	26	28
09/03/2023	27	22
17/03/2023	27	29
25/03/2023	28	29

Source: own processing, 2023

From a thematic point of view, television broadcasters focused dominantly on publishing hard news, and at a comparable level. This type of news, due to their nature, should contain a balance of opinion, as it informs about socially important phenomena from political, economic or security public life. On the contrary, in the case of soft news, which has a rather relaxing character, or lower urgency of publication, a neutral character without any tendentious processing is natural. In terms of hard news, news focused on the domestic environment predominated in both broadcasters (TV Markíza – n_d = 91 / n_f = 50; RTVS – n_d = 102 / n_f = 43), as well as in soft news (TV Markíza – n_d = 33 / n_f = 14; RTVS – n_d = 37 / n_f = 4).¹

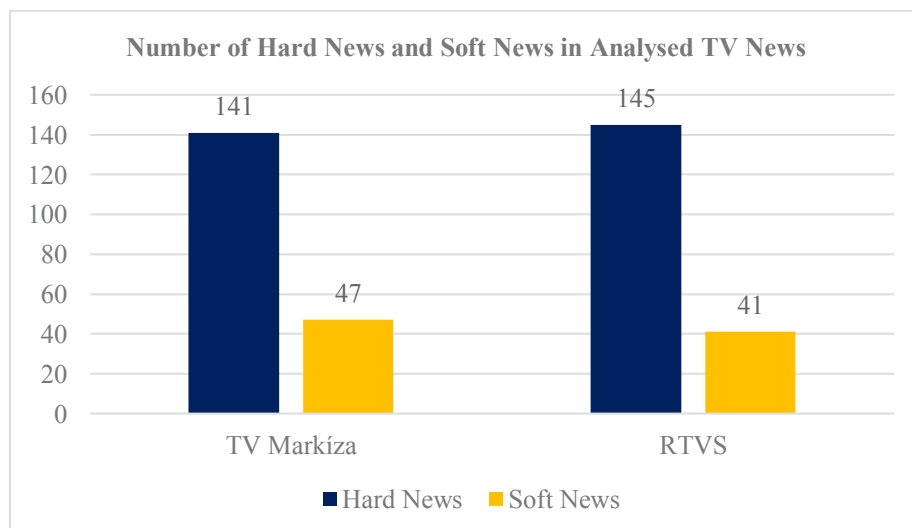


Figure 3: Number of hard news and soft news in analysed TV news

Source: own processing, 2023

¹ Authors’ note: Abbreviation n_d means “number of domestic news”, abbreviation n_f means “number of foreign news”.

If we look at the opinion balance of news content in the monitored period, we can conclude that a significant part of them is tendentious, i.e., adhering to a certain direction of opinion. More than a third of all contributions at the commercial broadcaster TV Markíza (n = 66) and almost half of all contributions at the public broadcaster RTVS (n = 86) within the construction of the report and when working with information had a structure directed towards one direction of opinion without balancing it. But it does not immediately mean that it was a deliberate influence of broadcaster on the viewer. In some cases, there was agreement between respondents or politicians, and they presented a mutual line of opinion to the recipients, which was complemented by the editor's neutral commentary, and the opposite opinion would be misleading, or false, i.e., the news could not be balanced. Almost a third of the news from both the commercial (n = 54) and the public broadcaster (n = 59) was opinion-balanced, and the remaining news (TV Markíza – n = 68; RTVS – n = 41) contained only a neutral attitude and processing. The results of the research thus pointed out that the authorized, commercial broadcaster published more opinion-balanced contributions than the public broadcaster in the monitored period. In the contributions broadcast in RTVS, the balance of opinion was met in 53.76% of cases (n = 100 reports), and in TV Markíza it was 11% more, that is in 64.89% of the cases (n = 122 reports). We also included neutral news among opinion-balanced news because a neutral opinion can be considered opinion-balanced.

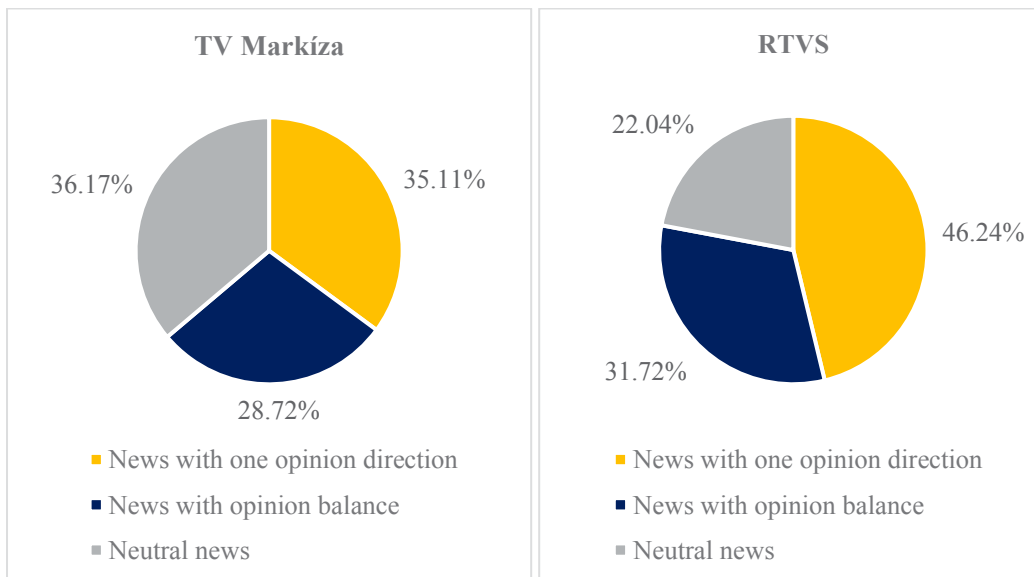


Figure 4: Representation of news according to opinion balance
Source: own processing, 2023

In total, 177 respondents were in TV Markíza’s news reports without opinion balance, which on average amounts to 2.68 respondents per news content. A total of 203 people were presented in this type of report in RTVS, an average of 2.36 respondents per news content. At both broadcasters, we also noticed a tendentious statement by the editors themselves, which, based on the definitions of news reporting, should not occur in the broadcast - at the commercial broadcaster, there was such a misconduct in a total of seven reports in the three analysed days (specifically: 12/02/2023 – 3 reports; 13/02/2023 – 2 reports; 21/02/2023 – 2 reports), and for a public broadcaster within one report, the last analysed day March 25th, 2023.

Focusing on the news contents in which the opinion balance was observed, balanced ratios between one and the other direction of opinion were recorded for both broadcasters, if we look at the average value of the number of respondents of a direction. The private broadcaster presented, on average, the statements of 2.21 respondents of the first opinion

spectrum to 2.13 respondents of the second opinion spectrum per news content. At the public broadcaster, this ratio was 1.81:1.68. We can see that, quantitatively, the broadcasters give comparable space to the participating opinion parties in the mentioned contents, while the authorized, private broadcaster works with a larger number of respondents per news content. The occurrence of people on individual days for both opinion directions is shown in graphs 5 and 6.

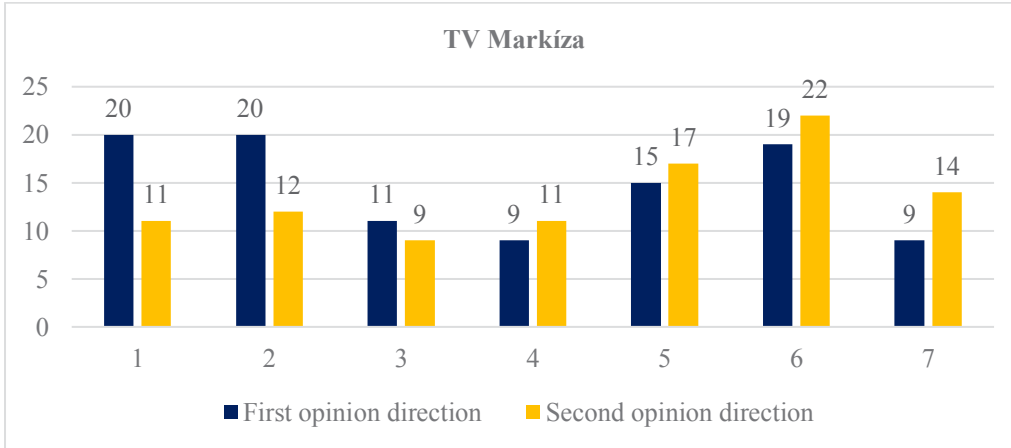


Figure 5: Number of respondents of both opinion directions in opinion balanced news by days of analysis – TV Markíza

Source: own processing, 2023

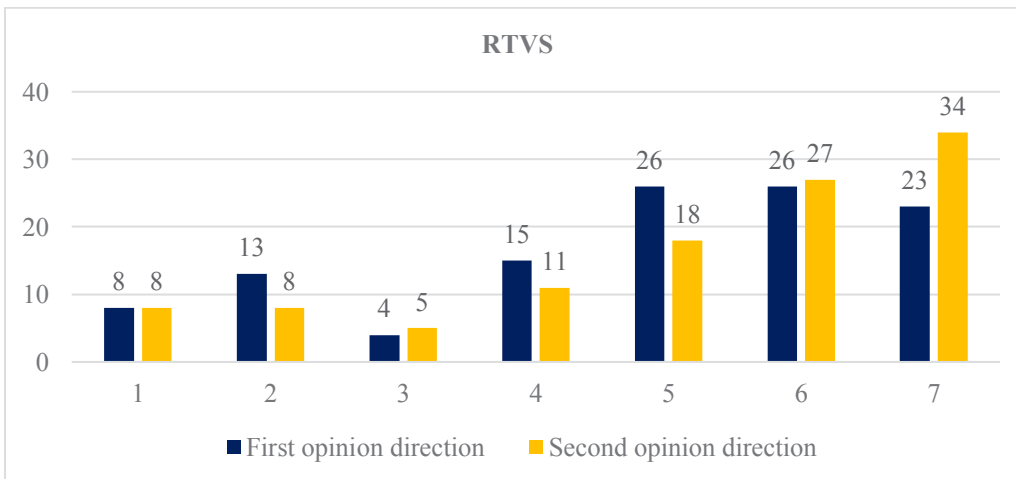


Figure 6: Number of respondents of both opinion directions in opinion balanced news by days of analysis – RTVS

Source: own processing, 2023

4 Discussion & Conclusions

News content has high relevance in the lives of recipients. They also judge the quality of the medium itself based on the quality of news. It is an understandable and logical way of reasoning on their part. In the research, we examined news production of two television broadcasters in Slovakia – the public broadcaster RTVS and the most watched authorized, private broadcaster TV Markíza. The research material consisted of 374 television contributions that were broadcast in the period from February 12th, 2023 to March 25th, 2023. Both broadcasters predominantly featured news related to domestic events in the form of mainly hard news, where opinion balance is an essential component of production. It is this principle that is sometimes violated, not only in television news, by the media publishing

more news about certain socio-political phenomena, or by reporting on some political opinions more than others. In such cases, there is a lack of balance of opinion. Therefore, as part of our research, we divided the examined news contents into groups according to the opinion spectrum they presented. Either they presented the phenomenon in a neutral way, or gave space to both opinion groups, or remained only in stating one opinion direction without opposition. Firstly, we examine the occurrence of neutral expressions and statements in news contents (TV Markíza – in 36.17% of all news; RTVS – in 22.04% of all news). This method of processing was represented in a higher number of contributions by the purely neutral opinion of the editors and their professional processing of information. However, it was interesting to find out that the editor was not always just neutral, which we did not count on. This happened in a total of seven reports by a commercial broadcaster and in one report by a public broadcaster. We consider this a serious mistake of media production, and just one such case is regrettable, not eight in total. The fact that practice is different from theory is nothing new, as we have addressed the shortcomings, for example, in the labelling of audiovisual materials in television broadcasts in our previous works (Greguš et al., 2022), but still disturbing.

On the other hand, our research pointed to the fact that the authorized, private broadcaster generally publishes more opinion-balanced news than the public broadcaster. The representation of single-opinion messages at the commercial broadcaster reached a value of 35.11%, while at the public broadcaster it was up to 46.24%, which we consider a significant difference. We consider it quite problematic. Although, as we mentioned above, not all news can also have an opinion balance – e.g., if both coalition and opposition politicians agree regarding specific measures or phenomena, and a different opinion would be unprofessional, unscientific, misleading or disinformation. However, it is precisely the ever-increasing distrust in traditional media and the propensity of Slovaks to believe misinformation that such content, the representation of which is not negligible in broadcasts based on our research, only confirms the citizens in the tendency of the mainstream media, and it makes them all the righter that they are pressured by journalists to think something they don't believe.

In addition to the opinion balance itself, we also determined the number of persons, i.e., specific people, who present a certain direction of opinion. Here, it was clearly demonstrated that in opinion-balanced news, broadcasters try to provide a quantitatively equal number of people of one type of opinion in opposition to the other opinion, thereby ensuring the required plurality of opinions. It is also important to mention that neutral messages can also be counted among opinion-balanced ones, since they do not support any point of view to which the broadcaster would assign sympathy in the minds of the recipients, or antipathy.

The mentioned shortcomings can build or strengthen the feeling of tendency of individual TV broadcasters in the eyes of the recipients. Given that television is the medium whose production most closely resembles our empirical experience, as there are needed both sight and hearing, it is important to avoid errors and shortcomings in reporting. News production is a showcase that decides whether to trust a specific medium and a specific brand. It is neither a broadcast series nor a prime-time movie or an entertainment show, but news that builds a bridge between the audience and the media.

Acknowledgement: The study is the result of CEDMO project, which is co-funded by European Commission under the call CEF-TC-2020-2 (European Digital Media Observatory). Reference: 2020-EU-IA-0267.

Bibliography

- Ako sa máte, Slovensko? (n.d.). *Dôvera v inštitúcie* [Trust in institutions]. <https://www.akosamateslovensko.sk/tema/dovera-v-institucie/>
- Curini, L., Garusi, D., & Splendore, S. (2023). "It's the ideology, stupid!": Trust in the press, ideological proximity between citizens and journalists and political parallelism. A comparative approach in 17 countries. *International Communication Gazette*, 0(0). <https://doi.org/10.1177/17480485231165596>
- EURACTIV Bulgaria (2022). *Social media fuels distrust in institutions across the EU, report finds*. <https://www.euractiv.com/section/media/news/social-media-fuels-distrust-in-institutions-across-the-eu-report-finds/>
- Eurobarometer (2022). *Media & news survey 2022*. <https://europa.eu/eurobarometer/surveys/detail/2832>
- Greguš, L., & Kačincová Predmerská, A. (2020). The foreign news and media image of the European Union in current television news production. *Communication Today*, 11(2), 84-102.
- Greguš, L., & Višňovský, J. (2020). The position and influence of agency news on foreign news in contemporary Slovak television production. *Media Education (Mediaobrazovanie)*, 60(4), 609-626. <https://doi.org/10.13187/me.2020.4.609>
- Greguš, L., Kačincová Predmerská, A., & Radošinská, J. (2022). Misleading through images: Television news as simulacrum. *Studies in Media and Communication*, 10(2), 65-80.
- Hajdu, D., Klingová, K., Szicherle, P., Kazaz, J., & Musilová, V. (2023). *Globsec trends 2023: United we (still) stand*. Globsec.
- Jirák, J., & Kopplová, B. (2003). *Médiá a spoločnosť* [Media and society]. Portál.
- Maxa, F. (2022, August 26). *Sledovanosť staníc: Skupiny Markíza a JOJ majú spolu 43 percent. Vieme, ako sa darí českým a ďalším TV* [Viewership of the stations: Markíza and JOJ groups together have 43 percent. We know how Czech and other TV channels are doing]. <https://zive.aktuality.sk/clanok/YGtTCX7/sledovanost-stanic-skupiny-markiza-a-joj-maju-spolu-43-percent-vieme-ako-sa-dari-ceskym-a-dalsim-tv/>
- Newman, N., Fletcher, R., Eddy, K., Robertson, C. T., & Nielsen, R. K. (2023). *Reuters institute digital news report 2023*. Reuters Institute for the Study of Journalism. [https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2023-06/Digital News Report 2023.pdf](https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2023-06/Digital%20News%20Report%202023.pdf)
- Osvaldová, B. (Ed.), Jirku, J., Lábová, A., Lokšík, M., Maršík, J., & Trunečková, L. (2020). *Zpravodajství v médiích* [News in media]. Karolinum.
- Sedláková, R. (2014). *Výskum médií* [Research of media]. Grada.
- Strachanová, D. (2019). *Sklon k sebatvrdzovaniu alebo moja pravda je lepšia ako tvoja* [Tendency to self-affirmation or my truth is better than yours]. In M. Jurkovič, V. Čavojevová, & I. Brezina (Eds.), *Prečo ľudia veria nezmyslom* [Why people believe nonsense] (pp. 50-64). Premedia.
- Trampota, T., & Vojtěchovská, M. (2010). *Metody výskumu médií* [Methods of media research]. Portál.
- Urban, L., Dubský, J., & Murdza, K. (2011). *Masová komunikácia a verejné mínění* [Mass communication and public opinion]. Grada.
- Van der Linden, S., Panagopoulos, C., & Roozenbeek, J. (2020). You are fake news: Political bias in perceptions of fake news. *Media, Culture & Society*, 42(3), 460-470. <https://doi.org/10.1177/0163443720906992>

Veda na dosah. (2021, October 15). Slováci veria hoaxom viac ako iné národy. Prečo je to tak? [Slovaks believe in hoaxes more than other nations. Why is this so?]. <https://vedanadosah.cvtisr.sk/ludia/sociologia/slovaci-veria-hoaxom-viac-ako-ine-narody-preco-je-to-tak/>

Zákon č. 264/2022 Z. z. o mediálnych službách [Act No. 264/2022 Coll. on media services] (2022). <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2022/264/20220801.html>

Contact Data:

Mgr. Ľuboš Greguš, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
lubos.gregus@ucm.sk
ORCID-ID: <https://orcid.org/0000-0003-2993-1805>

Bc. Simona Škvareninová
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
skvareninova1@ucm.sk

THE EFFECT OF VISUAL SMOG ON THE BUYING BEHAVIOUR OF THE MILLENNIAL GENERATION

David Havíř – Lucie Kaňovská

DOI: <https://doi.org/10.34135/mmidentity-2023-14>

Abstract:

Visual smog is the pollution of public space by aggressive advertising that is not adapted to the character of the environment. In a broader context, it is anything that negatively affects a person's visual experience in a public space. At the same time, the visual smog created by a particular company may contribute to a reduced intention to buy its products, as these companies may be perceived as too aggressive and not respecting the character of urban areas. The aim of the paper was to determine the effect of visual smog on the buying behavior of the millennial generation. 210 respondents took part in the survey. The results show that almost three quarters of respondents report that they do not shop according to outdoor advertising. Almost a quarter of respondents report that they do not purchase from companies that use outdoor advertising. Just under 30% of respondents would stop buying from a company that contributes to outdoor advertising overload, showing so far relatively little impact of visual smog on brand perception in terms of reduced purchase tendencies. Visual smog is a trending topic in relation to outdoor spaces in cities, but in terms of visual experience, it is not just about the physical environment. We can also see advertising overload in the online space. The rise of augmented reality, virtual worlds and the metaverse is creating new spaces that can be used for advertising purposes. In addition, however, ad space providers will be able to obtain detailed data on the perception and impact of ads at the individual level, giving them an even greater advantage over those who believe they are not influenced by advertising.

Key words: Brand Awareness. Buying Behaviour. Czech Republic. Millennial Generation. Outdoor Advertising. Purchase Intentions. Visual Smog/Pollution.

1 Introduction

Due to its complexity and the number of its users, public space is susceptible to various types of pollution (Shrivastava & Choudhary, 2016). Most types of public space pollution (for example, light and noise pollution from traffic or industry) can be qualified and measured. At the same time, there are studies that prove their negative social effects. With the growing interest in eliminating the pollutions and increasing the quality of public space, there is also growing interest in improving their more subjective, but no less important, aspects. Visual quality is one of them. How is it possible to evaluate the visual quality of public space? Unlike light and noise pollution, visual quality cannot be easily measured and is subject to less regulation (Shrivastava & Choudhary, 2016).

The term *visual pollution* first appeared in the early 20th century, when it was introduced to draw attention to the secondary impacts of man-made influences. In the late 1960s, USA declared visual pollution as one of the most significant environmental problems of the era (Nawaz and Wakil, 2022). The phenomenon of *visual smog* alludes to the unclear definition of the term. The term visual pollution is most often used, but it is a relatively broad term that leaves the phenomenon to personal interpretation. According to Nami, Jahanbakhsh and Fathalipour:

Unbridled and uncoordinated diversity of color, form, light and materials and the accumulation of heterogeneous visual elements, ugly, unattractive and man-made space and urban landscape, and is an aesthetic issue and its effects one's ability to enjoy the sights reduced or view it disrupts. (2016, p. 22)

Visual smog is perceived as something that (de)forms people's perception on a daily basis and has a negative effect on the ability to navigate in the city and on the profitable activity of shops (Nováková, 2019). As a combination of the effect of disorder and an excess of graphic objects in the landscape, visual smog has been identified, which includes outdoor advertising as well as urban furniture and street lighting (Chmielewski et al., 2016). Also, Voronych (2013) lists among the causes of visual pollution not only outdoor advertising media (billboards, posters, tarpaulins), but also visual barriers (fences, brownfields), an excess of means of transport or intolerable tourism. The concept of visual smog is usually associated primarily with unsightly advertising signs. According to Portella (2016) the author of several studies and books devoted to visual smog, advertising carriers in public space are characterized by two main problems: the conflict between the design of the advertisement and the aesthetic composition of the surroundings and the conflict of visual oversaturation, caused by an excessive amount of physical and aesthetic (size, colors, materials) different ads.

On the other side, in the business context, customer experience management is one of the key marketing topics of recent years (Becker & Jaakkola, 2020; De Keyser et al., 2020). Customer experience is broadly defined as unintentional, spontaneous responses and reactions to specific stimuli (Becker & Jaakkola, 2020). These stimuli can then be anything, including visual stimuli, that affects the customers during their customer journey (Lemon & Verhoef, 2016). Whether it is elements of marketing communication, supporting technology, or employees (Havíř, 2019). While some elements are deliberately designed by companies to elicit desired customer responses, some may be heavily under the control of the company's suppliers, while others may be completely outside the company's control (De Keyser et al., 2020; Norton & Pine, 2013; Pennington, 2016).

One of the strategies of companies considered leaders in customer experience management, as can also be seen in their success in the marketplace, is taking control of the individual stimuli that customers actively or passively interact with, to have a greater ability to influence the customer's perceived experience and to gain a competitive advantage through the process of integration. Then, when a third influences the customer-perceived experience, they use strict guidelines to avoid disrupting their original design of the customer experience. This approach can be found, for example, at platform owners such as Apple (App Store) or Airbnb. The reason why so much emphasis is placed on customer experience management by these companies is that the perceived quality of the customer experience then influences customer satisfaction and word-of-mouth (Brakus et al., 2009; Maklan & Klaus, 2011).

However, experience is not only a marketing topic, but also a topic of sociology, anthropology, psychology, philosophy, and other disciplines, and so by taking away the marketing label "customer" it is possible to find a human experience (Woodward & Holbrook, 2013). As Kahneman (1999) states experience is a constant stream of feelings, thoughts, and actions, in the context of cities, we can thus speak of the citizen experience and citizen satisfaction.

1.1 Regulation of Outdoor Advertising and Activities to Reduce It

Many world capitals, but also smaller cities, are dealing with the issue of outdoor advertising and the need for more effective regulation and stricter restrictions. Over 1,500 cities around the world have already introduced various forms of regulation of the form of advertisements (Fullerová, n.d.). Below are some examples of cities that have actively sought to address the visual smog situation. A well-known example of a very radical regulation of visual smog is the largest city in South America, São Paulo, which in 2007 took the controversial step of banning outdoor advertising almost without exception based on the *Clean City Law*. The act also regulated the use of advertisements and posters on private property. Over 15,000 billboards and another 300,000 outdoor advertising spaces disappeared from the city

within a short time (Mahdawi, 2015). The law was applied not only thanks to the initiative of the city management, but also due to the demands of the residents. Up to 70% of them agreed with the implementation of the law, many people also admitted that they see the city in a completely new light, or even do not recognize it (New York City Global Partners, 2021). The Clean City Law forced business owners to confront unattractive architecture and rethink their visual presence in public space. The law revealed not only the architecture of the city, but also, for example, squatter areas, previously hidden in buildings covered with large-format advertising (Kohlstedt, 2016). The Clean City Law has attracted attention around the world and inspired many other cities. Several states in the US had adopted similar measures decades earlier, than in São Paulo, including Hawaii in 1920, Vermont in 1968, Maine in early 1980s, and Alaska in 1998 (Mahdawi, 2015).

The Australian capital, Canberra, banned the placement of billboards as early as 1937. There are exceptions – for example, at public transport stops, passenger cars, or in private areas. In Paris, rules were introduced in 2011 to reduce advertising on the city's streets by a third. In 2014, the French city of Grenoble banned commercial advertising in public spaces on city streets to increase opportunities for non-commercial projects. Several hundred advertising signs were partially replaced by tree planting (Mahdawi, 2015). Cities in India, including Delhi, Mumbai and Chennai, all have restrictions on outdoor advertising. In 2015, Tehran replaced all advertising with art for ten days (Rushton, 2020). The Polish city of Gdańsk started to deal with the issue relatively recently. As part of the new public space strategy, the city has been divided into several sections for which special rules apply. The regulation is comprehensive and concerns outdoor advertising, labeling of establishments and urban furniture (Fullerová, n.d.).

The London anti-advertising movement Brandalism (formed by combining the words brand and vandalism) also confronts the excess of advertising signs. The movement's first major project commented on the impact of advertising on society during the London 2012 Summer Olympics, when 28 artists covered 36 large-format billboards with satirical art with an anti-advertising context. Two years later, 40 activists replaced 365 outdoor advertising carriers in 10 British cities with art (Brandalism, 2021). Through creative activism, the project criticizes not only commercialization and advertising in public space, but also environmental problems and the loss of cultural values. Brandalism is changing the very form of marketing - parodies of advertising campaigns are often better known than their original (Raidlová, 2021). There were also other well-known foreign efforts drawing attention to visual smog in public space such as a project Delete! of the Viennese art studio Steinbrener Dempf & Huber held in 2005 (Steinbrener/Dempf & Huber, 2021) or a project with a similar idea, but realized in digital form, organized in Japan and called Tokyo No Ads. French designer Nicolas Damiens photographed the busy streets of the Japanese capital flooded with advertising, then removed the advertising from them and replaced it with white paint. The resulting photos of the project show the state before and after the modification (Tokyo No Ads, 2021).

1.2 Regulation of Visual Smog in the Czech Republic

The regulation of advertising in the Czech Republic is regulated in particular by Act 40/1995 Coll., on the regulation of advertising, in which the basic requirements for advertising and its dissemination are stated, including penalties for breach of obligations and the establishment of supervisory bodies. For the purposes of the Act on the Regulation of Advertising, advertising means:

Announcement, presentation or other presentation disseminated mainly by communication media, aimed at promoting business activity, in particular promoting the consumption or sale of goods, the construction, rental or sale of real estate, the sale or use of rights or obligations, the promotion provision of services or promotion of a

trademark, unless otherwise specified. (*Act No. 40/1995 Coll. on the regulation of advertising, 1995*)

According to paragraph 2, the law allows municipalities to establish publicly accessible places where advertising is prohibited, the period during which advertising is prohibited, the types of communication media through which advertising may not be promoted, as well as events to which the ban on advertising does not apply. On the basis of this law, individual cities have the authority to modify or tighten the regulation of advertising in their territory by means of a decree or regulation. Act No. 20/1987 Coll., on state monument care (hereinafter referred to as the *Monument Act*). There are also other laws regulating this issue.

The resolution of some issues of the given issue is entrusted to the municipalities in the transferred jurisdiction, when the spread of advertising in publicly accessible places can be regulated in a specific way in a certain territory of the municipality. Several Czech cities are aware of the negative effects of visual smog and are trying to regulate outdoor advertising. As stated by the author of the Brno manual, Veronika Růt Fullerová (2020), the main problem with these regulations is the ability of the self-government to effectively enforce regulations or decrees. Among the municipalities that try to minimize visual smog in the Czech Republic are, for example, Znojmo, Uherské Hradiště, Brno, Písek, Ostrava, Olomouc.

In recent years, the issue of visual smog has grown in importance and events are held where smog is discussed. Examples are the theses that are conducted on the subject, the holding of conferences such as *Conference on visual smog and city cultivation* in Brno in October 2023 or the launch of the website <https://www.kultivovanamesta.cz/>. Also very useful is the handbook entitled *Kuchařka kultivace českých měst [A Cookbook for Cultivating Czech Cities]* (2023) published by Veronika Růt Fullerová et al. In addition, this guide is available for free download at www.veronikarut.com.

1.3 Purchase Intentions

Human behaviour associated with the consumption of tangible and intangible goods is one of the characteristics of human behaviour in general. Consumption behaviour refers to the behaviour of people, the ultimate consumers, relating to the acquisition, use and disposal of consumer products. Buyer behavior refers to the decision and acts people undertake to buy products or services for individual or group use. It's synonymous with the term *consumer buyer behavior*, which often applies to individual customers in contrast to businesses. Buyer behavior is the driving force behind any marketing process. Understanding why and how people decide to purchase this or that product or why they are so loyal to one particular brand is the number one task for companies that strive for improving their business model and acquiring more customers (Snow, 2023).

The decision-making process for online shopping is very similar. Researchers posit that providing superb online experiences will positively influence the customers' online buying behavior (e.g., Bridges & Florsheim, 2008).

Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty (Bendle et al., 2016). Purchase intention is a specific measure or rating of consumers' stated purchase intentions. Information on this subject is gathered through survey respondents' reactions to such propositions as *It is very likely that I will purchase this product* (Bendle et al. 2016).

2 Methodology

To achieve the paper's aim (to determine the effect of visual smog on the buying behavior of the millennial generation) a research question was set:

Research question RQ: Is there the effect of visual smog on the buying behavior of the millennial generation?

The questionnaire related to the research field of this paper was prepared by authors. The questionnaire consisted of some questions used in our previous research and was extended by adding some new questions. The questionnaire was mostly formulated by using a Likert scale form; the range of the Likert scale was from 1 (*No, I don't agree*) to 5 (*Yes, I agree*). The questionnaire was tested by using Cronbach alpha. The opening questions about the respondent did not use a Likert scale.

The part related to visual smog and its impact on perception and consumer behavior contained 20 items and had three sections as follows: Outdoor advertising with 12 items, Visual smog with 4 items and the effect of visual smog on the buying behaviour with 4 items. The questionnaire obtained also two sections related to information about the respondents with 5 questions.

Respondents were representatives of the millennial generation studying at the University in Brno in the Czech Republic. They were contacted by email and asked to fill out a questionnaire, which was web-based. Incomplete questionnaires were discarded. The data were collected from April to June 2022. Totally, 210 respondents took part in the survey, after data cleaning, 207 sets of answers were analyzed. The data analysis was done with statistical software primarily by frequency analysis and calculation of inter-item correlations.

In line with the main research question, the following hypotheses H1 – H6 were formulated.

Research hypothesis H1: Respondents who do not care about outdoor advertising are not bothered by outdoor advertising.

Statistical hypothesis H1: The level of agreement being bothered by outdoor advertising is negatively correlated with the level of agreement with not caring about outdoor advertising.

Research hypothesis H2: Respondents who do not notice outdoor advertising cannot think of parts of Brno that are overloaded with outdoor advertising.

Statistical hypothesis H2: The level of agreement with not noticing outdoor advertising is negatively correlated with the level of agreement with being able to recall parts of Brno that are overwhelmed by outdoor advertising.

Research hypothesis H3: Respondents who do not notice outdoor advertising do not buy based on outdoor advertising.

Statistical hypothesis H3: The level of agreement with not noticing outdoor advertising is negatively correlated with the level of agreement with buying based on outdoor advertising.

Research hypothesis H4: Respondents who are bothered by outdoor advertising would stop buying from a company that contributes to outdoor advertising pollution.

Statistical hypothesis H4: The level of agreement with being bothered by outdoor advertising is positively correlated with the level of agreement to stop buying from companies that is found to contribute to outdoor advertising overload.

Research hypothesis H5: Respondents who are bothered by outdoor advertising do not buy from companies that use outdoor advertising.

Statistical hypothesis H5: The level of agreement with being bothered by outdoor advertising is negatively correlated with the level of agreement to not buying from companies that use outdoor advertising.

Research hypothesis H6: Respondents who are bothered by outdoor advertising try not to buy from companies that use outdoor advertising.

Statistical hypothesis H6: The level of agreement with being bothered by outdoor advertising is positively correlated with the level of agreement with trying not to buy from companies that use outdoor advertising.

The primary data collection method was a structured questionnaire designed to measure the key variables: perception of outdoor advertising, attitudes toward it, and buying behavior, and administered online via Google Forms among university students in Brno, Czech Republic. The convenience sampling approach provided access to a sample consisting of 207 university students. Data were analyzed using SmartPLS 3.3.9 software. The analysis involved creating a correlation matrix to identify relationships between variables. Pearson’s correlation coefficients (r) were calculated to measure the strength and direction of these relationships, and p -values obtained from t -tests were used to assess statistical significance.

3 Results

In this chapter, the results of the research are presented. Table 1 describes the number of respondents, their age, gender and relationship to the investigated city of Brno.

Table 1: Profile of respondents (N=207)

Profile	Characteristics	Frequency	%
Gender	Female	63	30.43 %
	Male	144	69.57 %
Academic year	1st year	1	0.48 %
	2nd year	141	68.12 %
	3rd year	7	3.38 %
	4th year	10	4.83 %
	5th year	44	21.26 %
	PhD.	3	1.45 %
Relations hip to Brno	Other	1	0.48 %
	I live and study in Brno	89	43.00 %
	I study in Brno, but I live elsewhere	118	57.00 %
	Other	0	0 %

Source: own processing, 2023

Table 2 summarizes the statistical treatment of hypotheses H1-H6 using the t -test, where r is correlation coefficient (Pearson correlation coefficient).

Table 2: Results of hypothesis testing

Hypothesis	r	p			Conclusion
H1 H1 ₀ : $r > -0.1$; H1 _A : $r \leq -0.1$	-0.29	0.000	Significant	H1 ₀ rejected	accepted H1 _A ***
H2 H2 ₀ : $r > -0.1$; H2 _A : $r \leq -0.1$	-0.05	0.000	Significant	H2 ₀ not rejected	–
H3 H3 ₀ : $r > -0.1$; H3 _A : $r \leq -0.1$	-0.05	0.000	Significant	H3 ₀ not rejected	–
H4 H4 ₀ : $r < 0.1$; H4 _A : $r \geq 0.1$	0.24	0.064	Not significant	–	–
H5 H5 ₀ : $r > -0.1$; H5 _A : $r \leq -0.1$	-0.19	0.235	Not significant	–	–

H6	H6 _b : r < 0.1; H6 _a : r ≥ 0.1	0.20	0.000	Significant	H6 _b rejected	accepted H6 _a ***
----	---	------	-------	-------------	--------------------------	------------------------------

Note: *at the level of $p < 0.05$; **at the level of $p < 0.01$; ***at the level of $p < 0.001$

Source: own processing, 2023

For four hypotheses H1, H2, H3 and H6, a significant relationship was confirmed, but H2 and H3 are not statistically significant ($p < 0.01$). Only two hypotheses H1 and H6 were accepted.

Research hypothesis H1: Respondents who do not care about outdoor advertising are not bothered by outdoor advertising.

Research hypothesis H6: Respondents who are bothered by outdoor advertising try not to buy from companies that use outdoor advertising.

Hypotheses are not statistically significant, therefore cannot be accepted. Further research is needed to confirm or refuse the hypotheses, which a larger sample could demonstrate.

4 Discussion

According to our research, the results show that respondents of millennial generation a) who do not care about outdoor advertising are not bothered by outdoor advertising and b) who are bothered by outdoor advertising try not to buy from companies that use outdoor advertising. The degree of statistical correlation is positive, but it is questionable whether this is really true and respondents who claim to be bothered by outdoor advertising, try not to buy from companies that use outdoor advertising. If it was true, then it would be a very interesting point of view of customers' views on the overabundance of outdoor advertising and visual smog. That would be something that would be worth looking into further. Of course, the sample of respondents to the research is also smaller and there may have been bias, so the research would want to be reapplied to a larger sample, both in terms of sample size and its distribution - other age groups or destinations. As stated in Šnajdrová's thesis (2023) to regulate visual smog, it is necessary to set clear rules and an overall concept of advertising for municipalities and to create the position of a responsible person (urban detail manager). It is important to map the current state of visual smog levels, e.g., with citizen involvement or by using existing systems or applications.

Companies strive to improve the customer experience because it increases satisfaction and they try to achieve this by controlling what is associated with their brand, whether it is their products, communication with customers, approach to employees, handling customer complaints/complaints or the company's external presentation. Similarly, cities themselves should address the experience of their residents and strive to improve it. Residents' satisfaction with living/working in the city can also be improved by the city taking control of what is associated with the city, which can be outdoor advertising, which unfortunately is often perceived more as visual smog.

5 Conclusion

In recent years, visual smog (also referred to as visual pollution) has been increasingly discussed, whether it is an interview in the media or is used by architects dealing with urban planning, or graphic designers and other experts in the field of visual communication. Visual

smog consists in overlapping public space, not only urban, but also other landscapes, with a cloak of advertising that is not adapted to its surroundings. The situation of visual smog is already being solved in many world cities, but more and more attention is being paid to it in some Czech cities, such as Prague, Znojmo or Brno.

Bibliography

- Becker, L., & Jaakkola, E. (2020). Customer experience: Fundamental premises and implications for research. *Journal of the Academy of Marketing Science*, 48, 630-648. <https://doi.org/10.1007/s11747-019-00718-x>
- Bendle, N. T., Farris, P. W., Pfeifer, P. E., & Reibstein, D. J. (2016). *Marketing Metrics*. Pearson.
- Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: What is it? How is it measured? Does it affect loyalty? *Journal of Marketing*, 73(3), 52-68. <https://doi.org/10.1509/jmkg.73.3.052>
- Brandalism. (n.d.). *Brandalism*. <http://brandalism.ch/>
- Chmielewski, S., Lee, D. J., Tompalski, P., Chmielewski, T. J., & Węży, P. (2016). Measuring visual pollution by outdoor advertisements in an urban street using intervisibility analysis and public surveys. *International Journal of Geographical Information Science*, 30(4), 801-818. <https://doi.org/10.1080/13658816.2015.1104316>
- De Keyser, A., Verleye, K., Lemon, K. N., Keiningham, T. L., & Klaus, P. (2020). Moving the customer experience field forward: Introducing the touchpoints, context, qualities (TCQ) nomenclature. *Journal of Service Research*, 94(9), 1-23. <https://doi.org/10.1177/1094670520928390>
- Fullerová, V. R. (n.d.). *Regulace reklam – příklady a legislativa [Advertising regulation – examples and legislation]*. <http://vizualnismog.info/regulace-reklam/>
- Fullerová, V.R. (2023). *Kuchařka kultivace českých měst [A Cookbook for Cultivating Czech Cities]*. https://veronikarut.com/wp-content/uploads/2023/04/Veronika_Rut_Fullerova_a_kolektiv_Kucharka_kultivace_cek_skych_mest_04_04_2023.pdf
- Havíř, D. (2019). Towards fully-fledged conceptualization of customer experience. In Z. Bučková, L. Rusňáková, & M. Solík (Eds.), *Megatrends and media – Digital universe* (pp. 508-530). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius.
- Kahneman, D. (1999). Objective happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-Being* (pp. 3-25). Russell Sage Foundation. <https://psycnet.apa.org/record/1999-02842-001>
- Kohlstedt, K. (2023). *Clean city law: Secrets of São Paulo uncovered by outdoor advertising ban*. <https://99percentinvisible.org/article/clean-city-law-secrets-sao-paulo-uncovered-outdoor-advertising-ban/>
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69-96. <https://doi.org/10.1509/jm.15.0420>
- Mahdawi, A. (2015, August 12). Can Cities kick ads? Inside the global movement to ban urban billboards. *The Guardian*. <https://www.theguardian.com/cities/2015/aug/11/can-cities-kick-ads-ban-urban-billboards>
- Maklan, S., & Klaus, P. (2011). Customer experience: Are we measuring the right things? *International Journal of Market Research*, 53(6), 771-792. <https://doi.org/10.2501/IJMR-53-6-771-792>

- Nami, P., Jahanbakhsh, P., & Fathalipour, A. (2016). The role and heterogeneity of visual pollution on the quality of urban landscape using GIS; Case study: Historical garden in city of Maragheh. *Open Journal of Geology*, 6, 20-29. <https://doi.org/10.4236/ojg.2016.61003>
- Nawaz, R., & Wakil, K. (2022). *Visual pollution: Concepts, practices and management framework*. Emerald Publishing Limited.
- New York City Global Partners. (2011, April 18). *Best practice: Clean city act*. https://www.nyc.gov/assets/globalpartners/downloads/pdf/Sao%20Paulo_CleanCityAct.pdf
- Nováková, V. (n.d.). *Vizuální smog [Visual smog]*. <https://veronikarut.com/verejny-prostor-a-vizualni-smog>
- Norton, D. W., & Pine, B. J. (2013). Using the customer journey to road test and refine the business model. *Strategy & Leadership*, 41(2), 12-17. <https://doi.org/10.1108/10878571311318196>
- Pennington, A. (2016). *Customer experience book*. Pearson Education.
- Portella, A. (2016). *Visual pollution: Advertising, signage and environmental quality*. Routledge.
- Raidlová, R. (2021). *Vizuální smog ve veřejném prostoru [Visual smog in public space]* [Master's thesis]. Prague University of Economics and Business.
- Rushton, S. (2020, January 30). *The growing global movement to end outdoor advertising*. <https://www.equaltimes.org/the-growing-global-movement-to-end?lang=en>
- Shrivastava, T., & Choudhary, A. (2016). Model to mitigate visual pollution by ads and signage for urban unison. *International Journal of Engineering Research and General Science*, 4(3), 516-521.
- Steinbrener/Dempf & Huber. (n.d.) *Delete!* <http://www.nicolasdamiens.com/project/tokyo-no-ads/https://www.steinbrener-dempf.com/en/portfolio-item/delete/>
- Šnajdrová, A. (2023). *Vizuální smog a venkovní reklama se zaměřením na billboardy ve vybraných částech města Brna [Visual smog and outdoor advertising with a focus on billboards in selected parts of the city of Brno]* [Master's thesis]. Brno University of Technology.
- Tokyo no ads*. (n.d.). <http://www.nicolasdamiens.com/project/tokyo-no-ads/>
- Voronych, Y. (2013). Visual pollution of urban space in Lviv. *Przestrzeń i Forma*, 20, 309-314.
- Woodward, M. N., & Holbrook, M. B. (2013). Dialogue on some concepts, definitions, and issues pertaining to "Consumption Experiences". *Marketing Theory*, 13(3), 323-344. <https://doi.org/10.1177/1470593113485108>

Contact Data:

Ing. David Havíř, Ph.D.
 Brno University of Technology
 Faculty of Business and Management
 Kolejní 2906/4
 612 00 Brno
 CZECH REPUBLIC
 david.havir@vut.cz
 ORCID-ID: <https://orcid.org/0000-0002-7150-8456>

Assoc. Prof. Ing. Lucie Kaňovská, Ph.D.
Brno University of Technology
Faculty of Business and Management
Kolejní 2906/4
612 00 Brno
CZECH REPUBLIC
lucie.kanovska@vut.cz
ORCID-ID: <https://orcid.org/0000-0003-2797-7973>

IDENTIFICATION OF NOTEWORTHY DIGITAL MARKETING-RELATED ELEMENTS IN THE SIGNIFICANCE OF ONLINE SHOPPING AND AI

Jakub Horváth – Richard Fedorko – Radovan Bačík – Martin Rigelský

DOI: <https://doi.org/10.34135/mmidentity-2023-15>

Abstract:

Digital marketing is nowadays one of the most popular ways not only to search for information about goods and services, reviews, and experiences of other customers, but also to make the actual purchase. A modern phenomenon is also the use of artificial intelligence, which helps marketers in various ways, such as creating content, texts, or evaluating metrics. The main objective of the paper is to identify whether there are statistically significant differences in the importance of shopping online via smartphone between men and women. The inspiration behind this paper stems from the current relevance of digital marketing and artificial intelligence, particularly the prevalent trend of online shopping through smartphones in the e-commerce domain. The survey, which targeted 194 respondents from Generation Y (Millennials), was conducted throughout the latter half of 2023. The findings suggest that, for most men, the significance of online shopping via smartphones is minimal. In contrast, it's noteworthy that online shopping via smartphones holds considerable importance for most women. The Mann-Whitney U-test validates the correlation between these variables. These results offer insights into the nuances of digital marketing and its influence on customer purchasing behaviour and decision-making. It is evident that the COVID-19 pandemic has instigated substantial shifts in people's buying patterns. Due to travel restrictions, people are increasingly drawn to purchasing items using mobile shopping apps instead of going to physical stores. The findings of the survey add to the overall picture of the share of mobile marketing in e-commerce with potential of using artificial intelligence, which can be a real game changer for companies that offer their products and services online. Online companies can use these findings to effectively set up their marketing strategies specifically targeting customers who like to shop online.

Key words: Consumer Behaviour. Digital Marketing. E-Commerce. Generation Y. Mobile Commerce.

1 Introduction

The foundational technology that underpins the current surge in electronic commerce is the Internet. From a purely technical standpoint, the Internet can be defined as a “network of networks”, signifying a collection of communication networks with specified rules for interconnecting sub-networks and governing the communication methods of individual network elements. Alternatively, the Internet can be characterized as a global information system, featuring the following attributes (Gála et al., 2015): communication among system elements using the tcp/ip protocol, decentralization with no single owner or controller, real-time data transfer, global accessibility, open content uploading capability for anyone, and availability of diverse services through the Internet. Yet, the Internet's most significant contribution lies in its capacity to unite individuals and communities globally in real-time. Consequently, the Internet has evolved into a pivotal platform for e-commerce, facilitating business transactions and bridging the gap between the supply and demand of goods and services, irrespective of geographical location (Chaffey & Smith, 2017). Like e-business, the concept of e-commerce is subject to varied interpretations in professional literature. Broadly speaking, these definitions can be categorized based on whether e-commerce is perceived in a broader or narrower context. In a narrower context, electronic commerce is defined as the buying, selling, or exchanging of goods, services, and information through the Internet or other communication networks (Beličková & Kusá, 2023). In a broader context, e-commerce encompasses not only transactions but also customer service, collaboration, information exchange among business partners, and other electronic interactions occurring within or between companies (Lee, 2012).

The evolution of e-commerce significantly influences modern society. Nowadays, businesses have the capability to provide their services globally, breaking free from the constraints of local markets as seen in the past. Consumers now enjoy immediate access to a vast wealth of information about the products and services that pique their interest (Kumar, 2014). Global connectivity and the availability of information are pivotal elements reshaping the buying habits of both consumers and businesses (Jenčová et al., 2020). While many outcomes of the increasing prevalence of electronic commerce are generally positive, there are also specific risks tied to transaction anonymity and heightened technical complexity (Majerol, 2015). Therefore, e-commerce positively influences the increase in cross-border business transactions. Nevertheless, the escalating volume of cross-border trade also leads to heightened competition in local markets, with new international companies entering, a move that would have been financially impractical in the past (Kotler et al., 2017). The progression of e-commerce introduces a demand for lower prices of goods, enhanced service quality, and a broader product range. In smaller economies, this impact can be more pronounced, as foreign online merchants can provide goods not typically accessible in the local market. Consequently, e-commerce positively influences customer benefits, satisfaction, and overall household consumption (Chaffey, 2014). The ongoing digitization of the retail sector brings about a fundamental shift characterized by the interconnection and constant accessibility of services and information for customers. The current retail landscape, with the rising prevalence of online shops, is arguably the most competitive in history (Štefko et al., 2018). Merchants are no longer limited to passively showcasing their products through an online catalogue; instead, they must actively engage in two-way communication with customers. Simultaneously, they face increased competition, as the Internet continually reduces market entry barriers (Laudon & Traver, 2016). The increasing potential of mobile marketing signifies substantial opportunities for both customers and businesses. Mobile commerce, or m-commerce, refers to business transactions conducted, at least partially, through mobile communication devices (Ondrižová et al., 2020). As per Gála, Pour, and Toman (2006), mobile trading (m-commerce) constitutes a segment of mobile business (m-business), encompassing all activities, processes, and applications within a company conducted or facilitated by mobile technologies. In contemporary Slovakia, the use of wireless and mobile networks and devices has become a routine aspect of most of the population's daily life. Advanced wireless and mobile technologies are streamlining electronic commerce, which initially operated through wired networks. In this context, mobile trading can be viewed as a subset of electronic trading (e-commerce) (Yrjölä et al., 2023).

2 Methodology

The main goal of this paper is to find out if there are statistically significant differences in confidence in online shopping between men and women.

The aim of this paper is to find out whether there are statistically significant differences in the perceived importance of shopping online using smartphone between men and women.

Based on the set goal, the following research question were formulated:

RQ: Are there statistically significant differences in the perceived importance of shopping online using smartphone between men and women?

Based on the above research question, the following research hypothesis was formulated:

H: We hypothesize that there are statistically significant differences in the perceived importance of shopping online using smartphone between men and women.

The data for the analysis in this paper were gathered through a primary survey utilizing the questionnaire method. The electronic questionnaire was distributed in September 2023 via

the Facebook social network. The sampling method can be described as availability-based and voluntary. The survey sample comprises the responses of 194 participants.

The initial phase of the analytical examination highlights the basic discoveries of the survey, illustrated through descriptive statistics. The subsequent stage of the analytical process delves into more intricate relationships, interpreted through inductive statistics. Given the formulated hypothesis and the data characteristics, the Mann-Whitney U-test for two independent samples was employed in this section. Statistical analysis was carried out using the SPSS 22 program.

Most respondents, or consumers, belonged to Generation Y, born between 1964 and 1983 (N=102; 52.6%). Generation X (1984 – 2000) was represented by 53 respondents, accounting for 27.3% of the survey sample. Generation C (2001 – 2009) comprised 28 respondents (14.4%). Lastly, the oldest group of respondents, or Generation S (1963 and earlier), consisted of 11 individuals (5.7%) (Young, 2017).

The outcomes disclosed in this paper are part of a more extensive study, with additional intriguing findings presented towards the conclusion of the paper.

3 Results

This section outlines the research findings using descriptive statistics, predominantly in the form of tables.

Table 1: Representation of respondents based on gender

	Frequency	%	Cumulative %
Men	85	43.8	43.8
Women	109	56.2	100
In total	194	100	

Source: own processing, 2023

For the purposes of this paper, the gender composition of the respondents was as follows: (N=109; 56.2%) were women and (N=85; 43.8%) were men.

Table 2: Perceived importance of online shopping using smartphone

	Frequency	%	Cumulative %
1 – I strongly disagree	31	16	16
2 – I disagree	32	16.5	32.5
3 – I neither agree / neither disagree	57	29.4	61.9
4 – I agree	35	18	79.9
5 – I strongly agree	39	20.1	100
In total	194	100	

Source: own processing, 2023

For most respondents, shopping online using a smartphone is important (N=74; 38.1%). 57 respondents (29.4%) took a neutral position on the perceived importance of shopping online using a smartphone. For 63 respondents (32.5%), shopping online using a smartphone is not important.

4 Verification of the Research Hypothesis

H: We hypothesize that there are statistically significant differences in the perceived importance of shopping online using smartphone between men and women.

Table 3: Perceived importance of online shopping using smartphone (men)

	No.	In percent
I strongly disagree	17	20.0
2	18	21.2
3	27	31.8
4	10	11.8
I strongly agree	13	15.3
In total	85	100.0

Source: own processing, 2023

Table 4: Perceived importance of online shopping using smartphone (women)

	No.	In percent
I definitely disagree	14	12.8
2	14	12.8
3	30	27.5
4	25	22.9
I definitely agree	26	23.9
In total	109	100.0

Source: own processing, 2023

Examining the outcomes showcased in Tables 3 and 4, it becomes evident that, concerning the perceived importance of online shopping via smartphone, most men responded within the range of 1 (*I definitely disagree*) to 5 (*I definitely agree*), assigning the value “3” with a representation of 31.8%. Similarly, most women also selected the value “3”, constituting 27.5% of the sample.

Considering the characteristics of the variables, non-parametric tests will be employed to examine the hypothesis at hand. The objective of this hypothesis is to determine whether there exists a statistically significant difference in the perception of the importance of online shopping via smartphone based on gender. In analysing the hypothesis and accounting for the variable nature, the non-parametric Mann-Whitney U-test for two independent samples was utilized.

Table 5: Perceived importance of online shopping

Gender	N	Mean Rank
Men	85	85.48
Women	109	106.87
In total	194	

Source: own processing, 2023

Table 6: Mann-Whitney U-test hypothesis

Mann-Whitney U	3611.000
Wilcoxon W	7266.000
FROM	-2.698
Asymp. Sig. (2-tailed)	.007

Source: own processing, 2023

Derived from the outcomes showcased in Tables 5 and 6, it can be deduced that there exists a statistically significant disparity between men and women in their perception of the importance of online shopping using a smartphone. Specifically, women perceive shopping via smartphone to be statistically significantly more crucial than men, thereby confirming the hypothesis.

5 Conclusion

The respondents in the conducted survey represent consumers from various age brackets, specifically Generation C (14 to 22 years old), Generation Y (23 to 39 years old), Generation X (40 to 59 years old), and Generation S (60 years and older). Most of these respondents reside in the Košice and Prešov regions. The data collection occurred in the latter part of the current year, 2023, and the survey results can be generalized specifically to eastern Slovakia.

The survey findings indicate that shopping online via smartphone is considered important by less than half of the respondents (38.1%). Nearly half, or 39.8%, express an intention to engage in online shopping via smartphone in the near future based on their needs. However, 42.8% of respondents do not typically choose to shop online via smartphone. Most respondents, accounting for 71.6%, express trust in shopping online via smartphone. Additionally, most respondents (63.9%) report positive experiences with shopping via smartphone, while 119 individuals (61.3%) feel secure when engaging in this form of online shopping. Notably, almost half of the respondents (49.5%, N=96) prefer shopping online most frequently using a laptop.

The proposed hypothesis assumed statistically significant differences in the perceived importance of shopping online using smartphone between men and women. This difference was confirmed in this case.

Considering the survey findings that highlight the varied preferences and behaviours of consumers, artificial intelligence (AI) can play a pivotal role in tailoring marketing strategies to target specific demographics. By leveraging AI algorithms, marketers can identify patterns, predict future trends, and personalize online shopping experiences based on individual preferences, ultimately enhancing engagement and conversion rates. Additionally, AI-driven tools can assist marketers in crafting targeted campaigns that resonate with the 39.8% of respondents expressing an intention to engage in online shopping via smartphones in the near future, providing a more efficient and effective approach to reaching their desired audience.

Acknowledgement: This article is one of the partial outputs under the scientific research grants 1/0694/20 - VEGA "Relational marketing research – perception of e-commerce aspects and its impact on purchasing behaviour and consumer preferences" and 1/0488/22 – VEGA "Research on digital marketing in the area of tourism with an emphasis on sustainability principles in a post-pandemic market environment".

Bibliography

- Beličková, P., & Kusá, A. (2023). Using neuromarketing to create more effective messages in sustainability advertising campaigns. *European Conference on Innovation and Entrepreneurship*, 18(1), 493-500. <https://doi.org/10.34190/ecie.18.1.1673>
- Chaffey, D. (2014). *Digital business & e-commerce management* (6th ed.). Pearson.
- Chaffey, D., & Smith, P. (2017). *Digital marketing excellence: Planning, optimizing and integrating online marketing* (5th ed.). Routledge.

- Gála, L., Pour, J., & Šedivá, Z. (2015). *Podniková informatika: počítačové aplikace v podnikové a mezipodnikové praxi* [Business informatics: Computer applications in business and inter-business practice] (3rd ed.). Grada Publishing.
- Gála, L., Pour, J., & Toman, P. (2006). *Podniková informatika* [Business informatics]. Grada Publishing.
- Jenčová, S., Lukáčová, M., & Jusková, M. (2020). Fraud intra-community transactions vat and negative impact on the state budget. *Journal of Management and Business: Research and Practice*, 12(1), 37-42.
- Kotler, P., Kartajaya, H., & Setiawan, I. (2017). *Marketing 4.0: Moving from traditional to digital*. Wiley.
- Kumar, R. (2014). Impact of demographic factors on consumer behaviour – A consumer behaviour survey in Himachal Pradesh. *Global Journal of Enterprise Information System*, 6(2), 35-47. <https://doi.org/10.15595/gjeis/2014/v6i2/51844>
- Laudon, K. C., & Traver, C. G. (2016). *E-commerce 2016: Business, technology, society* (12th ed.). Pearson.
- Lee, J. (2012). *Electronic commerce management for business activities and global enterprises: Competitive advantages*. IGI Global.
- Majerol, V. (2015). The sharing economy. *New York Times Upfront*, 12, 8-11.
- Ondriřová, I., Ratnayake-Kaščáková, D., & Tomková, A. (2020). Analysis of mutual differences of neuromarketing attributes in the context of achieved customer education. *Journal of Management and Business: Research and Practice*, 12(2), 21-28.
- Štefko, R., Kovařová, E., Rigelský, M. & Dančiřinová, L. (2018). Descriptive study of the perception of effectiveness of marketing tools in the context of dental-hygienic health services. *Journal of Management and Business: Research and Practice*, 10(2), 5-17.
- Young, M. (2017). *Ogilvy o reklamě v digitálním věku* [Ogilvy on advertising in the digital age]. Svojtka & Co.
- Yrjölä, S., Matinmikko-Blue, M. & Ahokangas, P. (2023). *The evolution of mobile communications*. Palgrave Macmillan.

Contact Data:

PhDr. Jakub Horváth, PhD., MBA, MSc.
 University of Prešov
 Faculty of Management and Business
 Department of Marketing and International Trade
 Konštantínova 16
 080 01 Prešov
 SLOVAK REPUBLIC
 jakub.horvath@unipo.sk
 ORCID-ID: <https://orcid.org/0000-0002-9691-7598>

Assoc. Prof. Mgr. Richard Fedorko, PhD.
 University of Prešov
 Faculty of Management and Business
 Department of Marketing and International Trade
 Konštantínova 16
 080 01 Prešov
 SLOVAK REPUBLIC
 richard.fedorko@unipo.sk
 ORCID-ID: <https://orcid.org/0000-0003-3520-1921>

Prof. PhDr. Radovan Bačík, PhD. MBA, LL.M.
University of Prešov
Faculty of Management and Business
Department of Marketing and International Trade
Konštantínova 16
080 01 Prešov
SLOVAK REPUBLIC
radovan.bacik@unipo.sk
ORCID-ID: <https://orcid.org/0000-0002-5780-3838>

Mgr. Martin Rigelský, PhD.
University of Prešov
Faculty of Management and Business
Department of Marketing and International Trade
Konštantínova 16
080 01 Prešov
SLOVAK REPUBLIC
martin.rigelsky@unipo.sk
ORCID-ID: <https://orcid.org/0000-0003-1427-4689>

DOES CSR INFLUENCE CONSUMER BEHAVIOUR AS A MARKETING TOOL? CASE STUDY FROM THE SLOVAK FOOD MARKET

Kristína Igarová – Zdenka Kádeková – Ingrida Košičiarová

DOI: <https://doi.org/10.34135/mmidentity-2023-16>

Abstract:

The submitted paper aims at CSR activities and marketing communication of food companies in Slovakia and its influence on consumer behaviour and their decision-making. On the threshold of the 3rd millennium, the CSR of food companies is also connected with rationality and irrationality in creating preferences in consumer shopping behaviour. Corporate social responsibility (CSR) has received much attention in recent years. Food companies are currently using CSR to gain a competitive advantage, and these activities have also penetrated the marketing field. In the field of CSR and the food market in the Slovak Republic, we conducted a survey based on a questionnaire focused on CSR activities as a marketing tool in the food market from the customers' perspective. In the questionnaire, the most important problems and aspects related to the CSR issue were examined and transferred to the questionnaire offered to online respondents. We ensured the representativeness of the research sample by addressing the questionnaire to target interest groups and respondents of all age categories focused on the food market. Three research questions were set for analysing corporate social responsibility as a marketing tool of food companies in Slovakia from the consumer's point of view. The questionnaire survey results with 1,254 participating respondents showed that although they are familiar with the concept of CSR, a large percentage of respondents need to learn about these activities or pay more attention to them. Based on our conducted research, customers perceive the CSR activities of food companies in most cases as a marketing communication tool that builds the company's good name and image. We can also observe a huge impact in the area of rationality and irrationality when creating preferences in the purchasing behaviour of consumers based on CSR activities and their implications and communications with customers. We used the Chi-square test, proportional Z test, two-sample and frequency and contingency tables to evaluate the data statistically. Communication of CSR activities is a difficult task for food companies, which currently brings many threats and opportunities. For this reason, businesses need the right CSR communication strategy to influence consumer attitudes and behaviour effectively. CSR in the food industry is particularly important because of the wide range of potential benefits.

Key words: Awareness. Consumer Behaviour. Corporate Social Responsibility. Food Market. Irrational Consumer Behaviour. Rational Consumer Behaviour. Marketing Communication.

1 Introduction

Nowadays, the topic of Corporate Social Responsibility (CSR) is coming more and more to the fore. Behaving socially responsible is a necessity for all businesses. Companies in the food and beverage market are increasingly interested in building reputation and brand awareness through socially responsible activities (Igarová et al., 2023).

Kádeková et al. (2021) believe that adopting CSR principles helps companies to recognise their responsibility, consider their impact and behave accordingly. The company must be able to present, explain and especially communicate CSR activities to various stakeholders. Through communication, businesses inform customers about their social responsibility behaviour and provide information about company values and products or services.

Rodríguez et al. (2019) stated that CSR activities can be grouped into different domains. The pillars of social CSR and environmental CSR focus on direct interactions between companies and the social and natural environment. On the other hand, the communication domain of CSR is responsible for developing relations with consumers based on the exchange of information. The literature has recently begun to clarify the role of CSR in shaping relationships with stakeholders, including consumers, and their views on CSR practices.

This trend points to the need for companies to manage better the market consequences of their CSR decisions, which is currently necessary to make a significant contribution to sustainable development (Contini et al., 2020).

There is a link between marketing communications and sustainable business practices that help build corporate image and reputation, protect the environment, and create customer value (Adeloa & Evans, 2022).

Currently, food companies are expected to demonstrate CSR activities in all three pillars of CSR – people, planet and profit (see Figure 1).

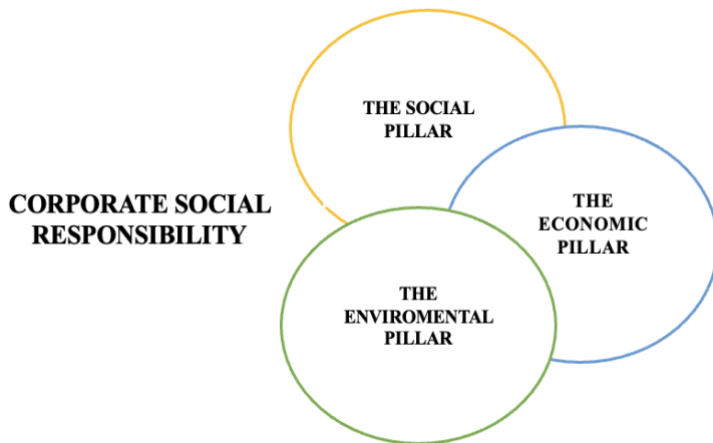


Figure 1: CSR Pillars
Source: own processing, 2023

Igarová et al. (2023) stated that food companies increasingly recognize the importance of CSR communication, including their engagement with employees, the community, the environment and other stakeholder groups, to attract consumers. The concept of socially responsible marketing is sometimes considered an extension of CSR. CSR activities have been attracting more and more attention from consumers over the years. It may be that CSR does not directly affect the “price” and “product” that consumers are concerned with, but psychology and behaviour explain this phenomenon through marketing theory. Most food companies try to behave socially responsibly and show various activities; however, customers cannot identify with CSR or consider it only as a marketing strategy.

Afanonova and Yakhneeva (2020) pointed out that the approach of food companies to the final consumer forces the company to get to know the consumer personally, to feel better and understand its market, and to understand social needs. A possible cause may be the need for more awareness and understanding of the importance of socially responsible business. Under CSR, we can define various areas of food companies: organisational management, human rights, labour relations, environment, good business practices, relations with consumers, participation in the life of communities and their development. Within these CSR areas, there may be a focus on socially responsible marketing and the development of proper marketing communication, based on which a conditional distinction will be made between the internal and external influence of the environment. The social responsibility of food companies and sustainability has become one of the important components of sustainable business development and part of the marketing policy of companies.

Customers’ purchasing decisions are influenced by the CSR behaviour of the company and its activities (Fernández-Ferrín et al., 2021).

Most observers believe that “good companies” have a reputation for being socially responsible and thus attract customers to buy their products; on the other hand, “bad companies” ignore their social responsibility or misreport these activities. It is sometimes still emphasised that customers often need help recognising whether or to what extent a company is socially responsible. Therefore, rational and irrational customer behaviour is mainly driven by different factors (Mas et al., 2022).

Elg and Hultman (2016) found that CSR activities and image greatly impact the perception of corporate social responsibility among consumers, including how these aspects and activities influence consumers’ purchasing decisions. According to Mas et al. (2022), it seems that CSR activities are not always at the forefront of customers’ attention when purchasing socially responsible products. The reason may be that it is difficult for consumers to obtain relevant information or believe these activities seem untrustworthy and used only as a marketing strategy. Appropriate marketing communication and reporting of CSR initiatives are essential for customers to understand the true value of these activities affecting social, environmental and economic sustainability.

2 Methodology

Based on the main objective, finding out and collecting the necessary data about consumers was necessary. For this reason, we decided to conduct primary research. An online questionnaire was developed and submitted to consumers of various age groups. The questionnaire aimed to verify consumers’ knowledge of corporate social responsibility, their perception of CSR as a marketing tool and their attitude towards CSR implemented by the food sector. The questionnaire was distributed through selected social media platforms and by e-mail. We ensured the representativeness of the research sample by addressing the questionnaire to target interest groups, including respondents of all age categories. A total of 1,253 respondents from Slovakia, 602 women and 652 men participated in the questionnaire survey. The main aim of the research was to find out if the CSR of food companies is considered a marketing tool. In the presented research, we assumed that the results would provide us with answers to various questions related to the given issue. We wondered if the respondents had enough information and were aware of the CSR activities of food companies in Slovakia and whether age influenced the perception of CSR activities of food companies as a marketing tool.

The statistical evaluation of the research results was the Chi-square test and the P- P-value of the one sample ratio Z test.

2.1 Research Questions and Hypotheses

Related to the solved issue were set two research questions and two hypotheses:

RQ 1: Do respondents have enough information about the CSR activities of food companies?

RQ 2: Does age influence a respondent’s perception of CSR activities of food companies as a marketing tool?

H1: The proportion of respondents who have enough information about the CSR activities of food companies is higher than 40%.

H2: There exists a dependence between age and the perception of CSR activities of food companies as a marketing tool.

3 Results

3.1 Awareness of the CSR Activities of Food Companies

The first research question and hypothesis focus on the awareness of CSR activities in the Slovak food market. We hypothesize that the proportion of respondents who have enough information about the CSR activities of food companies is higher than 40% (H1). Out of 1,253 respondents, 614 testified they had enough information about the CSR activities of food companies. In percentage terms, this represents 49% of respondents.

The P value of the one sample ratio Z test is less than 0.05, and we reject the null hypothesis (the share of respondents who have enough information about the CSR activities of food companies is at most 40%). The percentage of respondents who assume that they have enough information about the CSR activities of food companies is higher than 40%.

3.2 The Effect of Age on the Perception of CSR Activities as a Marketing Tool

The second research question and the second hypothesis aim at the effect of age on the perception of CSR activities and whether they are considered a marketing tool.

In hypothesis 2, we assume that there is a dependence between age and the perception of CSR activities of food companies as a marketing tool (H2). Answers of respondents by age category to the question: “Do you perceive the CSR activity of food companies as a marketing tool?” (see Figure 2).

624 out of 1,253 respondents perceive socially responsible activity as a marketing tool. In monetary terms, this represents 49.8%. In the age category 18-27, 170 out of 338 people expressed their opinion. More than half (50.6%) of people in this category do not consider socially responsible activity a marketing tool. These are 43-57 years old, where 50.6% of people consider socially responsible activity as a marketing tool. In the category over 58 years, 48.9% say they do not consider socially responsible activities a marketing tool.

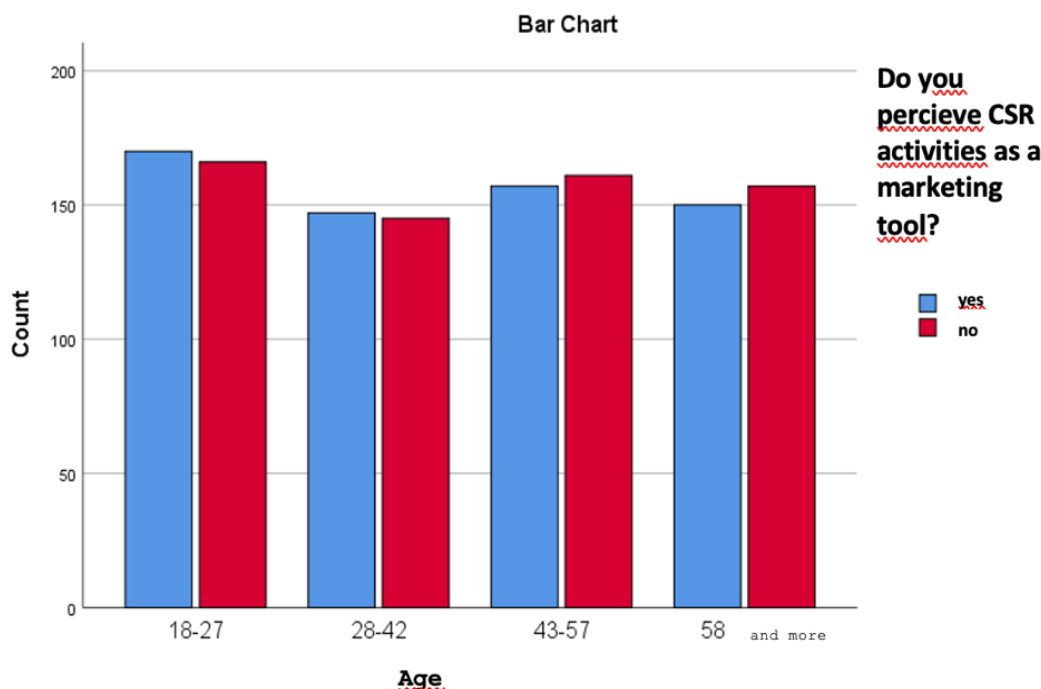


Figure 2: Bar Chart
Source: own processing, 2023

The differences between individual categories are low, confirmed by the Chi-square test with a p-value of 0.969 (see Table 1).

Table 1: Chi-Square Tests

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	.251 ^a	3	.969	.969
N of Valid Cases	1,253			

Source: own processing, 2023

We cannot reject the null hypothesis of independence. Age does not affect the perception of CSR activities as a marketing tool.

4 Discussion

We agree with He et al. (2022), who stated that interest in research related to CSR in the food industry has been growing for years. However, there needs to be more quantitative, scientific and systematic reviews of the literature on CSR research as a marketing tool in the food industry in Slovakia and abroad. It is rare to find this kind of research. In their research, Kádeková et al. (2022) found that almost 90% of food companies in Slovakia are familiar with the concept of CSR, although some companies do not know how to define it precisely. Almost half of Slovakia’s food companies actively apply the CSR concept.

Similarly, as the results of our research, Salehzadeh et al. (2018) pointed out that Corporate social responsibility has a strong impact on brand image, as participation in CSR activities creates a positive reputation and awareness and improves brand image. Our research results are supported also by the findings of Mahmood and Bashir (2020). According to them, brand reputation is a significant predictor of brand equity and its predictive power increases in the presence of CSR activities. Also, research by Alakkas et al. (2022) found that CSR activities related to ethics, economics, and philanthropy accelerate the transition from brand reputation to brand equity. The study’s findings showed that the most effective dimensions are philanthropic, ethical, economic and legal.

Our research proved that CSR activities are great tools for marketing communication with customers. Also, Louis and Lombart (2022) found that many food businesses carry out responsible activities and communicate them to increase their awareness among consumers. With these activities, they want to position themselves as responsible companies in the minds of these consumers, differentiate themselves from their competition and influence consumer behaviour through purchases and word of mouth. CSR communication is considered a truly effective and relevant marketing tool for companies.

We could also join the result of research by Shao et al. (2022), who said that marketing communication points out that feelings and thoughts create a bridge between CSR and consumers. White et al. (2019) even stated that some food companies also encourage consumers to engage in more responsible practices and also to promote sustainability.

Dang et al. (2020) concluded that CSR activity is an important increase in business value. However, on the other hand, it also increases the company’s social value. In addition, corporate social responsibility (CSR) gives companies a chance to complete their goals with social progress, contributing to society’s long-term viability. Also, Waheed et al. (2019) agreed that by being involved in and aware of CSR activities, consumers influence their decision-making and purchasing behaviour. CSR activities of food businesses help consumers make the right purchase decisions, which leads to satisfying needs. CSR policies encourage customers to make sustainable purchasing decisions. On the one hand, CSR can directly impact sustainable purchases and consumption; on the other hand, CSR is used as a link to maintain the links between brand image and sustainable purchase intentions and customer involvement and sustainable purchase intention (Gong et al., 2023).

Igarová et al. (2023), in their research, proved that at the threshold of the 3rd millennium, CSR is strongly linked to rationality and irrationality in creating preferences in consumer purchasing behaviour. Fulfilling the requirements and needs of customers is important for food businesses to present the given activities in such a way that they appear correct and trustworthy.

5 Conclusion

The submitted paper aims at CSR activities and marketing communication of food companies in Slovakia and its influence on consumer behaviour and their decision-making. On the threshold of the 3rd millennium, corporate social responsibility is also connected with rationality and irrationality in creating preferences in consumer shopping behaviour. Food companies are aware of this important fact, and the most important target group for the communication of sustainable approaches and CSR activities is consumers, as it was noted that all food companies are divided according to the focus of production. Nowadays, however, more and more companies are taking the initiative to fulfil CSR and, at the same time, use these activities as an effective means of marketing. It is important for food businesses to fulfil the needs of their customers and for CSR activities to appear credible.

In this regard, trustworthiness is one of the key factors for customers and their consumer behaviour that the CSR activities of food companies can influence. Based on the investigated issue, we carried out a questionnaire survey, primarily focused on CSR activities as a marketing tool in the food market, focusing on CSR activities and marketing communication in the conditions of food businesses in Slovakia.

A total of 1,253 respondents from Slovakia took part in the research. The respondents represent the sample in different age categories. The survey results showed that, in this case, age does not influence whether the respondents perceive the CSR activities of food companies as a marketing tool. This may be because some CSR activities of food companies actively apply and communicate and appear trustworthy to the respondents. Other results showed that more than 40% of respondents evaluated that they have enough available and communicated information about the socially responsible activities of food businesses. It is important to realise that the correct communication of the company and marketing communication are the key factors that can influence consumer behaviour positively and negatively in this direction. Our research also has some limitations. In this research, we focused on respondents from Slovakia and their perception of the CSR activities of food companies in Slovakia. We know that the CSR issue is rapidly developing, and the information in the submitted paper may continue to evolve and change. The problem can be solved in the future by examining respondents in other EU countries and food companies of selected countries, with a focus on specific food sectors.

Acknowledgement: The paper is the outcome of the research project VEGA 1/0404/22, "Rationality and irrationality in creating preferences in consumer shopping behaviour on the threshold of the 3rd millennium", solved at the Institute of Marketing, Trade and Social Studies, Faculty of Economics and Management, Slovak University of Agriculture in Nitra; and KEGA 030SPU-4/2022 "Implementation of selected goals of 2030 Agenda in Consumer Psychology education—Production of multimedia e-textbooks and web-based platform for the higher education".

Bibliography

Adeloa, O., & Evans, O. (2022). Marketing communications: Embedding sustainability practices in a changing world. In O. Adeola, R. E. Hinson & A. M. Sakkthivel (Eds.), *Marketing communications and brand development in emerging markets volume II*.

- Palgrave studies of marketing in emerging economies* (pp. 287-307). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-95581-6_12
- Afanonova, N., & Yakhneeva, I. (2020). Features of social responsibility of marketing in small and medium-sized businesses in Russia. *Revista Espacios*, 41(5), 67-73.
- Alakkas, A. A., Vivek, P., M., Nabi, M. K., & Khan, M. A. (2022). Corporate social responsibility and firm-based brand equity: The moderating effect of marketing communication and brand identity. *Sustainability*, 14(10), 6033. <http://dx.doi.org/10.3390/su14106033>
- Contini, M., Annunziata, E., Rizzi, F., & Frey, M. (2020). Exploring the influence of corporate social responsibility (CSR) domains on consumers' loyalty: An experiment in BRICS countries. *Journal of Cleaner Production*, 247, 119158. <https://doi.org/10.1016/j.jclepro.2019.119158>
- Dang, V. T., Nguyen, N., & Pervan, S. J. (2020). Retailer corporate social responsibility and consumer citizenship behavior: The mediating roles of perceived consumer effectiveness and consumer trust. *Journal of Retailing and Consumer Services*, 55, 102082. <https://doi.org/10.1016/j.jretconser.2020.102082>
- Elg, U., & Hultman, J. (2016). CSR: retailer activities vs consumer buying decisions. *International Journal of Retail & Distribution Management*, 44(6), 640-657. <https://doi.org/10.1108/ijrdm-10-2015-0155>
- Ferrín, P. F., Castro-González, S., & Bande, B. (2020). Corporate social responsibility, emotions, and consumer loyalty in the food retail context: Exploring the moderating effect of regional identity. *Corporate Social Responsibility and Environmental Management*, 28(2), 648-666. <https://doi.org/10.1002/csr.2077>
- Gong, Y., Xiao, J., Tang, X., & Li, J. (2023). How sustainable marketing influences the customer engagement and sustainable purchase intention? The moderating role of corporate social responsibility. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1128686>
- He, M., Yu, W., & Han, X. (2022). Bibliometric review on corporate social responsibility of the food industry. *Journal of Food Quality*, 2022, 1-14. <https://doi.org/10.1155/2022/7858396>
- Igarová, K., Kádeková, Z., Košičiarová, I., Džupina, M., Dvořák, M., & Smutka, Ľ. (2023). Is corporate social responsibility considered a marketing tool? Case study from customers' point of view in the Slovak food market. *Foods*, 12(14), 2770. <https://doi.org/10.3390/foods12142770>
- Kádeková, Z., Košičiarová, I., Kubicová, Ľ., & Predanócyová, K. (2022) Sustainable approach within environmental protection and PR in food enterprises in Slovakia. In E. Horská, Z. Kapsdorferová, & M. Hallová (Eds.), *International scientific days 2022. Efficient, sustainable and resilient agriculture and food systems – The interface of science, politics and practice* (pp. 266-273). SUA Nitra. <https://doi.org/10.15414/isd2022.s3.05>
- Kádeková, Z., Košičiarová, I., Tkáč, F., & Rybanská, J. (2021). Planet pillar of CSR in food enterprises and its marketing communication. In Z. Bezáková, D. Kollárová, D. & P. Krajčovič, (Eds.), *Marketing Identity: New changes, new challenges*. (pp. 295-302). University of Ss. Cyril and Methodius in Trnava.
- Louis, D., & Lombart, C. (2022). Impact of CSR communication on brand business and social values. In F. J. Martínez-López, J. C. Gázquez-Abad & M. Ieva (Eds.), *Advances in national brand and private label marketing* (pp. 166-172). Springer. https://doi.org/10.1007/978-3-031-06581-1_22
- Mahmood, A., & Bashir, J. (2020). How does corporate social responsibility transform brand reputation into brand equity? Economic and noneconomic perspectives of CSR.

- International Journal of Engineering Business Management*, 12, 184797902092754.
<https://doi.org/10.1177/1847979020927547>
- Mas, F. D., Tucker, W. D., Massaro, M., & Bagnoli, C. (2021). Corporate social responsibility in the retail business: A case study. *Corporate Social Responsibility and Environmental Management*, 29(1), 223-232. <https://doi.org/10.1002/csr.2198>
- Rodríguez, M. R. G., Díaz-Fernández, M. C., & Simonetti, B. (2019). The perception of socially and environmentally responsible practices based on values and cultural environment from a customer perspective. *Journal of Cleaner Production*, 216, 88-98. <https://doi.org/10.1016/j.jclepro.2019.01.189>
- Salehzadeh, R., Pool, J. K., & Najafabadi, A. H. J. (2018). Exploring the relationship between corporate social responsibility, brand image and brand equity in Iranian banking industry. *Journal of Islamic Accounting and Business Research*, 9(2), 106-118. <https://doi.org/10.1108/jiabr-11-2014-0041>
- Shao, J., Zhang, T., Wang, H., & Tian, Y. (2022). Corporate social responsibility and consumer emotional marketing in big data era: A mini literature review. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.919601>
- Waheed, A., Zhang, Q., Rashid, Y., & Khan, S. Z. (2019). The impact of corporate social responsibility on buying tendencies from the perspective of stakeholder theory and practices. *Corporate Social Responsibility and Environmental Management*, 27(3), 1307-1315. <https://doi.org/10.1002/csr.1885>
- White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing*, 83(3), 22-49. <https://doi.org/10.1177/0022242919825649>

Contact Data:

Ing. Kristína Igarová
 Slovak University of Agriculture
 Faculty of Economics and Management
 Tr. A. Hlinku 2
 949 76 Nitra
 SLOVAK REPUBLIC
 xigarova@uniag.sk
 ORCID ID: <https://orcid.org/0009-0009-4827-0177>

Assoc. Prof. Ing. Zdenka Kádeková, Ing.-Paed.IGIP, PhD.
 Slovak University of Agriculture
 Faculty of Economics and Management
 Tr. A. Hlinku 2
 949 76 Nitra
 SLOVAK REPUBLIC
 zdenka.kadekova@uniag.sk
 ORCID ID: <https://orcid.org/0000-0003-2814-5239>

Assoc. Prof. Ingrida Košičiarová, Ing.-Paed.IGIP, PhD.
 Slovak University of Agriculture
 Faculty of Economics and Management
 Tr. A. Hlinku 2
 949 76 Nitra
 SLOVAK REPUBLIC
 ingrida.kosiciarova@uniag.sk
 ORCID ID: <https://orcid.org/0000-0003-3763-0826>

CUSTOMERS' PERCEPTION OF ELECTROMOBILITY IN THE CZECH REPUBLIC: LONGITUDINAL STUDY 2018 – 2022

Eva Jaderná – Emil Velinov – Jana Přikrylová

DOI: <https://doi.org/10.34135/mmidentity-2023-17>

Abstract:

The paper sheds a light on the issue of electromobility in the Czech market due to the continuously negative customers' perception. The Czech society is skeptical regarding green transition to electromobility. According to a European survey, Czech people want to stay loyal to fuel engine in 50% (EIB, 2022). Businesses buy electric vehicles, to become more sustainable in the eyes of all stakeholders. They would like to have the right position in a supply chain, often connected to sustainable businesses. Paper discusses the interest of the Czech consumers towards the sustainable electromobility in Czechia. This paper aims to identify possible differences in Electrical Vehicles's perception in time. The study provided 4 surveys from 2018 – 2022, and similar questions on consumers' attitude towards electromobility were set in questionnaires during this time period. Study findings from show the tendency to buy Electrical Vehicles, to consider an Electrical Vehicles as an environmentally friendly car more than vehicle with fuel engine.

Key words: Consumers. Czech Republic. Electromobility. Perception. Sustainable.

1 Introduction

Recently, electromobility was the prerogative of the Scandinavian, Nordic countries, which try very hard to keep the planet as green as possible. At the same time, it is a fact that Norway is one of Europe's largest oil producers – and yet in its territory, electromobility greatly exceeds the use of conventional combustion engines (Macioszek, 2021). Another advantage is that they have charging stations in this state not only at gas stations, but practically everywhere. That's why no one has to worry about not getting where they need to go. There, electric cars are gradually displacing not only cars powered only by an internal combustion engine, but also hybrids, including plug-in hybrids (Wilberforce et al., 2017). However, Western Europe, especially Germany, is currently gaining steam in terms of absolute sales figures. It has always been a supporter of green technologies and it is no different in this day and age. In short, it is important to behave responsibly – i.e. drive in electric cars and not give the destroyed planet more trouble. Germany is followed by France and other countries – as regards the popularity of electromobility and a gentle approach to the planet. From public sources it can be ascertained that the sales of electric cars in the first half of this year in Europe have an upward trend and that this is a real introduction of modern environmentally friendly technologies (Mersky et al., 2016). Surely, even if sales of electric cars are increasing, it does not mean that they have already surpassed the sales of classic cars with an internal combustion engine, but rather it is an interesting to look at the sales curve in the segment of green vehicles. It is growing despite the adversity of the current situation. Scientists and sociologists are thoroughly investigating this and will certainly share their results. If we look further into the world, the world power in electromobility is the USA and China. And China, as the world's largest automotive market, is exceeding record sales of electric cars or plug-in hybrids (Wen et al., 2021).

2 Literature Review

It is important to realize that electro-mobility as such is not a completely new concept. Cars with an electric drive have been around for more than a century. The Electric Carriage and Wagon Company developed the first commercially available electric vehicle as early as 1897. At that time, there were more electric cars in the US than cars with internal combustion engines. After 1920, they were eventually supplanted by gasoline vehicles, mainly due to the development of a more complex road infrastructure. Gasoline-powered vehicles could travel faster, further, and were considered better than electric vehicles, which were slow and had a limited range. The electric motor began to play only a small secondary role.

Regardless of this, gasoline-powered vehicles can be characterized as vehicles that have also undergone a significant electrification process since then. In the course of the 20th century, electronic components replaced almost all non-electronic components, from fuel injection systems, engine ignition, or steering (Peters et al., 2021). It could therefore be felt that driving train is the last remaining non-electronic element, and that its electrification appears to be the only option for a sustainable future.

However, replacing internal combustion engines with electrified drive systems is not an easy task. Technologies associated with the internal combustion engine are extremely important for road transport today and have been continuously developed throughout the century. The transformation of the road transport system is a major technological challenge in that new technologies must compete with the maturity and efficiency of internal combustion engines, on which the entire world infrastructure is built, but also important operations such as, refining and distribution of oil and other mineral raw materials, which are the same for the production of electricity itself (Raposo et al., 2019).

Applying the principles of “sustainability” is one of the basic indicators of “long-term prosperity, the vitality of market economies or even entire economic ecosystems” as we know them today. Considering these facts, it is necessary to look at the issue of sustainable development, sustainability and low-carbon economies as extremely topical for many industries.

It could be felt that the situation on the international market differs significantly according to the economic situation of individual countries and the readiness of governments for the arrival of this electric era of motoring. In lower income countries, people tend to buy used cars and only one car that they use for all trips. Here, the contrast with rich countries is clearly visible, where the electric vehicle is often the second car in the household and a vehicle with an internal combustion engine is only used for long trips outside the city.

If there are any offers to support the purchase of electric vehicles in an economically weaker country, plug-in hybrid electric vehicles (PHEVs) are often much more popular than battery electric vehicles (BEVs) because they can be charged very cheaply at home and can be used for all roads. The PHEV also provides backup in the form of an internal combustion engine, which is essential when there is no publicly accessible charging station on the road. But there is another problem, which is more serious than the subsidy for the purchase of such a car. The demand for electric cars in these countries is too weak to attract private investment in charging infrastructure, and thus the interest of potential customers to consider purchasing this type of car decreases even more.

On the European market, large volumes of used cars% flow from countries with higher incomes to countries with lower incomes. Even if the share of used electric vehicles is growing over time, the share of highly polluting vehicles is currently relatively large. For a long time, the European Union and its agencies have been toying with the idea of regulating this system of used cars%, or even completely banning the import of powerful non-ecological

cars% such as high-volume diesel combustion engines. This political approach basically regulates the quality of used cars (Sarasini et al., 2013).

Taxes and other annual and registration fees could be another instrument for regulating the purchase of such types of vehicles. While discounts and exemptions for electric cars are common, linking taxes and emissions is unusual. It is certainly one of the wishes that could support potential buyers in choosing a more environmentally friendly car variant (Wilberforce et al., 2017).

3 Methodology

This paper aims to present findings from surveys in 2018 – 2022, connected to a perception of EV’s by Czech consumers. The research was designed when working on the grants SGS JADERNA at the Department of Marketing and Management at SKODA AUTO University. The marketing research was organized to identify a perception of green, and sustainable behavior of Czech consumers, including their perception of electric mobility. The survey was conducted based on theoretical model based on consumers’ perception on electrical vehicles in developed countries (Brase, 2019).

The surveys were conducted via the internet during the time period 2018 – 2022 through Trendaro, which is an application operated by a professional survey company called Behavio Labs, s. r. o. A total of 1,000 respondents were chosen so that a representative sample of the Czech population was obtained. After collecting data phase, the information was transferred to Microsoft Excel for transcoding into statistically measurable quantities. This file was then statistically evaluated by different statistical tests, and data interpretation was done by frequency analysis, to present the trend on the Czech market in time.

4 Results

In 2018, findings from survey showed, that an EV is the most ecological alternative in the eyes of Czech consumers, in second place were trains, followed by hybrid cars, and gas cars. Buses and petrol/diesel cars were considered as the most unecological. These findings were presented at the conference Marketing Identity – Digital Mirrors in 2018.

In 2019, similar question was answered by Czech consumers. They considered in EV’s as more ecological than cars with fuel engine (60% of respondents).

Table 1: Perception of EVs by Czech consumers

Which cars do you consider as more ecological?	
Electric vehicles.	608
Cars with fuel engine.	89
It is the same.	271
I do not know.	107

Source: own processing, 2023

Perception of EV’s as an ecological alternative is still visible, but car manufacturers offer more options on automobile market. Consumers can choose mild-hybrid (MHEV), Plug-in hybrid (PHEV), and battery electric vehicle (BEV) as an electric alternative. Electromobility is supported by governments, to achieve Green Deal goals.

The second question about EV’s was considering buying an EV in the future. Most respondents answered that they will consider buying an electric car, if the price is reasonable (60%). 24% will prefer buying a car with fuel engine, and only 16% of respondents said that they will consider buying an electric car even if its price is higher than the price of a regular car.

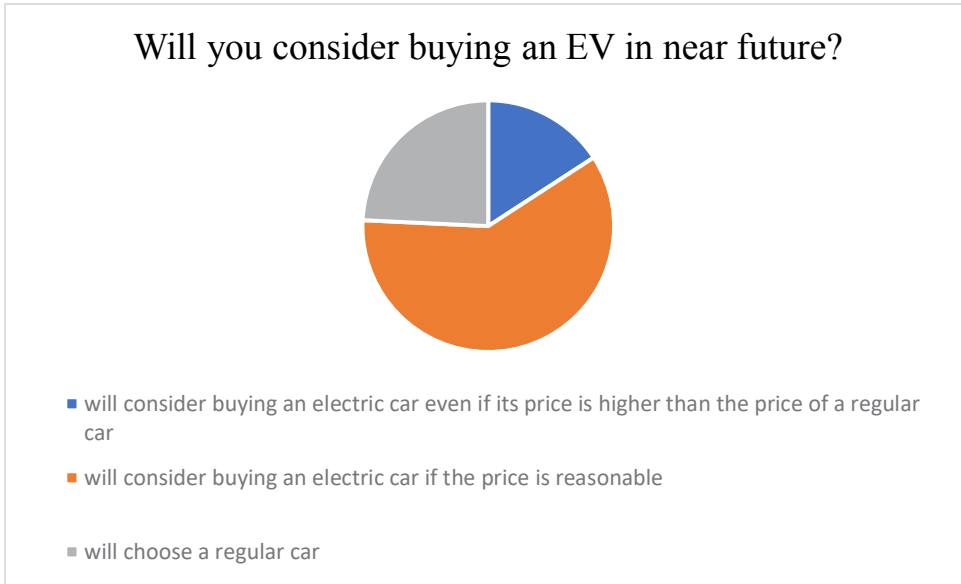


Figure 1: Buying EV by Czech consumers in the future
 Source: own processing, 2023

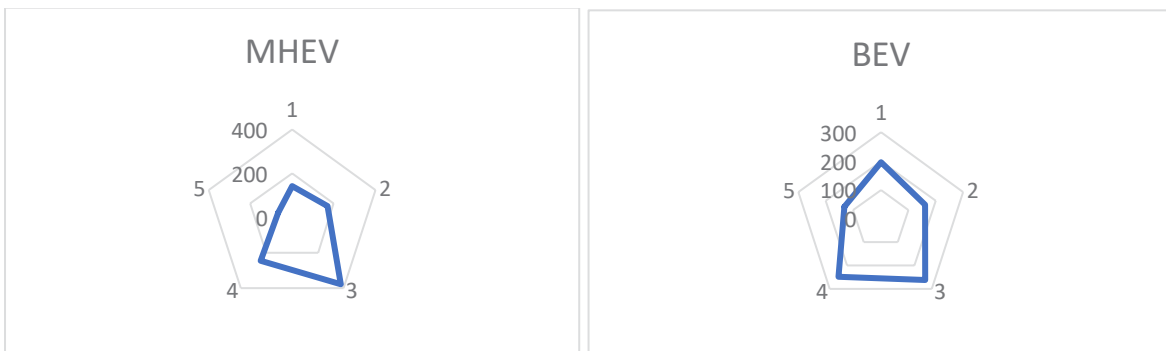
In 2019, consumers answered the question: Do you think about buying an electric car? 508 respondents are interested in buying of EV, but the same number of respondents do not care about it (see table 2).

Table 2: Do you think about buying an electric car?

Do you think about buying an electric car?	
I seriously think about it.	57
I am interested in it, but not now.	508
I have an EV.	6
I do not care about it.	504

Source: own processing, 2023

Because of better knowledge on electric mobility by consumers, and offer of other alternatives, researchers asked for attractiveness of Mild – hybrid (MHEV), Plug-in hybrid (PHEV), and battery electric vehicle (BEV) in 2022. Consumers evaluate the attractiveness on a scale 1 – 5 (5 is the most attractive). The most attractive alternative is MHEV, BEV is on the last place in attractiveness.



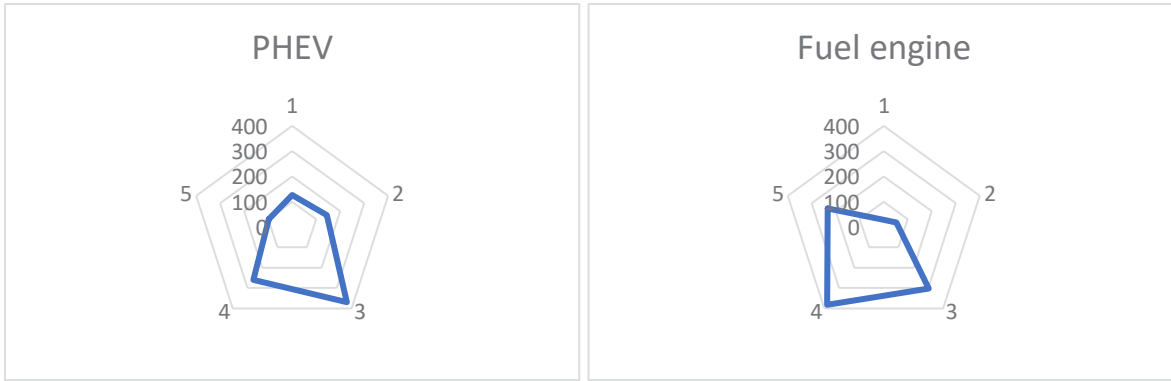


Figure 2: Attractiveness of electrical vehicles
 Source: own processing, 2023

In 2018, respondents considered buying an EV, if the price is reasonable to fuel engine car. Therefore, question on importance of different influences on consumer behavior was set in 2022. Results show, that the price of an EV is still very important factor. On the other site, consumers are interested in service costs, or operating costs, which are lower than in the case of fuel engine car. Similar previous studies on consumers’ perceptions on EVs shoed that aforementioned costs are critical when potential customers make decision for purchasing EV (Lane et al., 2018).

A little bit optimistic are findings from statistical processing, considering different age groups. The youngest group is really more interested in buying an EV, and it could be the hope for the future of EV’s.

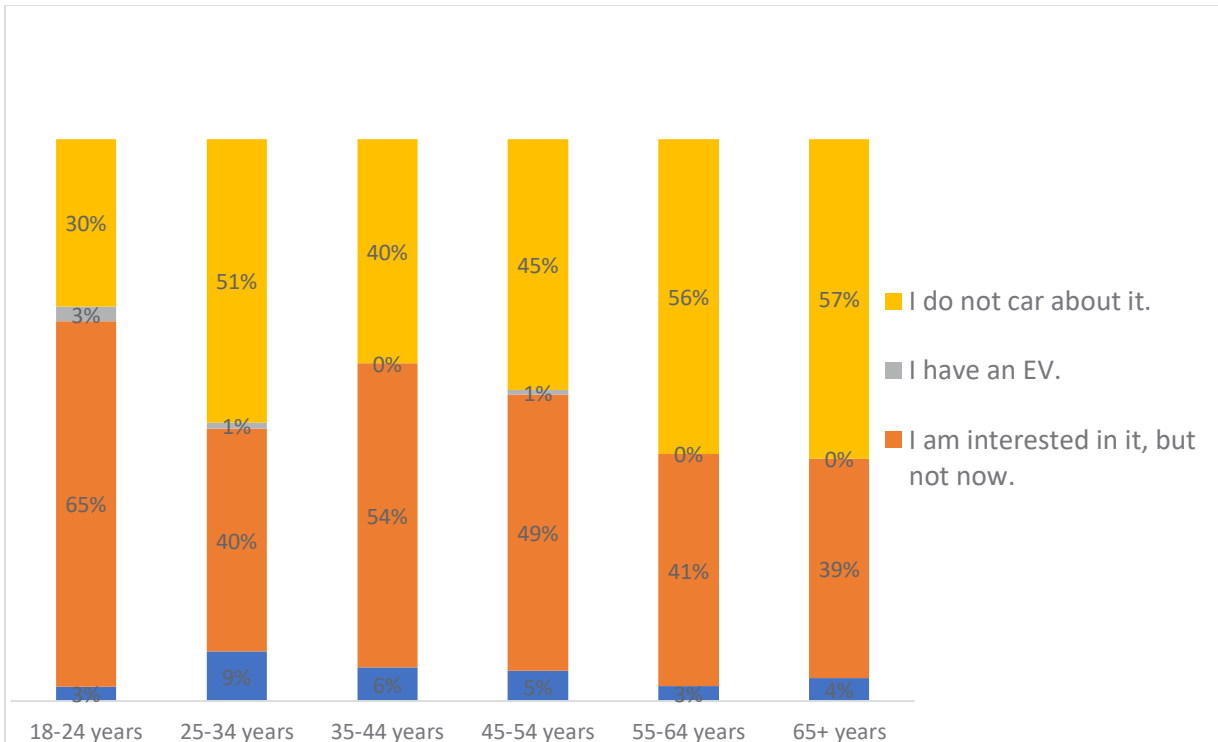


Figure 3: Generations interests in EVs
 Source: own processing, 2023

5 Conclusion

The automobile market is dynamic. Car manufacturers react to guidelines, and directives of EU. Very important document is European Green Deal. European Commission would like to transform the EU into a modern, resource-efficient and competitive economy, ensuring: no net emissions of greenhouse gases by 2050, economic growth decoupled from resource use, no person and no place left behind (European Commission, n.d.). One of the possible solutions is electromobility in connection to green energy.

Car manufacturers offer EV's in different models' family, produce MHEV, PHEV, as an alternative to BEV. But, the most difficult problem is low interest in BEV in the Czech Republic. Presented results show, that people consider EV as an environmentally friendly alternative, but still are not interesting in buying an EV in the near future (Adhikari et al., 2020). This trend is surviving during the set time period (2018 – 2022). But, the youngest generation consider buying an EV more than other generations. Therefore, hope is obvious in this case. Maybe the knowledge on electromobility, and first experiences with EV can help the attractiveness of EV's. Researches will monitor the trend in the future, and will consider other influences on consumer behavior.

Bibliography

- Adhikari, M., Ghimire, L. P., Kim, Y., Aryal, P., & Khadka, S. B. (2020). Identification and analysis of barriers against electric vehicle use. *Sustainability*, 12(12), 4850. <https://doi.org/10.3390/su12124850>
- Alonso Raposo, M., Ciuffo, B., Ardente, F., Aurambout, J. P., Baldini, G., Braun, R., & Vandecasteele, I. (2019). The future of road transport (No. JRC116644). Joint Research Centre (Seville site).
- Brase, G. L. (2019). What would it take to get you into an electric car? Consumer perceptions and decision making about electric vehicles. *The Journal of Psychology*, 153(2), 214-236. <https://doi.org/10.1080/00223980.2018.1511515>
- European Commission. (n.d.). *Path to climate neutrality*. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/climate-action-and-green-deal_en
- Sarasini, S., Sandén, B., & Karlström M. (2013). Electrifying the automotive industry via R&D collaborations. In B. Sandén (Ed.), *System perspectives on electromobility* (pp. 169-184). Chalmers University of Technology.
- Lane, B. W., Dumortier, J., Carley, S., Siddiki, S., Clark-Sutton, K., & Graham, J. D. (2018). All plug-in electric vehicles are not the same: Predictors of preference for a plug-in hybrid versus a battery-electric vehicle. *Transportation Research Part D: Transport and Environment*, 65, 1-13. <https://doi.org/10.1016/j.trd.2018.07.019>
- Macioszek, E. (2021). The role of incentive programs in promoting the purchase of electric cars – review of good practices and promoting methods from the world. In E. Macioszek, & G. Sierpiński (Eds.), *Research methods in modern urban transportation systems and networks* (pp. 41-58). Springer cham.
- Mersky, A. C., Sprei, F., Samaras, C., & Qian, Z. S. (2016). Effectiveness of incentives on electric vehicle adoption in Norway. *Transportation Research Part D: Transport and Environment*, 46, 56-68. <https://doi.org/10.1016/j.trd.2016.03.011>
- Peters, R., Breuer, J. L., Decker, M., Grube, T., Robinius, M., Samsun, R. C., & Stolten, D. (2021). Future power train solutions for long-haul trucks. *Sustainability*, 13(4), 2225. <https://doi.org/10.3390/su13042225>

- Raposo, A. M. et al. (2019). *The future of road transport EUR 29748 EN*. Publications Office of the European Union. <https://dx.doi.org/10.2760/668964>
- Wen, W., Yang, S., Zhou, P., & Gao, S. Z. (2021). Impacts of COVID-19 on the electric vehicle industry: Evidence from China. *Renewable and Sustainable Energy Reviews*, 144, 111024. <https://doi.org/10.1016/j.rser.2021.111024>
- Wilberforce, T., El-Hassan, Z., Khatib, F. N., Al Makky, A., Baroutaji, A., Carton, J. G., & Olabi, A. G. (2017). Developments of electric cars and fuel cell hydrogen electric cars. *International Journal of Hydrogen Energy*, 42(40), 25695-25734. <https://doi.org/10.1016/j.ijhydene.2017.07.054>

Contact Data:

Ing. Eva Jaderná, PhD.
SKODA AUTO University
Department of Marketing and Management
Na Karmeli 1457
293 01Mlada Boleslav
CZECH REPUBLIC
eva.jaderna@savs.cz
ORCID-ID: <https://orcid.org/0000-0001-8576-6379>

Ing. Emil Velinov, PhD.
SKODA AUTO University
Department of Marketing and Management
Na Karmeli 1457
293 01Mlada Boleslav
CZECH REPUBLIC
emil.velinov@savs.cz
ORCID-ID: <https://orcid.org/0000-0001-6073-1196>

Assoc. Prof. Ing. Jana Přikrylová, PhD.
SKODA AUTO University
Department of Marketing and Management
Na Karmeli 1457
293 01Mlada Boleslav
CZECH REPUBLIC
jana.prikrylova@savs.cz
ORCID-ID: <https://orcid.org/0000-0003-1977-5626>

TIME TO SAY GOODBYE: A NEUROMARKETING PERSPECTIVE

Dinko Jukić

DOI: <https://doi.org/10.34135/mmidentity-2023-18>

Abstract:

Study research neuromarketing from the aspect of consumer emotions. It starts from the analysis of the phenomenon of neuromarketing and brand image. Unconscious reactions and the role of emotions in purchasing decisions are considered. The aim of the study is to research and show the influence of neuromarketing in the context of consumer choices from the aspect of emotions and AI. The study compares Keller's theory of brand image and Damasio's theory of emotions. The use of AI accelerates and expands the development of neuromarketing because it directs the consumer to his desires, offering him what he searches, watches, reads, and does. In the study, the ethical questions of neuromarketing are opened, because knowledge about the consumer's desires is revealed on an unconscious level, which, using neuroscientific methods, is displayed in the brain. The role of emotions is extremely important when choosing a brand because consumers do not always react rationally. This means that emotions come to the surface as a result of triggers that we often do not consciously recognize. And precisely such feelings represent the private thing that neuromarketing detects and AI connects. The reference to the song *Time to Say Goodbye* is a metaphor for marketing that is put to the test of neuroscience and ethics by exposing the hidden desires of consumers. This study provides a theoretical framework about neuromarketing, AI, emotions, and ethics.

Key words: AI. Brand. Customer. Ethics. Emotion. Neuromarketing.

1 Introduction

The topic of this study is a critical analysis of neuromarketing (Lim, 2018; Brierley et al., 2020) from the aspect of consumer choice (Giboa, 2013), and application of artificial intelligence (AI). The title of the study is an allusion to the Italian song *Con te partirò* [*Time to Say Goodbye*] (Bocelli, 1995), which served as a metaphor for marketing and ethics in the context of consumer choice. The ethical question represents a humanistic quest in the form of research into where marketing is going. By exposing the consumer's hidden desires, we violate a person's privacy and identity. The neuroscientific question remains open because with the help of functional magnetic resonance imaging (fMRI), we more precisely detect the area of the brain that is activated during the consumer's encounter with the brand.

In other words, neuromarketing identifies the consumer's unconscious desires. AI has changed the way companies market their products. By applying AI, it is possible that the collected consumer data can be used for detailed customization that can predict whether the product will be liked in the future. Since AI has advanced, the generated ads become personalized, and thanks to machine learning, the consumer's profile becomes readable. This reading of the consumer's wishes imposes ethical, sociological, and psychological questions. The development of neuroscience and neuropsychology further explains human behaviour. Emotions are important when making a purchase decision.

The synergy of neuromarketing and AI provides the possibility of opening the "black box". However, from a neuroscientific perspective, the consumer's emotions are often unconscious. Representations that arouse emotions often take place below the level of consciousness. In other words, this study questions the ethics of revealing consumer desires that are unconscious, but also the use of AI that recognizes consumer desires. In this sense, paraphrasing S. Leone, the ethical question arises: Did neuromarketing sold the consumer for *Per un pugno di dollari* [*a fistful of dollars*]?

2 Methodology

The study used a qualitative content analysis. The aim of the paper is to show the connection between neuromarketing, brand image, and emotions. This is a theoretical paper that research, analyses and reviews the relationship between neuromarketing, brand image, the impact of AI, and consumer behaviour when choosing a brand. It is based on Damasio's (2005) theory of emotions, according to which the context of brand image is observed. Brand image is interpreted according to Keller's (2013) theory of brand. The study attempts to interdisciplinary present the context of neuromarketing and the application of AI as one of the forms of consumer choice.

The study consists of two thematic parts. In the first part, we discuss the importance of emotions, awareness, and brand. The second part discusses the role of neuromarketing, ethics and AI. The allusion to the Italian song represents a metaphor for neuroethics and neuromarketing because it raises the question of the consumer's unconscious choices and the influence of emotions.

3 Awareness, Emotional, and Brand

Damasio views consciousness as a mental model that connects an object and the self (Damasio, 2005). This means that from a neuroscientific point of view, the problem of consciousness can be viewed in two ways. The first way refers to understanding how the brain creates mental models, i.e., images of an object. These images convey a reaction of liking or disliking in relation to the object. In the context of marketing, it is about the consumer liking the brand and showing emotions towards the brand in the form of brand loyalty. In this sense, consciousness is a private phenomenon, i.e., *the first-person singular*, and behaviour represents the *third person singular* (Damasio, 2005). Another way of observing consciousness refers to the act of cognition. The act of knowing implies the creation of a sense of self parallel to the creation of mental models. In the context of marketing, it is the moment when the consumer knows why he buys a certain brand and is aware that he likes it.

Therefore, consciousness corresponds to two types of self (Damasio, 2005): core self and autobiographical self. By applying knowledge from neuroscience, core consciousness allows the consumer to feel himself in one moment, and in one place, like shopping in a store. However, a complex form of consciousness, such as extended consciousness, allows the consumer to be aware of the self-concept. Damasio (2005) also claims that consciousness is the construction of organism and object knowledge. In this sense, the organism is the consumer, and the object is any object that the consumer perceives. This means that the organism (consumer) participates in a relationship with an object such as a brand, and that the object in that relationship causes a change in the organism such as the satisfaction of buying that brand.

Neural models and images represent the organism, the object, and its relationship. In other words, the representation of the object (brand) is the field of consumer psychology, i.e., the study of perception, learning and memory that stores knowledge about the brand in memory, which according to Keller we observe as brand recall and brand recognition. To demonstrate brand recall, consumers must retrieve the actual brand element from memory. Thus, brand recall is a more demanding memory task than brand recognition because consumers are not just given a brand element and asked to say whether they have seen it before (Keller, 2013).

Self-concept is a complex structure and is defined differently. It consists of many features, with some features being given greater emphasis. It is a mental image, a personal perception of self-image, a subjective experience of one's own self, self-awareness. The

importance and significance of self-image comes from its influence on the overall behaviour and perception of a person. Marketing communications can influence a consumer’s level of self-esteem. Self-esteem refers to the positivity of a person’s self-concept (Solomon et al., 2006). Advertising related to self-esteem seeks to change attitudes towards brands by encouraging positive feelings in consumers (Jun et al., 2017; Xie et al., 2015).

One of the ways of questioning the consumer’s self-esteem is precisely through the process of comparing the actual position in terms of some characteristic and the ideal position. The ideal self is a person’s conception of how he or she would like to be, while the actual self refers to our more realistic appraisal of the qualities we have or lack (Solomon et al., 2006). This means that consumers choose certain brands because they think they are in line with our real personality and buy others to get closer to the ideal image. However, just as a consumer’s choice of brand influences the perception of others, that same brand can contribute to determining the consumer’s identity. This is exactly why consumers show loyalty to a brand to maintain their self-image. This means that people who have an incompletely defined self-concept will tend to complete that identity by acquiring and showing such symbols (Elliott & Wattanasuwan, 1998; Stets & Burke, 2014; Schouten et al., 2020).

The ideal self-image is shaped by the brand image and consumer identification with a desirable image. This can be seen when analysing the construct of brand personality or brand loyalty, which represents the goal of consumer attachment and identification. The consumer’s evoked emotions depend on the feelings on which the emotions are based. This means that there is a difference between “feeling” and “knowing that we have a feeling” (Damasio, 2005). Consumers may feel comfortable and relaxed, and this feeling did not start at the moment they became aware of it. In other words, the feelings that took place are biological processes of which the consumer is not aware. In this sense, we can distinguish three stages of emotions that we observe from the perspective of the consumer and the brand (see Table 1).

Table 1: Stages of emotion towards the brand

A state of emotion	A state of feeling	A state of feeling that has been brought to consciousness
- biological reactions - brand elements	- unconsciously represented - brand recall	- awareness of emotions - brand love

Source: own processing, 2023

Emotions are hard to define (Oatley & Jenkins, 2003). Emotions are complex sets of chemical and neural reactions shaped into a model. From the neuromarketing point of view (Hsu, 2017; Jukić, 2019; Jukić, 2023), emotions are important because they have a positive effect on the brand. The best example is the brand image as a set of consumer associations related to the physical and psychological properties of the product (Kapferer, 2008). Creating a positive brand image takes marketing programs that link strong, favourable, and unique associations to the brand in memory. Brand associations may be either brand attributes or benefits (Keller, 2013). Added values are crucial for forming beliefs about brand attributes that are based on emotional consumer impressions. Unique associations help consumers choose the brand (Keller, 2013). Emotional experience is closely related to the visceral motor system (Jukić, 2023).

However, emotions help the reason to focus the mind and set priorities (Damasio, 1994). Damasio (2005) claims that emotions are the beginning, and feelings of emotions are the end of a progressive process, i.e., that the expression of *feelings* means a private experience of emotions, and the expression of *emotions* means a set of reactions that can be observed. This also means that consumers are not always aware of what provokes an emotion, nor can they manage their emotions. Therefore, representations of surrounding stimuli, such as exposure to a brand, can occur below the level of consciousness (Table 1), but still provoke

emotions. In this sense, spontaneous laughter induced by sincere elation (brand recognition) is produced by the action of brain structures located deep in the brainstem and controlled by the cingulate area of the cerebral cortex (see Figure 1).

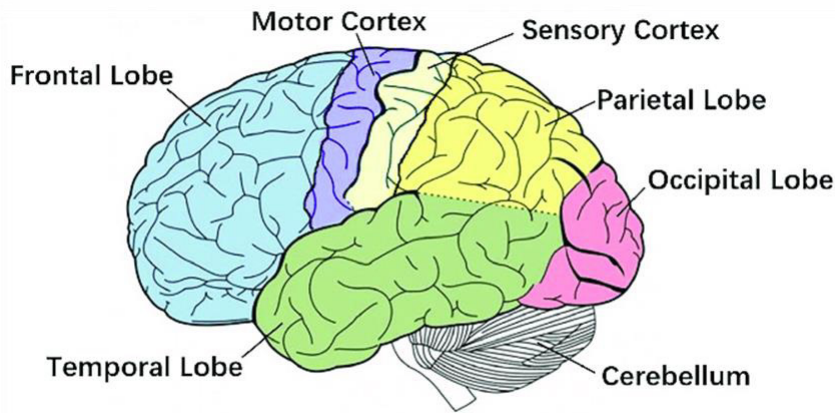


Figure 1: Cerebral cortex
Source: Natus (n.d.)

Emotions are expressed by visceral motor changes and stereotyped body motor responses. The answers are accompanied by subjective experiences that are similar in all cultures, such as the emotions of joy, sadness, and fear (Reeve, 2010). Emotions are a multi-stage process (Judaš & Kostović, 1997). Emotional experience is linked to the visceral motor system, which is driven by preganglionic autonomic neurons in the brainstem (Purves et al., 2016). The same forebrain structures that process emotional signals are involved in various complex brain functions such as consumer behaviour and purchase decision making. The source of emotions comes from the sensory component of muscles and internal organs. In this sense, parts of the prefrontal cortex interconnected with the amygdala participate in the planning of consumer behaviour. In other words, the amygdala can provide emotional input to conscious and unconscious actions (Jukić, 2023). Connections between the amygdala, neocortex and subcortical structures are responsible for *feeling* emotions (Purves et al., 2016). Damasio (2005) also claims that emotional feelings are a consequence of the cognitive capacity for self-awareness.

The consumer's body is the stage for all emotions. All brain structures can be activated automatically, without conscious thought and decision making. This means that emotions affect the functioning of brain circuits, and the variety of emotional reactions leads to changes in the body and brain. This is precisely the key reason why neuromarketing looks at the neural processes of consumers to get at hidden information (Lim, 2018). Therefore, emotions are inseparable from the idea of reward and punishment, pleasure and pain, attraction, and repulsion (Damasio, 2005).

Many emotionally neutral objects are associated with objects and situations that stimulate emotions. Therefore, the form of learning (conditioning) is one of the ways to achieve such an association. In this sense, emotional attachment can develop towards all brand objects. This also means that every image, real observation, or recall (Keller, 2013) is accompanied by some reaction of the emotional apparatus. It is these reactions that change brain circuits like neurotransmitter exocytosis. During emotions, neurons located in the hypothalamus, basal telencephalon and brainstem secrete substances into areas of the brain and thus temporarily change the way neural circuit's function (Damasio, 2005). Such an

impression of pleasure or discomfort permeates the consumer's mental experience and is part of feeling emotions.

4 Neuromarketing, Ethics, and AI

From the communication aspect, persuasive messages impose the *brand code* to the customer. That code is derived from understanding of identity (Kapferer, 2008) in which we encode the elements of the brand's identity (Keller, 2013). Thus, conditionally speaking, coding represents the construction of a brand identity (Keller, 2013) in which the sender of the message is the producer, and the recipient is the consumer. These same messages can be denotatively transferred to a higher level of the sign (Jukić, 2021), which then represents a brand metaphor and personification. As an example, let us take the concept of brand personality to which consumers add human characteristics. Therefore, such coding represents an integrated marketing communication in which the consumer's identification with the brand develops.

In the broadest sense of the word, these messages are given and represent a monologue. Such messages do not represent dialogue in the communicative sense, they are offered, and the consumer takes them as ready-made codes. The same applies to the offer that is filtered and offered by AI. In connection with the increasing number of smart devices, data is collected about users and their habits and preferences. In this sense, AI can help in many ways, and reduce the risk of deciding the marketing strategy. The increased availability of rich data leads to improved consumer decision-making methods such as recommending customers to buy related products and content used by Amazon, PlayStation Store, You Tube and Netflix.

Since consumers do not always make rational decisions when shopping (Loureiro et al., 2012) they often use mental shortcuts (heuristics) and emotional reactions. Such decision-making takes place automatically, quickly, emotionally and on unconscious levels. One example of such unconscious and emotional reactions is at the level of brand symbols. Self-image congruence models predict that consumers will choose a product whose features match their self-image (Solomon et al., 2006). In this way, consumers show brand attachment to maintain their self-image. Also, attachment to the brand contributes to the creation of the user's identity as well as arousing strong emotions such as love, warmth, and adoration of the brand. This means that brand identities are intertwined with consumer identity, and brands are emotionally engaged (Banister & Hogg, 2004). An identity is a set of meanings that defines individuals in terms of the roles they occupy, the social categories or groups they belong to, and the individual characteristics that define them as unique persons.

Neuromarketing precisely explores this unconscious level of modelling human behaviour with brain imaging techniques such as fMRI, PET, EEG, and SCR (Jukić, 2023) to provide insight into the consumer's experiences of a certain stimulus. As an example, the EEG method provides insight into the quality of brain waves associated with the consumer's state of consciousness. As another example, the PET method provides insight into the brain structures that are active during imaging (Pinel, 2002).

With the help of neuroscience, we now recognize psychological processes based on brain activity. There are three different types of sensory areas in the cerebral cortex (Pinel, 2002): primary, secondary, and associative. The primary sensory area is the part of the cortex that receives most information directly from the thalamic nuclei (Pinel, 2002). The secondary sensory area receives most of the primary information from the primary sensory area, and the associative area receives information from multiple sensory systems. Sensory systems have parallel processing (Pinel, 2002), i.e., there is a simultaneous analysis of information that is conducted by multiple parallel paths of the neural network.

Different emotions are activated by different rates of cortical neural activation (Reeve, 2010). However, there are sets of related emotions in which many non-basic emotions are derivatives of a single experience-based basic emotion. It should be noted that Damasio (2005) also observes emotions in the context of background emotions. Background emotions are recognized based on subtle body details, facial muscle contractions, eye movements, and the like. Background emotions are aroused from within and lead to the consumer's motivational state. Although they do not follow an explicit facial expression (Pinel, 2002; Reeve, 2010), they are expressed through musculoskeletal changes.

Therefore, we view emotions as physiological and feelings as psychological characteristics. We can also consider feelings as a memory of an emotion. With such an understanding of emotions and feelings (Lee et al., 2007), neuromarketing explores the unconscious parts of consumer behaviour, i.e., it moves from a cognitive aspect to an emotional one. Brand recall is just as important as the emotions evoked about that brand. Neuromarketing as a field of study can simply be defined as the application of neuroscientific methods to analyse human behaviour (Lee et al., 2007).

The aim of neuromarketing studies is to obtain information about the brain activity of consumers. Therefore, neuromarketing does not exclude traditional marketing, but gives answers from the neuroscientific aspect of how the brain works when choosing a brand, which areas of the brain are active (see Figure 1) during emotional connection and which part of the brain reacts to a stimulus. The question that remains open is not whether neuromarketing will show and explain consumer behaviour in detail, but how much the consumer's behaviour will be unconsciously and emotionally marked. Therefore, this presents an ethical dilemma between the further development of neuromarketing research and the consumer's right to privacy and identity.

However, there are also unanswered ethical questions that impose research in neuromarketing. Knowledge from neuroscience enables marketing to recognize psychological processes based on the activation of certain parts of the brain, i.e., its unconscious desires and emotional reactions to stimuli caused by brand exposure. Does this mean that an attempt is being made to influence the consumer's purchasing decision without them being aware of it? If this is the case, then we are talking about bypassing the rational choice that starts from a deep understanding of the consumer's emotions. If we know how the consumer reacts on an emotional level, can we use this knowledge in the context of advertising to children? The consumer is not aware of the impact of the emotional code of the brand. The consumer is on the verge of automatic thoughts, and choosing a brand becomes an automatic action (Jelić, 2014).

The term *stealth neuromarketing techniques* (Murphy et al., 2008) refers to exactly this ethical controversy of consumer manipulation. The key question arises from the development of neuromarketing and the application of AI in the future, which will enable a detailed representation of neural functions and thus the possibility of manipulation. Although currently such stealth marketing has not yet been realized (Murphy et al., 2008), with the application of AI its appearance is approaching very quickly. It is enough to compare how AI filters messages, content, and advertisements, and adapts the offers of certain brands to each user. The question arises of the illusion of consumer choice. There is a difference between perception and awareness, as well as between emotion and feeling.

The fact is that AI can help and facilitate the decision-making process in many ways, especially if it is viewed from the aspect of the quality and quantity of market and consumer data. In this context, the application of AI can function as a support for product development team members. Another example of the benefits of AI from a marketing management perspective is determining a brand's pricing strategy. By understanding the consumer's reaction to different prices, it gives producers the opportunity to optimize the price and

increases the efficiency of management. Machine learning can precisely analyse large amounts of data in a short time and, thanks to AI, extract the insights necessary for successful business.

An example of the use of AI is targeting the desired audience according to consumer preference through monitoring their activity on the Internet. Social networks, but also Google and YouTube, use artificial intelligence systems to know exactly what to show in their ads. Thanks to machine learning, the text, the audience, and the way the ad is presented are optimized. Simply put, AI cultivates consumers.

Let us take as an example of image recognition, i.e., the ability to recognize images, logos, brands with the help of algorithms so that marketers understand what consumers want. When a user posts a picture on Instagram, Facebook, Pinterest or TikTok, AI can recognize what the consumer wants to say with that picture, which brands he favours and recognize destinations from the picture. In this way, AI generates ads of brands that the consumer favours. By doing so, AI uses data processing to offer the consumer what he wants and prefers before the consumer expresses his desire.

Therefore, with the application of AI, the consumer's profile is supplemented, grows, and serves to recommend the best ads and brands to the consumer with the help of machine learning, natural language processing, image recognition, and deep learning. More simply, thanks to AI, it is predicted what the consumer wants.

5 Conclusion

In this study, we analysed the concept of emotions and feelings. We presented the context of consumer behaviour from the aspect of neuromarketing and from the ethical aspect of the application of AI in consumer choice. We have shown the connection between awareness, emotions, brand, and the stage of emotions towards the brand. By doing so, we are opening the questions of unconscious consumer wishes, the possibility of choosing a brand, as well as the disclosure of hidden consumer wishes.

Emotions have a significant impact in consumer behaviour. However, in addition to emotions, it is necessary to arouse certain feelings to encourage the consumer to buy. In this sense, the consumer's wishes represent a motivational factor. In other words, advertising first affects liking, and only then the desire to buy.

The brand image represents an ideal image in the eyes of consumers. That image represents the consumer's projection with which consumers identify through brands. In other words, consumers will buy those brands that best reflect their vision of their own self-image or want to be part of that vision. In this sense, the congruence of the brand and one's own self represents a process of cognitive alignment. Brand image, if we look at it from the perspective of neuromarketing, provides an insight into the consumer's emotional experiences. Neuromarketing techniques reveal the unconscious level of modelling consumer behaviour.

However, the question remains open to what extent consumer behaviour is conscious, if we use AI to filter messages and offer the consumer what he wants? If AI offers brands in advance, and knows our hidden desires, isn't it "time to say goodbye" to choice?

Bibliography

- Banister, E. N., & Hogg, M. K. (2004). Negative symbolic consumption and consumers' drive for self-esteem: The case of the fashion industry. *European Journal of Marketing*, 38(7), 850-868. <https://doi.org/10.1108/03090560410539285>
- Bocelli, A. (1995). Con te partirò [Time to Say Goodbye] [Song]. On *Bocelli* [Album]. Polydor Records.

- Brierley, G., Ozuem, W., & Lancaster, G. (2020). Subconscious marketing communication techniques and legal implications. *Journal of Decision Systems*, 29(2), 69-78. <https://doi.org/10.1080/12460125.2020.1752047>
- Damasio, R. A. (1994). *Descarte's error*. Avon Books.
- Damasio, A. (2005). *Osjećaj zbivanja* [*The feeling of what happens*]. Algoritam.
- Elliott, R., & Wattanasuwan, K. (1998). Brands as symbolic resources for the construction of identity. *International Journal of Advertising*, 17(2), 131-144. <https://doi.org/10.1080/02650487.1998.11104712>
- Giboa, I. (2013). *Racionalni izbor* [*Rational choice*]. Mate.
- Hsu, M. (2017). Neuromarketing: Inside the mind of the consumer. *California management review*, 59(4), 5-22. <https://doi.org/10.1177/0008125617720208>
- Jelić, N. (2014). Bihevioralna ekonomija, neuroekonomija, neuromarketing [Behavioral economics, neuroeconomics, and neuromarketing]. *Jahr – European Journal of Bioethics*, 5(9), 193-209.
- Judaš, M., & Kostović, I. (1997). *Temelji neuroznanosti* [*Foundations of neuroscience*]. Medicinska Dokumentacija.
- Jukić, D. (2019). Opening Pandora's box: Neuromarketing and brand image. In P. Ondra (Ed.), *DOKBAT 2019 – 15th annual international Bata conference for Ph.D. students and young researchers* (pp. 500-512). Tomas Bata University. <https://doi.org/10.7441/dokbat.2019.049>
- Jukić, D. (2021). Marketing semiotics in digital games: Myth's analysis in the walking dead and heavy rain. *Acta Ludologica*, 4(2), 4-30. <https://actaludologica.com/marketing-semiotics-in-digital-games-myths-analysis-in-the-walking-dead-and-heavy-rain/>
- Jukić, D. (2023). Beyond brand image: A neuromarketing perspective. *Communication Today*, 14(1), 22-38. <https://doi.org/10.34135/communicationtoday.2023.Vol.14.No.1.2>
- Jun, S., Jeong, Y., Gentry, J. W., & Hyun, Y. J. (2017). The moderating effect of self-esteem on consumer responses to global positioning in advertising. *International Journal of Advertising*, 36(2), 272-292. <https://doi.org/10.1080/02650487.2015.1094859>
- Kapferer, J. N. (2008). *The new strategic brand management* (4th ed.). Kogan Page.
- Keller, K. L. (2013). *Strategic brand management* (4th ed.). Pearson Education Limited.
- Lee, N., Broderick, A. J., & Chamberlain, L. (2007). What is 'neuromarketing'? A discussion and agenda for future research. *International Journal of Psychophysiology*, 63(2), 199-204. <https://doi.org/10.1016/j.ijpsycho.2006.03.007>
- Lim, M. W. (2018). Demystifying neuromarketing. *Journal of Business Research*, 91, 205-220. <https://doi.org/10.1016/j.jbusres.2018.05.036>
- Loureiro, S., Ruediger, K., & Demetris, V. (2012). Brand emotional connection and loyalty. *Journal of Brand Management*, 20(1), 13-27. <https://doi.org/10.1057/bm.2012.3>
- Murphy, E. R., Illes, J., & Reiner, P. B. (2008). Neuroethics of neuromarketing. *Journal of Consumer Behaviour*, 7(4-5), 293-302. <https://doi.org/10.1002/cb.252>
- Natus. (n.d.). *Motor cortex* [Online image]. <https://natus.hr/sites/default/files/5.png>
- Oatley, K., & Jenkins, M. J. (2003). *Razumijevanje emocija* [*Understanding emotions*]. Naklada Slap.
- Pinel, J. P. J. (2002). *Biološka psihologija* [*Biopsychology*]. Naklada Slap.
- Purves, D., Augustine, G., J., Fitzpatrick, D., Hall, C., W., Lamantia, A-S., & White, E., L. (2016). *Neuroznanost* [*Neuroscience*] (5th ed.). Medicinska naklada.
- Reeve, J. (2010). *Razumijevanje motivacije i emocija* [*Understanding motivation and emotion*]. Naklada Slap.
- Schouten, A. P., Janssen, L., & Verspaget, M. (2020). Celebrity vs. influencer endorsements in advertising: The role of identification, credibility, and product-endorser fit.

International Journal of Advertising, 39(2), 258-281.
<https://doi.org/10.1080/02650487.2019.1634898>

Solomon, M., Bamossy, G., Askegaard, S., & Hogg, M. K. (2006). *Consumer behaviour: A European perspective* (3rd ed.). Pearson Education Limited.

Stets, J. E., & Burke, P. J. (2014). Self-esteem and identities. *Sociological Perspectives*, 57(4), 409-433. <https://doi.org/10.1177/0731121414536141>

Xie, Y., Batra, R., & Peng, S. (2015). An extended model of preference formation between global and local brands: The roles of identity expressiveness, trust, and affect. *Journal of International Marketing*, 23(1), 50-71. <https://doi.org/10.1509/jim.14.0009>

Contact Data:

Dinko Jukić, Ph.D.

Trade and Commercial School "Davor Milas" Osijek

Ivana Gunudlića 38

31 000 Osijek

CROATIA

dinkojukic.phd@gmail.com

ORCID-ID: <https://orcid.org/0000-0002-5595-4245>

NAVIGATING THE DIGITAL AGE: EXPLORING EFFECTIVE TEACHING AND LEARNING APPROACHES FOR UNIVERSITY STUDENTS

Eva Karasová – Marianna Uherková

DOI: <https://doi.org/10.34135/mmidentity-2023-19>

Abstract:

The paper explores the effectiveness of traditional versus digital teaching and learning methods as perceived by university students. As digital technologies are fundamentally changing the ways of teaching, learning and teacher-student interaction, the impact of digitalization on students' learning styles remains underresearched. The aim of the study is to determine to what extent teaching and learning methods need to be adapted to reflect the current needs of students in the digital era. An online questionnaire about evaluation of teaching and learning methods was used to collect data amongst students of Faculty of Electrical Engineering and Information Technology of the Slovak University of Technology in Bratislava. The conducted quantitative survey research and subsequent comparative analysis showed students' preference for high hybridization of teaching and learning methods, i.e., blending of traditional and digital methods. In particular, the students require input that is primarily visual. The research also shows that the role of the teacher's explanation continues to play a significant role in higher education.

Key words: Digital. Generation Z. Hybridization. Learning. Preference. Teacher's Role. Teaching. Visual Input.

1 Introduction

We live in an era dominated by technological advancements, and the landscape of higher education is undergoing a significant transformation. Digital tools and resources have led to a paradigm shift in teaching and learning methodologies at all levels of our education system. Our contribution delves into the intersection of education and technology to investigate how to help create meaningful and impactful learning experiences in the contemporary university environment. Through an exploration of diverse teaching strategies, we aim to provide insights on how to adjust pedagogical practices, support teachers and enhance the overall educational process for university students in today's dynamic digital landscape.

Since we encountered surprising discrepancies between the learning styles generation Z students are supposed to prefer and the ones they actually preferred, i.e. students inclining towards completely digitalized learning and in reality preferring highly blended learning, our principal objective was to identify teaching and learning methods preferred by university students and their implications in regards to current teaching methodology of university courses.

2 Methodology

As for the theoretical background, our research in the field of didactics draws on findings about blended learning by Rae Condie and Kay Livingstone (2007), Jarred Keengwe and Terry T. Kidd (2010) and other relevant research papers. Our analysis involves an interdisciplinary dimension, as it is placed on the intersection of IT research by Mária Bieliková (Bieliková & Vašečka, 2023), literary theory of Bogumila Suwara (2022) and contemporary philosophical and sociological theory of Zygmunt Bauman (2012). As for the methodology, quantitative survey research was conducted via Google Forms online

questionnaire with close-ended questions filled in by 282 first-year students of Faculty of Electrical Engineering and Information Technology of Slovak University of Technology in Bratislava between November 6 and November 9, 2023. The main goal of our analysis was to propose relevant adjustments of current teaching approaches towards a hybrid model of collaborative teaching strategies tailored to learners’ current needs.

Digital learning involves “application of network technology to create, foster, deliver and facilitate learning” and “release of individualized, whole, dynamic learning content in real time” (Gaur et al., 2015, p. 23). It embraces a wide set of technology applications and learning processes including computer-based learning, web-based learning, virtual classrooms and digital collaboration (Keengwe & Kidd, 2010). Blended learning combines traditional face-to-face classroom methods with digital learning activities. It aims to maximize the benefits of personal interaction, collaboration, and engagement in the physical classroom by “accommodating e-learning within existing strategies or developing new ones” (Condie & Livingston, 2007, p. 340), allowing for a tailored educational experience.

3 Results and Discussion

The aim of this chapter is to present, analyze and interpret the results of the student survey on the effectiveness of teaching and learning methods. Detailed statistics of the quantitative experiment are provided in charts as well as in a picture. The first question the students were asked to answer in the questionnaire was related to their preferred form of classes, in particular, lectures, seminars, lab work and practical classes and independent study. The following graph shows the percentage each class form received.

Which of these do you prefer while studying at university? Checking more than one box is possible.

282 responses

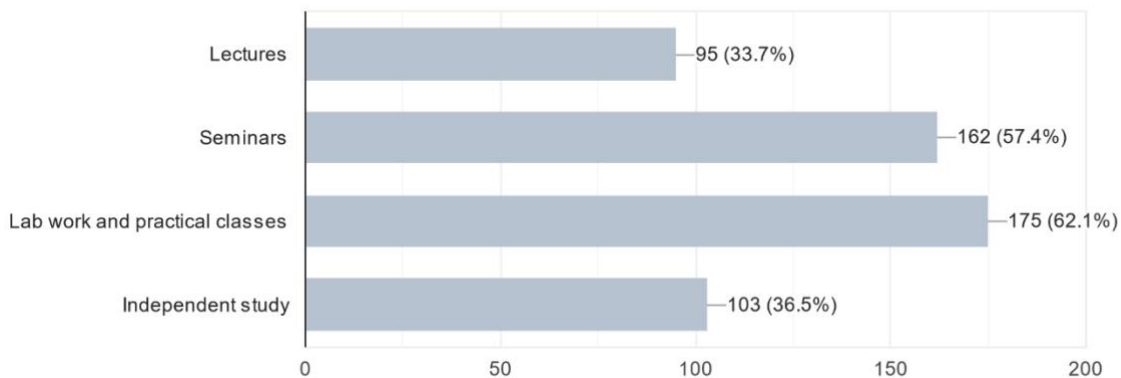


Figure 1: Graph showing forms of classes preferred by students

Source: own processing, 2023

The popularity of labwork (62.1%) followed, by a short margin, by seminars (57.4%) over independent study (36.5 %) and lectures (33.7%) implies students predominantly prefer cooperative and interactive teaching methods. These findings support the relevance of teaching paradigm shift towards the development of metacognitive skills, i.e., enabling students to take responsibility for their own learning and develop a critical consciousness (Condie & Livingston, 2007).

The following question was related to the classroom activities where students were asked to check which they prefer. The options were individual tasks, pair work and group work.

What type of activities do you prefer in the classroom? Checking more than one box is possible.

281 responses

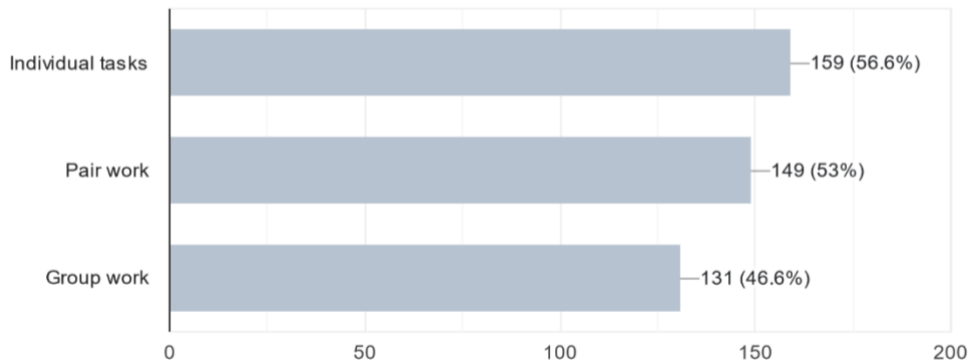


Figure 2: Graph showing preferred types of activities in the classroom
Source: own processing, 2023

In the second question, we examined the types of activities preferred in the classroom, namely individual tasks, pair work and group work. We observed a discrepancy between class forms and class activities preferred by students. In contrast to the previous graph, individual tasks (56.6%) are preferred, although by a small margin, to pair work (53%) and group work (46.6%). The role of the teacher as a mediator and guide is thus still important (the common denominator in the most popular forms of classroom and type of activities in the first and second question). Considering that the question had a possible multiple-choice answer, the small margins clearly indicate students’ significant preference for blended teaching approaches. In the framework of “dynamic group formation” (Srba & Bielíková, 2022), in which learners collaborate on short-term tasks in online learning systems, Bielíková proposes automatic computer-supported group formation methods. These are implemented via PopCorm program integrated with an educational system ALEF, based on micro- and macro-scripts that foster collaborative environment (Srba & Bielíková, 2022). If study group composition “can significantly influence the process of collaborative learning” (Srba & Bielíková, 2022, p. 184), the best course of action is to integrate digital group-formation methods to increase the efficiency of group work. In this perspective, results call for implementation of hybrid, highly individualized, dynamic teaching methodology.

The next question was related to students’ preference related to the types of material used in classes. They were choosing from three options:

- using only textbooks and printed material;
- using only digital media;
- using both digital media and textbooks / printed material.

Which of these types of material do you prefer while studying at university?

282 responses

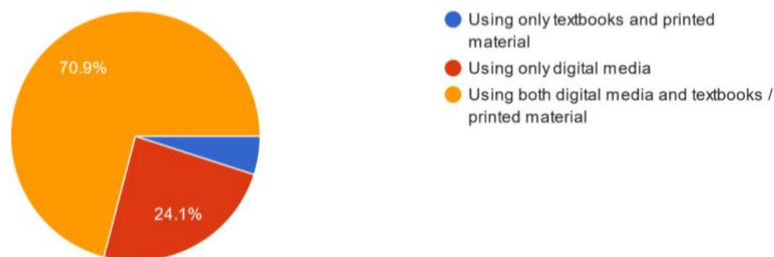


Figure 3: Textbooks vs Digital Media
Source: own processing, 2023

Almost three quarters of the respondents, 70.9 %, chose using both digital media and textbooks or printed material during classes over the other two options. It is evident that university students prefer blended teaching, combining traditional textbooks with digital materials by a large margin over students (24.1%) preferring only digital learning resources. The only textbook option was as expected the least popular one. We infer that it is related to the following benefits of blended learning: flexibility and convenience, catering for varied learning styles, fostering interactive engagement, allowing for real-time updates in the learning material, fostering collaborative and adaptative learning. These findings are in line with theories on the efficiency of hybridized learning in the digital era. Moreover, it has been observed that “students who generally want to stay away from school are highly motivated by innovative teaching methods” (Gaur et al., 2015, p. 24). Notably, blended learning encourages undergraduates in peer communication and in creating a positive attitude to the subject. If labor market is developing so rapidly that it is difficult to predict the situation two years in advance, let alone further in advance (Bieliková & Vašečka, 2023), then by fostering students’ technological proficiency, highly hybridized learning prepares students for a future where they will be required to navigate a wide range of digital resources in a digital workplace.

The next question was related to the use of digital platforms in the classroom. Students were asked if they like it when digital platforms such as Microsoft Teams, Google Classroom are used in the classes. There were three options to choose from: yes, no and sometimes. The results can be seen in the graph below.

Do you like when digital platforms such as Microsoft Teams, Google Classroom are used in classes?

282 responses

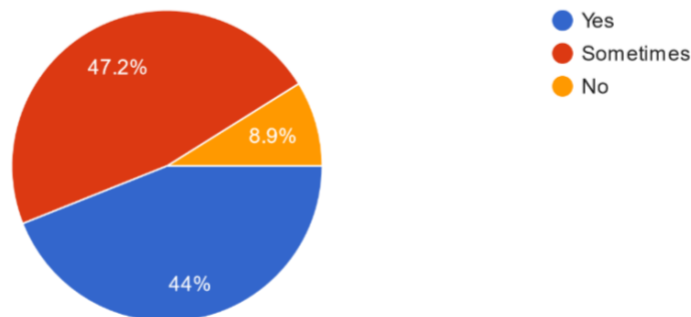


Figure 4: Digital platforms
Source: own processing, 2023

Less than a half of all students (44%) prefer constant use of digital platforms, while more students (47.2%) prefer only occasional use of such platforms, and 8.9% of students do not prefer the use of digital platforms at all. This is in line with our observations during our lessons in terms of students’ reservation towards the prevalence of digital tools and their reluctance towards the complete digitalization of the teaching and learning process. We deduce this is because when using digital platforms, students are required to download applications, sign in the applications on their mobile phones and learn how to use them. Aside from requiring too much effort, this might be perceived by students as a breach of their personal space, invasion of privacy, as mobile phones are perceived to be reserved for entertainment. These results indicate that generation Z, the digital natives, are not in favor of complete digitalization of the learning process.

Furthermore, we argue that students' preferences of teaching and learning techniques mirror the epistemological paradigm shift of the digital era. According to Zygmunt Bauman, "liquidity' or 'fluidity' can be considered as appropriate metaphors for explaining the epistemological nature of the current phase of the history of modernity" (Bauman, 2020, p. 9).

What is occurring today is a redistribution and reallocation of the "melting pot" of modernity. [...] All configurations, constellations and models of dependence and interaction have been thrown into the melting pot, to be subsequently reshaped and recast. In the history of an inherently transgressive, boundary dissolving and all-eroding modernity, this was a phase of "disruption of established practices". (Bauman, 2000, pp. 15-16.)¹

A corresponding teaching paradigm shift is required in this perspective, via the implementation of a highly interactive and eclectic blended teaching dynamically combining traditional and digital methods. Results are in line with the comparative study of second-year medical students' preferences conducted at Hassan Institute of Medical Sciences on Hassan. While it showed a statistically significant preference of digital learning over textbook-based traditional learning, it indicated "it would be best if both classroom instructions and e-learning are combined together" (Nalini et al., 2019, p. 12).

In the next section of the questionnaire, students were asked how effective they considered selected classroom tools, methods and activities. They had three options to choose from: effective, a little effective and not effective at all. Students were giving their opinion on the effectiveness of the following:

1. Listening to an explanation by a teacher.
2. Reading texts from textbooks, printed material.
3. Looking up information relevant to a particular exercise online.
4. Explanation based on visual input (pictures, graphs, etc.)
5. Listening to an online audio explanation (podcast, radio broadcast, etc.)
6. Watching a video related to relevant topics linked to a course.
7. Completing exercises from textbooks, printed material.
8. Discussion.
9. Game and competition-based activities.
10. Tasks requiring creativity.
11. Completing online exercises with the use of phones, tablets, laptops.
12. Using AI tools such as Chat GPT in classes.

The order of the items was strategically chosen as to not imply any relationship, especially that of juxtaposition, between them. In the following visual illustration, the ratio of students answers for each item is displayed as per how effective it is seen by the students, with the first being considered the most effective.

¹ Authors' note: The quotation is translated from Czech to English by the authors of the article: "To, k čemu dnes dochází, je redistribuce a realokace 'tavících sil' modernity. [...] Všechny konfigurace, konstelace a modely závislosti a vzájemného působení byly vrženy do tavicího kotle, aby byly následně přetvořeny a nově upraveny. V historii vrozeně transgresivní, hranice rozpouštějící a vše erodující modernity šlo o fázi 'rušení zaběhlých postupů'." (Bauman, 2000, p. 15-16)

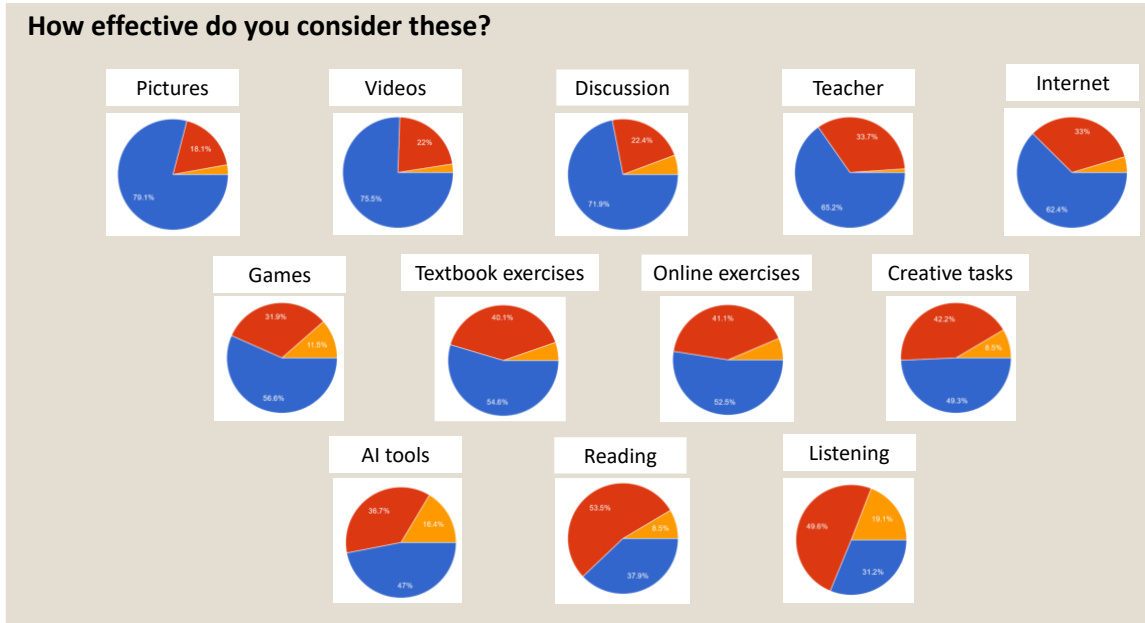


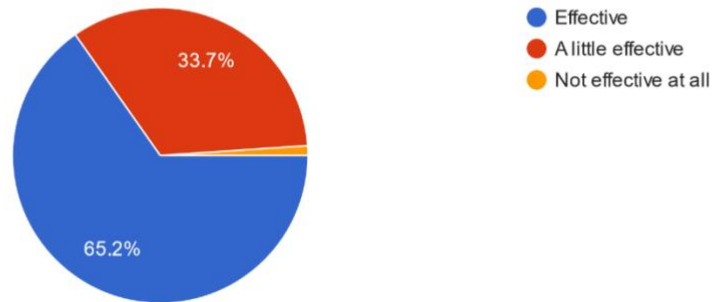
Figure 4: General comparison of preferences
Source: own processing, 2023

Within the overall assessment of classroom tools, methods and activities considered effective by students, unsurprisingly, pictures (79.1%) and videos (75.5%), i.e., tools based on visual input were the most prominent. These were closely followed by discussion (71.9%), which shows students’ need for self-expression during the learning process. The most surprising finding of this research is that the third most effective method as seen by the students is listening to teacher’s explanations. It is considered effective by 65.2% of the students while the number of students who think it is not effective is the smallest of all the evaluated items. This is surprising especially in the light of the voices that predict that the advances in technology will lead to a redundancy of teachers in the education process (Lancaster, 2021). This shows that despite such predictions, the role of the teacher still bears an importance in Generation Z classroom. Searching for answers on the internet during classes (62.4%) is considered to be the next most effective tool by students. It is because it provides them with the feeling of autonomy and reassurance. The next in line in terms of students’ evaluation are games (56.6%) followed closely by exercises completed from textbooks (54.6%), online exercises (52.5%) and creative tasks (49.3%). The findings suggest that the more effort learning activities require, the less popular they tend to be among students. Surprisingly, AI tools are considered to be efficient by less than half of students (47%). These are thus considered useful for homework, whilst the teacher still plays a key role in effective explanation and transfer of knowledge in class. If reading (37.9%) and listening (31.2%) are considered to be the least effective learning activities, then it might be because students consider it monotonous and passive. In the following paragraphs, we aim to analyze the more significant results in detail.

In the following part we delve into analysis of selected results and compare them. First, we decided to compare listening to a teacher’s explanation with listening to an audio explanation.

Listening to an explanation by a teacher

282 responses



Listening to an online audio explanation (podcast, radio broadcast, etc.)

282 responses

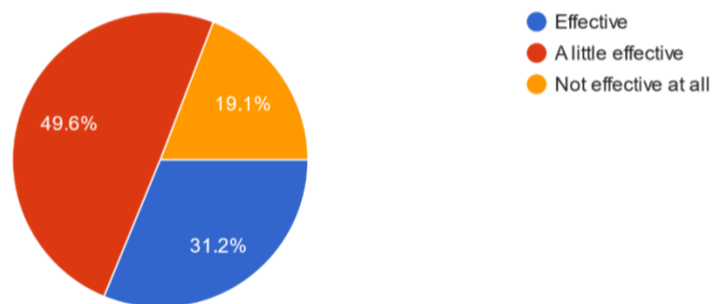


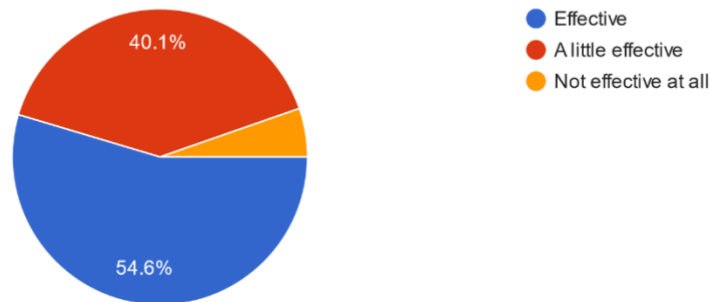
Figure 5: Listening to teacher’s explanation vs. listening to audio explanation
Source: own processing, 2023

Notably, listening to a teacher’s explanation is considered effective by 65.2% of students and a little effective by 33.7% whilst listening to audio explanation is considered effective only by 31.2% of students and a little effective by 49.6% of students. Despite the fact that Generation Z students are expected to prefer content available online, in the case of listening they very clearly prefer listening to a teacher’s explanation. This might be explained by the fact that this type of content is delivered purely via audio input. As is evident from the above-mentioned results, the students require their input to be visual. This might explain the preference for a teacher’s explanation as a teacher can employ several types of visual input during their explanation, such as gestures, miming and other forms of body language. Moreover, a teacher can also accompany their explanation with writing on the board and similar visual aids. Even though these two questions were not related to visual input directly, the results further highlight the preference of current generation of university students in usage of visual resources in education process.

The next two results that we juxtaposed against each other for further analysis are completing exercises in textbooks or printed material versus completing online exercises with the use of phones, tablets and laptops.

Completing exercises from textbooks, printed material

282 responses



Completing online exercises with the use of phones, tablets, laptops

282 responses

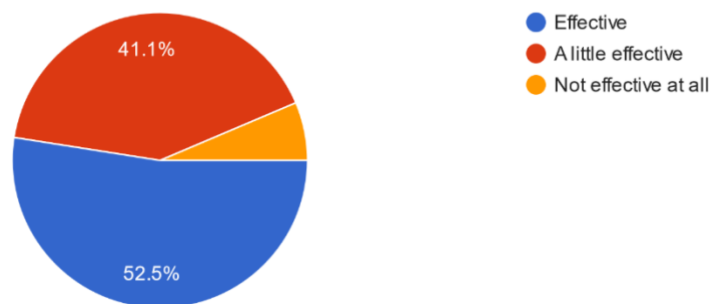


Figure 6: Exercises in textbook vs. exercises online
Source: own processing, 2023

Whilst the two charts look very similar, completing exercises in textbooks (54.6% effective, 40.1% a little effective) is considered as slightly more effective than completing exercises with the use of phones, tablets and laptops (52.5% effective, 41.1% a little effective). While this finding can be perceived as somewhat surprising, it corresponds with our own experience when students showed reluctance to use solely digital educational tools and thus confirms our observations from classes which inspired the research in the first place. The comparative charts confirm sustained students’ need for textbooks and printed material and the simultaneous need for online exercises, which proves students’ increasing demand for high variability of teaching methods. This goes in line with the fact that all over the world, in areas such as engineering, medical industry or business, “numerous lecturers are still pleased with utilizing the traditional lecturing techniques” (Odhaib, 2018, p. 35), whilst at the same time benefiting from learning outcomes enhanced by e-learning, such as “high engagement level of the learners, low cost, high flexibility, high consistency, quick delivery of the lessons, less influence on the environment, scalability and positive impact on the organization profitability because of its effectiveness” (Odhaib, 2018, p. 35).

If students are largely in favor of hybridized teaching and learning strategies, it is inferred that it is also because this approach relevantly and mimetically reflects the ontological nature of the digital era, its fragmentation, constant questioning, liquid, moving boundaries, a virtual world of constant reevaluation and countless possibilities. As for the increasingly used graphic and visualization techniques for discursive aims within the framework of cultural practices of the digital era, Suwara notes:

[...]the widespread tendency to convert information into images stems, among other things, from the technical possibilities of fast and high-quality repetition (reproduction), as well as from the conditions of functioning of the digital

environment, which has (probably) unlimited possibilities of visualizing (almost) any information. (Suwara, 2022, p. 111)²

Students' significant preference of visual material thus confirms the increasing dominance of visual learning strategies across a large spectrum of learners and prompts the corresponding adjustment of the teachings methods towards largely visual ones. In this respect, the results prove that for Generation Z university students visual teaching and learning techniques trump digital ones which we consider the most significant finding of this research.

In addition, our findings suggest that the role of the teacher might also be the one of an entertainer. Hence, the increasingly polyvalent nature of the teaching and learning process implies the increasing polyvalence of the role of the teacher in creating and implementing highly individualized and hybridized efficient teaching techniques in the digital era.

4 Conclusion

Results of the present study indicate that there is a statistically significant demand for implementation of highly personalized blended teaching and learning methodology providing a balanced and flexible learning experience that caters to the diverse preferences and needs of university students. This calls for significant hybridization of teaching methods towards the visual. However, we should bear in mind that the respondents of this study are students of electrical engineering and information technology; should the questionnaire collect answers from the students of arts or humanities, the results might be different. On the one hand, the teacher retains a prominent role in mediating knowledge, while on the other hand students assert their individuality by preferring individual tasks over pair and group work. The seemingly contradictory findings align with our conception of the effectiveness of a highly hybridized teaching model where these principles are complementary. The detected requirements need to be reflected by a corresponding teaching paradigm shift, wherein teaching methodology provides students with tools for understanding the complexity of the digital era with emphasis on students' successful functioning in society.

Our main proposal is a continuous and ongoing measurement of students' preferred learning methods via digital tools and the corresponding adjustment of lesson plans and course syllabi towards a highly visual, hybridized model of blended teaching. The findings will be utilized for the second research phase which aim is to measure the efficiency of the teaching strategies preferred by students in terms of their academic achievement. As well as rethinking the nature of a syllabus, the blended approach to teaching prompts a rethinking of classroom teaching methodology (e.g., concise instructions, increased visual input, rapid lesson pacing, automated dynamic group formation, etc.). This brings us to a conclusion that as teachers, we can ease in our zeal to adjust our teaching techniques and methods to Generation Z, the digital natives, and their assumed need to make all aspects of the classroom interactions digital. The results of our research show that it is not the digitalization of the education process, but the implementation of the visual that is the most important.

Bibliography

² Authors' note: The quotation is translated from Slovak to English by the authors of the article: "Rozšírená tendencia prevádzania informácie do podoby obrazov' (image) pramení okrem iného aj z technických možností rýchleho a kvalitného opakovania (reprodukovania), ako aj z podmienok fungovania digitálneho prostredia, ktoré disponuje (asi) neobmedzenými možnosťami vizualizovania (skoro) každej informácie." (Suwara, 2022, p. 111)

- Bauman, Z. (2012). *Tekutá modernita [Liquid modernity]*. Portál.
- Bieliková, M., & Vašečka, M. (Hosts). (2023, February 28). *Je umelá inteligencia hrozbou pre ľudstvo? Diskutujú sociológ Vašečka a informatička Bieliková [Is artificial intelligence a threat to humanity? Sociologist Vašečka and computer scientist Bieliková discuss]* [Video podcast]. Startitup Group. https://youtu.be/vGz1s8f5KoA?si=OdJA2FSs8k1_iIog
- Condie, R., & Kay, L. (2007). Blending online learning with traditional approaches: Changing practices. *British Journal of Educational Technology*, 38(2), 337-348. <https://doi.org/10.1111/j.1467-8535.2006.00630.x>
- Gaur, S., Chaudhary, A., & Mithilesh, M. (2015). A comparative study of e-learning technique with traditional teaching techniques. *International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering*, 3(8), 23-25. <https://doi.org/10.17148/IJIREEICE.2015.3806>
- Keengwe, J., & Kidd, T. T. (2010). Towards best practices in online learning and teaching in higher education. *MERLOT Journal of Online Learning and Teaching*, 6(2), 533-541.
- Lancaster, K. (2021, January 18). *Will we always need human teachers?* <https://www.philosophy-of-education.org/will-we-always-need-human-teachers/>
- Nalini, G. K., Deepak, P., Neelamma, P., Sahana, G. N., & Jayashree, V. N. (2010). Effectiveness of digital learning versus traditional learning among undergraduate students – prescription writing. *National Journal of Physiology, Pharmacy and Pharmacology*, 10(1), 9-14. <https://doi.org/10.5455/njppp.2020.10.0828816102019>
- Odhaib, M. F. (2018). Does e-learning give a better result than traditional learning? *International Journal of Computer Science and Mobile Computing*, 7(9), 29-36.
- Srba, I., & Bieliková, M. (2015). Dynamic group formation as an approach to collaborative learning support. *IEEE Transactions on Learning Technologies*, 8(2), 173-186. <https://doi.org/10.1109/TLT.2014.2373374>
- Suwara, B. (2022). *Literatúra na rozhraní technológií [Literature in the impact zone of technology]*. Veda.

Contact Data:

Mgr. Eva Karasová, PhD.
 Slovak University of Technology in Bratislava
 Faculty of Electrical Engineering and Information Technology
 Institute of Communication and Applied Linguistics
 Ilkovičova 3
 841 04 Bratislava
 SLOVAK REPUBLIC
 eva.karasova@stuba.sk

Mgr. Marianna Uherková, PhD.
 Slovak University of Technology in Bratislava
 Faculty of Electrical Engineering and Information Technology
 Institute of Communication and Applied Linguistics
 Ilkovičova 3
 841 04 Bratislava
 SLOVAK REPUBLIC
 marianna.uherkova@stuba.sk
 ORCID-ID: <https://orcid.org/0000-0002-4608-724X>

IS AI INVOLVED IN SPREADING MARKETING MYTHS?

Daniel Kvičala – Martin Klepek

DOI: <https://doi.org/10.34135/mmidentity-2023-20>

Abstract:

There are a lot of myths and untruths in marketing, or claims unsupported by data, which are further exploited both in practice and in academia. The task of academics should therefore be to identify and confirm or refute these through empirical research. The spread of such myths and half-truths can be amplified by the widespread use of AI in the acquisition of marketing knowledge. Thus, the aim of this paper will be to use a few selected AI tools to obtain answers to selected marketing questions and compare these with each other. Subsequently, the answers will be compared with the findings of empirical research addressing the issues. In a comparative analysis between artificial intelligence tools and scholarly literature, no significant disparities were identified. Artificial intelligence does not strive to present unequivocal conclusions but emphasizes the necessity of drawing insights from diverse sources. The main issue is the fact that AI generates fake bibliographic references thus it is necessary to double check all the sources.

Key words: AI. ChatGPT. Empirical Research. Marketing Knowledge. Marketing Literature.

1 Introduction

The rapid development of the internet has significantly increased the volume of information available to practitioners, academics, and students alike. On one hand, this proliferation is viewed as a positive trend, enhancing accessibility to a wealth of resources beneficial for both educational and practical purposes. The internet serves as a vast repository of knowledge, facilitating research, collaboration, and the dissemination of information. This accessibility has democratized learning, allowing individuals across the globe to tap into a diverse array of data and perspectives. Practitioners can stay abreast of the latest developments in their fields, while academics and students can explore a wide range of scholarly works and educational materials. However, this unprecedented access to information has also ushered in a new set of challenges. The sheer abundance of data on the internet makes it increasingly difficult to verify the accuracy and reliability of information. As a consequence, there is a growing concern about the potential consequences of working with misinformation. The ease with which unverified or misleading information can spread poses a risk to the integrity of research, education, and decision-making processes. As the digital landscape continues to evolve, it becomes imperative for individuals to develop critical thinking skills and robust methods for assessing the credibility of the information they encounter online. Balancing the advantages of increased accessibility with the risks associated with misinformation is a key consideration in navigating the complex terrain of the information age.

The emergence of artificial intelligence (AI) has further intensified this trend, as AI systems are now capable of responding to a wide array of queries, blurring the lines of transparency regarding the sources from which they draw information. While the capabilities of AI to process vast amounts of data and generate responses quickly are remarkable, the lack of clarity regarding the origins of the information raises concerns about the potential mystification of AI users. As users interact with AI platforms, there is a risk that they may unwittingly accept information without a clear understanding of its provenance or reliability. The opacity of AI decision-making processes and the potential for biased data inputs underscore the importance of establishing robust mechanisms for transparency and accountability in AI systems. Addressing these challenges becomes crucial in ensuring that the benefits of AI-driven information accessibility are not overshadowed by the risks of misinformation and the

unintentional dissemination of unverified or inaccurate content. Efforts to develop standards for AI transparency and accountability are essential to mitigate the potential negative consequences associated with the integration of AI into the information landscape.

To assess the veracity of information disseminated by artificial intelligence, selected questions from the field of marketing will be posed to AI systems. The obtained responses will then undergo a comprehensive comparison with insights derived from research studies that have delved into this issue, utilizing empirical data. This methodology aims to scrutinize the accuracy and reliability of the information provided by AI in the specific domain of marketing. By leveraging established research findings, which have undergone rigorous scrutiny and validation processes, the evaluation seeks to discern whether AI-generated responses align with the well-established knowledge base in marketing. This comparative approach contributes to a nuanced understanding of the capabilities and limitations of AI in delivering accurate and trustworthy information, shedding light on the intersection between artificial intelligence and the potential challenges associated with maintaining information integrity in specialized domains such as marketing.

The selected questions, grounded in research employing empirical data, serve as a robust framework for evaluating the accuracy of artificial intelligence-generated responses. These questions delve into fundamental aspects of marketing, drawing on insights derived from empirical studies. For instance, the first question explores the dichotomy between brand growth through customer acquisition versus loyalty building. The second question, rooted in e-commerce research, investigates the average proportion of repeat customers in the customer base of retail-focused online stores. The third question delves into the application of the Pareto principle, examining whether a minority of highly frequent shoppers contributes significantly to the overall revenue of e-commerce platforms. Questions four and five probe into the dynamics of customer profitability, addressing the distribution of revenue between repeat customers and those making a single purchase. By aligning these questions with established research findings, the evaluation aims to discern the AI's capacity to provide accurate and nuanced insights into intricate marketing phenomena, offering a critical examination of the intersection between AI-generated responses and empirical realities in the field of marketing.

2 Methods

The research methodology involves the utilization of the ChatGPT 3,5 application as the primary tool for investigation. The chosen questions, rooted in empirical studies addressing marketing phenomena, will be systematically presented to ChatGPT to elicit responses. ChatGPT, an advanced language model, will generate answers based on its vast training dataset and contextual understanding. Subsequently, these AI-generated responses will be critically compared with the conclusions derived from research studies that have extensively examined the specified issues within the realm of marketing.

The following questions will be posed to the ChatGPT application:

- 1. Do brands grow market share through acquiring new customers or through building loyalty?
- 2. What is the average percentual proportion of repeat customers in the total customer base of retail-focused e-commerce platforms?
- 3. Does the Pareto principle hold true – do the top 20% of most frequent customers contribute to 80% of the total revenue for e-commerce platforms?
- 4. Do repeat customers or one-time purchasers constitute the majority share of revenue for e-commerce businesses?
- 5. Are loyal customers always more profitable than those who make a single purchase?

The objective is to assess the accuracy and reliability of ChatGPT's responses by juxtaposing them against well-established findings supported by empirical data. This comparative approach serves as a rigorous means of evaluating the effectiveness of AI in providing insights into complex marketing concepts and contributes to a nuanced understanding of the intersection between artificial intelligence and the empirical realities elucidated in prior research.

The research methodology entails a meticulous validation process where only conclusions derived from empirical transactional data will be considered to verify the responses generated. Specifically, conclusions drawn from studies utilizing real-world transactional data, as highlighted by Easley (2000), Frank and Nagler (2013), Bolarinwa (2015), Smith et al. (2017), and Charles and Gherman (2018), will be selectively chosen. By exclusively relying on empirical transactional data, which provides a description of real-world interactions and behaviors, this research aims to enhance the robustness of the validation process. It is acknowledged that conclusions drawn from empirical data may vary from those of other studies deploying different methods or datasets. This selective approach ensures a focused comparison, aligning the AI-generated responses with conclusions rooted in the tangible realities captured by empirical transactional data in the field of marketing.

3 Results

We will now present the answers generated by ChatGPT to the selected questions. The following answers have been generated by ChatGPT on the basis of its extensive language model training, using a variety of sources and information contained in its training data. It is important to critically evaluate these answers in light of the subsequent comparison with conclusions derived from empirical transactional data, as the accuracy and reliability of the AI-generated answers will be scrutinised against the backdrop of established research in the field of marketing. This research aims to shed light on the capabilities and potential limitations of artificial intelligence in addressing nuanced questions related to marketing phenomena, and to provide insights into the intersection between AI-generated responses and empirical realities.

1. Do brands grow market share through acquiring new customers or through building loyalty?

ChatGPT: The question of whether brands grow market share more effectively through acquiring new customers or building loyalty is a complex and context-dependent issue. Research in marketing literature provides insights into various aspects of this dynamic. Some studies emphasize the importance of customer acquisition for expanding market share rapidly.

Acquiring new customers can be particularly impactful in industries with high competition, where gaining a larger share of the customer base is a strategic imperative. Acquisition-focused strategies often involve targeted marketing campaigns, promotions, and incentives to attract new consumers.

Conversely, other research underscores the role of customer loyalty in maintaining and growing market share over the long term. Loyal customers tend to make repeat purchases, contribute to positive word-of-mouth marketing, and can be less sensitive to competitive pricing. Additionally, retaining existing customers can be cost-effective compared to the expenses associated with acquiring new ones. A seminal work by Rust, Lemon, and Zeithaml (2004) titled *Return on Marketing: Using Customer Equity to Focus Marketing Strategy* explores the concept of customer equity, emphasizing the value derived from both acquisition and retention efforts.

In practice, the optimal strategy often involves a strategic balance between customer acquisition and loyalty-building initiatives. The effectiveness of each approach depends on factors such as industry characteristics, competitive landscape, and the nature of the products

or services offered by the brand. Ultimately, the most successful brands typically integrate both customer acquisition and retention strategies into a comprehensive and adaptive marketing strategy.

Literature: According to Dawes (2016) and Naami et al. (2021), brands that experience growth in market share metrics do so primarily through the acquisition of new customers rather than an increase in the frequency of repeat purchases.

2. *What is the average percentual proportion of repeat customers in the total customer base of retail-focused e-commerce platforms?*

ChatGPT: As of my last knowledge update in January 2022, I don't have access to real-time databases or the ability to conduct live searches. Therefore, I cannot provide the current average percentage proportion of repeat customers in the total customer base of retail-focused e-commerce platforms. The specific percentage of repeat customers in e-commerce platforms can vary widely based on the industry, the nature of the products or services, and the individual strategies employed by each platform. To obtain the most accurate and up-to-date information, I recommend consulting recent publications in reputable marketing and e-commerce journals, industry reports, or market research studies. You may conduct searches on academic databases like PubMed, Google Scholar, or industry-specific databases, using keywords such as "repeat customer percentage in e-commerce" or "customer retention in retail e-commerce". Additionally, accessing reports or data released by specific e-commerce platforms or industry organizations might provide valuable insights into customer retention metrics. If you have access to a university or institutional library, librarians can assist you in finding relevant and recent literature on this specific topic.

Literature: Research studies on loyalty in e-commerce conducted by Kvičala and Starzyczná (2020), Kvičala and Starzyczná (2021), and Zapletalová et al. (2023) have demonstrated that the average proportion of repeat customers in the total customer base is less than 10%. Studies focused on verifying the validity of the Pareto principle in e-commerce by Kvičala and Starzyczná (2020), Klepek & Kvičala (2020), and Klepek & Kvičala (2022) have refuted the applicability of the 20/80 ratio within the context of the examined online stores. In none of the investigated e-commerce platforms was this ratio found to hold true.

3. *Does the Pareto principle hold true – do the top 20% of most frequent customers contribute to 80% of the total revenue for e-commerce platforms?*

ChatGPT: Research on the application of the Pareto principle, also known as the 80/20 rule, in the context of e-commerce platforms suggests that the principle holds true to some extent, but the exact distribution may vary. Studies such as *Applying the 80/20 Rule in Software Project Management* by M. Perry (1996) and *Data Mining Techniques: For Marketing, Sales, and Customer Relationship Management* by Gordon S. Linoff and Michael J. A. Berry (1997) have explored the Pareto principle in business contexts. However, the application of the principle can depend on various factors, including industry specifics, customer behavior, and the diversity of products or services offered by e-commerce platforms. In the case of e-commerce, it's common to observe a significant portion of revenue coming from a relatively small percentage of high-value customers. The top 20% of most frequent customers may indeed contribute a substantial portion of the total revenue. However, the specific percentage and distribution might vary across different platforms and industries. To get the most accurate and recent information on this topic, it's recommended to consult current literature in reputable marketing and e-commerce journals or access industry reports and studies that specifically address customer distribution and revenue contribution in e-commerce platforms.

Literature: Studies focused on verifying the validity of the Pareto principle in e-commerce by Kvičala & Starzyczná (2020), Klepek & Kvičala (2020), and Klepek & Kvičala

(2022) have refuted the applicability of the 20/80 ratio within the context of the examined online stores. In none of the investigated e-commerce platforms was this ratio found to hold true.

4. *Do repeat customers or one-time purchasers constitute the majority share of revenue for e-commerce businesses?*

ChatGPT: The dynamics of revenue distribution between repeat customers and one-time purchasers in e-commerce businesses can vary across industries and business models. Research in the field suggests that, in many cases, repeat customers tend to contribute significantly to the majority share of revenue. Studies such as *The Economics of E-Loyalty* by Reichheld and Sasser (Harvard Business Review, 1990) and *Customer Lifetime Value: Marketing Models and Applications* by Paul D. Berger and Nada I. Nasr (Journal of Interactive Marketing, 1998) highlight the long-term value derived from cultivating repeat customers. The principle of customer retention, where businesses focus on nurturing ongoing relationships with existing customers, is often associated with increased customer lifetime value and a higher share of revenue. However, it's essential to note that the distribution of revenue between repeat customers and one-time purchasers can be influenced by various factors, including industry characteristics, product types, and the effectiveness of marketing and customer retention strategies. For the most current and industry-specific information, it's recommended to consult recent publications in reputable marketing and e-commerce journals, industry reports, or market research studies. The answer to this question may also be contingent on the particular context and strategies employed by individual e-commerce businesses.

Literature: The results of empirical research by Romaniuk (2011), Kvíčala and Starzyczna (2020), Kvíčala and Starzyczna (2021), and Zapletalová et al. (2023) converge on the observation that the majority of revenue for companies or e-commerce platforms is generated by customers who made a single purchase.

5. *Are loyal customers always more profitable than those who make a single purchase?*

ChatGPT: Research in marketing literature suggests that, in general, loyal customers tend to be more profitable than those who make a single purchase. The concept of customer loyalty is often associated with increased customer lifetime value (CLV), which measures the total revenue a business can expect from a customer throughout their entire relationship. Several studies support the idea that cultivating loyalty can lead to higher profitability. For example, studies such as *Customer Lifetime Value: Marketing Models and Applications* by Berger and Nasr (Journal of Interactive Marketing, 1998) and *The High Price of Customer Satisfaction* by Keiningham et al. (Journal of Service Research, 2005) delve into the economic value of loyal customers. Loyal customers typically contribute to profitability through repeated purchases, positive word-of-mouth marketing, and potentially lower marketing costs compared to acquiring new customers. However, the profitability of loyal customers may vary based on factors such as the industry, the effectiveness of loyalty programs, and the specific strategies employed by businesses. While there is a general consensus in the literature that loyal customers are often more profitable, it's important to recognize that individual cases may differ, and the profitability of customer segments can be influenced by various contextual factors. For the most accurate and up-to-date information, consulting recent publications in reputable marketing journals or industry reports is recommended.

Literature: Despite the extensive interest within the scientific community regarding the profitability of loyal customers, there is a very limited number of empirical studies addressing this issue. The most significant authors, Dowling and Uncles (1997), Dowling (2002), Reinartz and Kumar (2002), and Uncles et al. (2003), highlight the fact that loyal customers are not always profitable or more profitable than one-time purchasers. Furthermore, the authors

emphasize that fostering customer loyalty is not always profitable and, in some cases, may even be counterproductive.

4 Discussion

ChatGPT does not offer unequivocal answers to queries within the realm of scientific knowledge in marketing. While it excels in generating human-like text and demonstrating a contextual understanding, the responses provided may lack the precision and specificity often required in academic inquiries.

Moreover, ChatGPT does not attempt to impose specific information on the inquirer. Instead, it aims to facilitate a conversational exchange, acknowledging the complexity of the questions and providing nuanced responses. This approach aligns with the model's design, emphasizing engagement and dialogue over the delivery of definitive facts.

It is crucial to note that ChatGPT explicitly highlights the potential variability in results across different domains. The model recognizes that the accuracy and relevance of its responses can be influenced by the nature of the question and the specificity of the topic. This emphasis on variability encourages users to interpret responses with a discerning eye, particularly in the context of specialized academic inquiries.

Furthermore, ChatGPT encourages users to seek answers from alternative sources. It recognizes the importance of diverse perspectives and the multifaceted nature of academic knowledge. In instances where precise information is crucial, ChatGPT suggests consulting other reputable sources, conducting further research, or exploring academic studies and resources for a more comprehensive understanding of the subject matter. This recommendation underscores the collaborative nature of knowledge acquisition and the value of cross-referencing information from various scholarly outlets.

5 Conclusion

ChatGPT can serve as a source of basic information in a selected field, offering a starting point for gaining a foundational overview and understanding. It can be particularly useful for obtaining general knowledge or quick insights into a topic, providing users with a broad context.

However, it is important to acknowledge that ChatGPT is not suitable for acquiring relevant insights applicable to scientific activities. While it excels at generating human-like text and engaging in conversation, its responses may lack the depth, precision, and up-to-date information required for scholarly research.

ChatGPT can be utilized as a source of inspiration when searching for information. It may suggest keywords, topics, or avenues for exploration, guiding users toward potential areas of interest and further study. In this way, it can complement traditional research methods by offering new perspectives and ideas.

It's crucial to recognize that while ChatGPT is designed to avoid disseminating falsehoods and myths, its reliability is context-dependent. In the field of marketing, for instance, it strives to provide accurate and factual information. Nevertheless, users should exercise caution and cross-verify information from other reputable sources for critical applications.

In different domains, the situation may vary. Confirmation or refutation of information provided by ChatGPT may require additional research and investigation. The model's responses should be considered as a starting point rather than a conclusive source, especially in areas where precise and validated information is paramount.

In conclusion, and with a strong recommendation emanating from this article, it is crucial to utilize verified academic sources or conduct independent research to obtain relevant information in the selected field. This approach is necessary for acquiring the necessary data

and subsequently formulating conclusions. The main issue while working with AI is the fact that AI generates fake bibliographic references thus it is necessary to double check all the sources.

Acknowledgement: This study was supported by SGS/25/2023 Identification of Customer Segment Profitability in E-commerce through Automated Processing of Marketing Data

Bibliography

- Bolarinwa, O. A. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Nigerian Postgraduate Medical Journal*, 22(4), 195-201. <https://doi.org/10.4103/1117-1936.173959>
- Dawes, J. (2016). Brand growth in packaged goods markets: Ten cases with common patterns: Brand growth in packaged goods markets. *Journal of Consumer Behaviour*, 15. <https://doi.org/10.1002/cb.1595>
- Dowling, G. (2002). Customer relationship management: In B2C markets, often less is more. *California Management Review*, 44(3), 87-104. <https://doi.org/10.2307/41166134>
- Dowling, G. R., & Uncles, M. (1997). Do customer loyalty programs really work? *MIT Sloan Management Review*, 38(4), 71-82.
- Easley, R. W., Madden, C. S., & Dunn, M. G. (2000). Conducting marketing science: The role of replication in the research process. *Journal of Business Research*, 48(1), 83-92. [https://doi.org/10.1016/S0148-2963\(98\)00079-4](https://doi.org/10.1016/S0148-2963(98)00079-4)
- Frank, R. H., & Nagler, M. G. (2013). On the rationalizability of observed consumers' choices when preferences depend on budget sets: Comment. *Journal of Economics*, 110(2), 187-198. <https://doi.org/10.1007/s00712-012-0313-5>
- Charles, V., & Gherman, T. (2018). Big data analytics and ethnography: Together for the greater good. In A. Emrouznejad, & V. Charles (Eds.), *Big data for the greater good* (pp. 19-33). Springer International Publishing. https://doi.org/10.1007/978-3-319-93061-9_2
- Klepek, M., & Kvičala, D. (2020). How Covid19 crisis shaked customer loyalty in e-commerce? In Z. Kvetanová, Z. Bezáková, & A. Madleňák (Eds.), *Marketing Identity: Covid-2.0* (pp. 248-256). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Klepek, M., & Kvičala, D. (2022). How Covid-19 influenced shopping behaviour and lifetime value of customers on e-shops. In M. Prostináková Hossová, M. Graca, & M. Solík (Eds.), *Marketing Identity: Metaverse is the new universe* (pp. 225-232). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Kvičala, D., & Starzyczná, H. (2020). Exploring Customers' e-loyalty in Czech B2C e-commerce. In P. Ondra (Ed.), *DOKBAT 2020 – 16th Annual international bata conference for Ph.D. students and young researchers* (pp. 332-342). DOKBAT.
- Kvičala, D., & Starzyczná, H. (2021). Customer buying behaviour in international e-commerce through empirical e-shop data. In V. Bevanda (Ed.), *7th international scientific-business conference – LIMEN 2021 – leadership, innovation, management and economics: integrated politics of research – SELECTED PAPERS* (pp. 121-130). Association of Economists and Managers of the Balkans <https://doi.org/10.31410/LIMEN.S.P.2021.121>
- Naami, T., Anesbury, Z., Stocchi, L., & Winchester, M. (2021). How websites compete in the Middle East: The example of Iran. *Journal of Consumer Behaviour*, 21, 332-342. <https://doi.org/10.1002/cb.1992>

- Reinartz, W., & Kumar, V. (2002). The mismanagement of customer loyalty. *Harvard Business Review*, 80(7), 86-94.
- Romaniuk, J. (2011). Are you blinded by the heavy (buyer) or are you seeing the light? *Journal of Advertising Research*, 51(4), 561-563. <https://doi.org/10.2501/JAR-51-4-561-563>
- Rust, R., Lemon, K., & Zeithaml, V. (2004). Return on marketing: Using customer equity to focus marketing strategy. *Journal of Marketing*, 68, 109-127. <https://doi.org/10.1509/jmkg.68.1.109.24030>
- Smith, C. W., Milano, G. V., Levington, J., Goonewardene, A., Martin Adams, G., Holland, M. K., Palmer, J., & Chew, D. (2017). Bloomberg intelligence roundtable on the theory and practice of capital structure management. *Journal of Applied Corporate Finance*, 29(4), 72-85. <https://doi.org/10.1111/jacf.12263>
- Uncles, M. D., Dowling, G. R., & Hammond, K. (2003). Customer loyalty and customer loyalty programs. *Journal of Consumer Marketing*, 20(4), 294-316. <https://doi.org/10.1108/07363760310483676>
- Zapletalová, Š., & Starzyczna, H. (Eds.). (2023). *Customer behaviour in ecommerce: Case studies from the online grocery market*. Springer International Publishing. <https://doi.org/10.1007/978-3-031-23574-0>

Contact Data:

Ing. Daniel Kvíčala
Silesian University in Opava
School of Business Administration in Karvina
Univerzitní náměstí 1934/3
733 40 Karviná
CZECH REPUBLIC
kvicala@opf.slu.cz
ORCID-ID: <https://orcid.org/0000-0001-8467-8262>

Assoc. Prof. Ing. Martin Klepek, Ph.D.
Silesian University in Opava
School of Business Administration in Karvina
Univerzitní náměstí 1934/3
733 40 Karviná
CZECH REPUBLIC
klepek@opf.slu.cz
ORCID-ID: <https://orcid.org/0000-0003-4058-156X>

TRACKING DIGITAL AUDIENCES IN THE DISRUPTED PUBLIC SPHERE. THE JOURNEY OF CZECH AUDIENCES FROM TELEVISION TO SOCIAL MEDIA

David Klimeš

DOI: <https://doi.org/10.34135/mmidentity-2023-21>

Abstract:

This study examines the transformation of the audience of traditional television journalism. While the form of television political debates does not change much, their audience has become significantly different. Beside television audiences, there is a growing number of digital viewers. This audience analysis of Czech TV digital viewers confirms that not only have their numbers increased during the recent years but sociodemographic characteristics are also completely different from those of the television viewers. The study shows that digital viewers consume the content of political debates on other platforms. Social networks (including those used by the television itself) frame the viewer's expectations before watching the debate. The study thus draws attention to the fact that the degree of coherence between different audience groups needs to be examined in detail in the context of the growing diversity of digital audiences.

Key words: Digital Audience. Public Service Media. Public Sphere. Social Sites. Television.

1 Introduction

“It is sometimes thought, for a variety of reasons, that audience research is dead. In the age of multiple screens, it is difficult to pinpoint when people become audiences“ Press and Livingstone wrote in 2008 (p. 175), however, they anticipated a detailed audience analysis is inevitable – in the offline environment and especially, in all new online worlds. Breakthrough political and communication cases, such as the US presidential elections in 2016 and 2020 or the Brexit referendum, have confirmed that the driving force behind political communication is not in a clearly defined media field any more. Citizens have moved to quasi-information and fragmented-information niches (Van Aelst et al., 2017).

Fragmentation and polarization have undoubted effects on political media communication. Polarized groups seem to gain attention more easily and penetrate the media landscape as a relevant voice (McCluskey & Kim, 2012). This process makes it difficult for media editors to choose media representation of relevant social groups and opinions. In addition to extensive media environments, online communities, often linked to social networks, are gaining importance. The platform's algorithm does not even have an economic interest in a balanced representation of different views (Garrett, 2009).

Van Aelst et al. oppose “far-reaching claims about a balkanization of the public sphere or more people living encapsulated in their filter bubbles” but point out that “there are reasons to be concerned about increasing fragmentation and polarization” (Van Aelst et al., 2017, p. 14). According to the authors, research needs to show how supply and demand for fragmented and polarized political communication work. “Polarization can manifest itself in media content (supply) as well as in audience behavior (demand)” (Van Aelst et al., 2017, p. 12).

Pfetsch (2018) even suggests radically that, due to the change of political communication in the digital age, research emphasis is shifting from unity and connection to dissonance and growing fragmentation. “Many celebrate the Internet for its potential to connect people, but one also could argue that the Internet enhances disconnection and segmentation. As citizens bypass traditional political organizations and use digital media to issue demands, we observe public spheres of growing discordance, uncertainty, and contradictory expectations to the level of plain populism” (Pfetsch, 2018, p. 60). Although

research of connections and large audience groups is still relevant, many digital groups are very fluid and random; they are not determined by what unites them but by what divide them. Overflows of digital protest from one topic to another and from one platform to another are already commonplace. Digital groups can communicate differently but no longer across disagreements.

Bennett and Pfetsch note that “despite the routine press/politics scenarios that still appear in the front pages of the legacy press, contemporary political communication increasingly takes place in contexts defined by diminished citizen attention, hybrid media systems, the rise of undemocratic movements and parties, and networked, often polarized, political information flows” (2018, p. 250).

However, these “hybrid media systems” are difficult to conceptualize. They are not traditional mass media, although some can have bigger digital audiences than conventional media. This communication is seen as a “below the radar” in terms of media tradition, but can no longer be seen as such in terms of current communication reality:

The attempt to define the general connotations of social media’s affordances and practices – even if only by focusing on their mainstream dimension – is becoming a less and less practicable research endeavor. This process is due to the increasing plurality of online contexts and the fact that various obfuscation tactics have become common among users’ repertoire of actions, next to the most studied practices of visibility. (Boccia Artieri et. al., 2021, p. 2)

Moreover, these “hybrid media systems” often move across the line between public and private sphere, regulated and unregulated media. From the audience’s point of view, we can talk about “the rise of personal publics” (Weller et al., 2013). Kligler-Vilenchik and Tenenboim (2020) talk about “meso news-spaces” that combine the sociability of online communities with an engagement with the news. In their research, they meet Pfetsch’s demand that we take a new approach to research. The authors note how journalists turn to digital audiences and use these audiences at all stages of their journalistic work, i.e., access/observation, selection/filtering, processing/editing, distribution, and interpretation (Domingo et al., 2008). This sustained engagement in digital groups leads to a continuous co-construction of journalistic knowledge across the news production process. “All this takes place in what we term here a meso news-space: an online space, occurring between the private and public realms, where a group of people is involved in news-related processes” (Kligler-Vilenchik & Tenenboim, 2020, p. 265).

This communication change is technologically conditioned. Different platforms allow varying levels of interaction and engagement. However, the algorithm always determines the overall setting of the communication platform. Bucher (2018) shows that if the algorithm evaluates something as more beneficial, it constantly promotes it and improves itself with machine learning. Algorithms decide about distributing news to the public and are becoming critical players in the process of the ‘platformization of news’ (Dijck et al., 2018). The use of algorithms and their manipulation in the digital environment of political campaigns is already documented by several works (Keller & Klinger, 2018; Bastos & Mercea, 2017). The algorithm also influences possible strategies for public and audience practices (Dubois & Blank, 2018; Litt & Hargittai, 2016).

The problematic conceptualization of “hybrid media systems”, “meso news-spaces”, or “personal publics” results in the need for a description of the communication change through comparison and monitoring of audience change. The comparison allows both to delineate new digital groups and capture groups’ changing sociability and engagement with the news.

Therefore, this paper describes different ways of consumption of the same media content (but not context) in the current broad media landscape.

2 New Digital Life of Traditional TV Content

Conceptualizing the digital audience has become an acute challenge for traditional media. On one hand, offering content on a suitable platform for digital viewers is a technological problem. However, it is also a challenge for journalists how to work with and satisfy the digital audience. It is also a theoretical and normative problem how digital and traditional audiences are related to each other.

It is not surprising that public service media are a significant area where the digital audience is being conceptualized. They fulfill various objectives in forming the public sphere dictated by regulation (Murdock, 2018; Sokora et al., 2012; Burri, 2013). These responsibilities are significantly changing in the dissonant public sphere due to significant fragmentation of audiences. However, the public service model is not diminishing in the communication abundance of the digital age, on the contrary.

Baird (2021) argues that public service media must now focus on four areas: the civic model of public interest, media literacy, diversified accessibility, and independence. The civic model of public interest means creating digital commons with a commitment to the central role of the public broadcaster. Media literacy indicates supporting new literacies in technology, information, media creation, and globalization because digital audiences are targeted on various digital platforms through ‘narrowcasting’. Diversified accessibility signifies maintaining diverse technology to ensure mass access to the public sphere. Finally, independence means preserving presence on regulated channels to deliver digital content outside third-party private channels whose goals are different from the civic model of public interest.

The relationship between “old” and “new” media technologies and content is becoming the subject of extensive research in the public service media environment. The study “A Future for Public Service Television” (2018) emphasizes that it is possible to build on past media concepts and only update them with the principle of diversity: “We believe that these norms have not yet evolved to meet the challenges posed by digital platforms, increasing cultural diversity as well as the stubborn inequalities of modern Britain” (Freedman & Goblot, 2018, p. 29).

Such an approach is much focused on the supply side. However, the demand side is evolving significantly, with audiences changing in various ways (García-Perdomo, 2020; Iannelli et al., 2021; Syvertsen et al., 2019; Ytre-Arne, 2019). Traditional media – including TV – are using digital platforms mainly to distribute content, access sources, and understand the reaction of their audiences (Artwick, 2013; Broersma & Graham, 2013; Hermida, 2010). Furthermore, news organizations primarily use their social media accounts to promote their reports (Malik & Pfeffer, 2016) and struggle with encouraging interaction and dialogue.

Scientists are not the only group that contributes to the digital age media research (namely public service media) as this area is also highly interesting for regulators and business enterprises. Deloitte’s study can be taken as one of the examples that media research is an interesting discipline for consulting firms. It confirms that state regulators will have to choose a path of media regulation. The study offers four possible perspectives: Universal supermarket, Content endgame, Revenge of the broadcasters, and Lost in diversity (Boehm et al., 2018).

Fortunati and O’Sullivan (2020) point out that the individual “old” and “new” media types are already so intertwined that separating traditional and digital content and audiences

makes no sense. It should be examined at the same time because we are witnessing “the digital in the analog” and “the analog in the digital”:

A first important implication of hybridization is that it has become more difficult to measure the influence on audiences of a single medium or its content. [...] Measures of comparison between analog and digital are difficult to establish, as mixed patterns of consumption, and their ultimate rationales, become more slippery and out of the reach of standard metrics. (Fortunati & O’Sullivan, 2020, p. 164)

This study therefore uses the example of the content of Czech Television’s discussion programmes to show how a “comparison between analogue and digital broadcasting” can be made in public service media audience research.

3 Methodology

Press and Livingstone (2008) posed a basic methodological question: “Are the skills we’ve developed as scholars of the television audience directly transferable to the study of new media?” (p. 176). Not entirely. Lievrouw and Livingstone (2006) emphasized a whole new digital media infrastructure where we have to consider artifacts (technologies, texts), activities (forms of engagement), and social arrangements (institutional structures, organization and governance) by which mediated communication underpins diverse spheres of society.

Therefore, this audience analysis combines a broad base of offline and online data about the Czech Television viewers in the years 2017 – 2021. The article analyzes the differences between television and digital publics in the case of political TV debates (*Interview ČT24, Questions of VM, News, comments, Have your say*) based on internal Czech TV data provided for this study. A data sample is based on regular electronic measurement of television viewership (Česká televize, 2021). The measurement of television viewership by channel, socio-demographic structure of viewers and other indicators is carried out to the second on a representative sample of television households in the Czech Republic; the panel, out of which one-quarter is renewed every year, includes 1,900 television households.

As a next step, the digital publics of TV debates and their media consumption are analyzed in the CrowdTangle tool. This analysis is based on a list of more than 1000 interactions on FB pages, groups and verified accounts between 2018 and 2021.

The research questions concerning the selected Czech Television discussion programs are as follows:

RQ1: In what proportion is the Czech Television audience divided into television and digital?

RQ2: How do the socio-demographics of television and digital viewers differ?

RQ3: How does this digital TV content penetrate the meso news-spaces?

4 Analysis of the Digital Audience of Czech Television

The Czech Television conceptualizes its new digital audience as a public service broadcaster in the Czech Republic. Media regulation is lagging at this point, nevertheless, the Czech Television submits the fulfillment of general objectives every year as part of the regular Public Service Performance Evaluation. Although the Act on the Czech Television and the Czech Television Code define only several general and specific requirements for public service television broadcasting, the problem of the digital viewer is an increasingly topical challenge for the public service medium.

This process is most generally reflected in the change in viewership. Following the example of the BBC, we now also present the total average weekly reach of the Czech

Television (CT) with TV broadcasting and online content. The CT's average weekly online content reached 14% in 2020, which represents 1.2 million adult viewers. Thanks to the online content, the relative increase in the coverage of the CT broadcasting was 3%. This relative increase was significant, especially in the younger target groups: in the age group of 15-24 years, it reached 20%. In the 25-34 years category, it was 12%, said television in the document Czech Public Service Evaluation 2020 (Česká televize, 2021).

Digital influx changes the viewership and changes the viewer's sociodemographics. While there is no relative increase in online TV coverage for viewers aged 55 plus, there is a 20% increase for viewers aged 15-24 and 12% for viewers aged 25-34. The growing importance of digital platforms can also be demonstrated on the number of users per month. The main website, Ceskatelevize.cz had 3.2 million users in 2020. The news website Ct24.cz was visited by 1.9 million users. The average number of active users of the Ivysilani mobile application is 120,000. While the rise of the number of digital viewers is seen as a positive trend by the public service medium, the problem may lie in different demographics of digital viewers compared to traditional television viewers. In 2020, the age of a typical television viewer was significantly higher than that of a digital one. The largest group of television viewers were people aged 65+ (43%); among digital viewers, they formed only a minority (8%). The sociodemographic profile of viewers watching the CT online broadcasts and viewers of traditional television broadcasting differ in several characteristics. The 'online population' is, on average, significantly younger and has a higher level of education. However, the share of both sexes is almost balanced in both groups, says the Czech Television report (Česká televize, 2021). In 2020, viewers on Czech Television's websites watched an average of 205,000 hours of video content every day. Compared to 2019, this was an increase of 7%. Out of the total time, 64,000 hours a day were spent watching live broadcasts and 141,000 hours were video content from the archive.

The Czech Television is trying to promote its media content on social networks. In recent years, social networks have become an increasingly relevant platform for people to draw on intelligence. The ČT24 station is therefore active on the most important social networks, namely Facebook, Twitter, Instagram, and YouTube (Česká televize, 2021).

The discussion programs are among the most-watched political-news content in the public service media, hence, for the following analysis, the four most significant ones are selected (*Interview ČT24; Questions of Václav Moravec; News and comments; Have your say*) to follow the digital audience. *Interview ČT24* is a discussion program of Czech Television, broadcast since 2006, live every evening from 6.25 pm on ČT24 channel. The show takes the form of a moderator's approximately 25-minute interview with one guest.

Questions of Václav Moravec is a political talk show on Czech Television hosted by the presenter Václav Moravec. The program was first broadcast on January 4th, 2004, on the ČT1 program. Politicians invited to the program are confronted with current topics. *News and comments* is an analytical-news program of the Czech Television, broadcast live on weekdays from 10 pm on the ČT24 channel. Guests, direct participants of current events, and commentators and analysts from the professional and journalistic community, comment on current cases, which are in the center of media interest. *Have your say* is a discussion show every Thursday evening on Czech Television, where the audience in the studio can express their opinions together with politicians and representatives of public life. Since 2008, the TV presenter Michaela Jílková has been hosting this talk show between citizens and politicians.

The first research question "In what proportion is the audience of Czech broadcasting divided into television and digital?" This can be answered by an analysis of Czech Television data. Since 2017 it has also been measuring the online viewership of discussions. In the case of *Interview ČT24*, which is broadcasted every weekday in the evening, the average digital rating reached over a thousand viewers in 2021. The evening news program *News, comments*

broadcast every weekday night, has similar digital rating values. The digital rating is even higher for weekly talk shows. In the case of *Have your say*, it's over three thousand digital spectators; in *Questions of Václav Moravec*, over 13,000, which is already a significant share of the total audience. In addition, the rating of the digital audience is more powerful than what the numbers look like. While the television viewer often watches the entire show, the digital viewer often watches only a short piece. One digital viewer measured as part of the metric usually consists of several individuals who each watch only a snap of the show.

Table 1: Rating of the Czech Television discussions

Year	<i>Interview ČT24</i>		<i>Questions of VM</i>		<i>News, comments</i>		<i>Have your say</i>	
	TV rating	Digital rating	TV rating	Digital rating	TV rating	Digital rating	TV rating	Digital rating
2017	86,943	168	451,071	742	114,314	129	427,477	927
2018	87,524	914	444,300	8,259	109,430	1,131	337,966	4,990
2019	93,709	800	418,426	10,916	95,997	1,041	354,538	5,344
2020	118,486	949	474,641	9,171	107,983	980	318,448	3,820
2021 ¹	141,060	1,135	552,679	13,528	133,882	1,068	314,642	3,423

Source: own processing, 2021; According to Česká televize (2021)

The second research question “How do the socio-demographics of television and digital viewers differ?” is answered by the sociodemographic analysis of the most-watched discussion program – *Questions of Václav Moravec*. While most television viewers are over the age of 65+, they form less than a tenth of online viewers. People aged 25-34 years are the strongest age group among digital viewers, representing a quarter of all online viewers. There is also a significant difference between the sexes. While three-quarters of men are watching television, only 61 percent watch it online. Television viewers mostly have a high school diploma (40 percent), while digital viewers have a college degree (49 percent).

Table 2: Profiles of TV and digital viewers of Questions of Václav Moravec

	Age	4-14 years	15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65+ years
Digital viewers		4%	17%	13%	24%	19%	15%	9%
TV viewers		1%	2%	2%	8%	16%	18%	53%

	Sex	Male	Female
Digital viewers		75%	25%
TV viewers		61%	39%

	Education	Elementary school	Apprentice school	High school	College
Digital viewers		0%	13%	38%	49%
TV viewers		4%	34%	40%	23%

Source: own processing, 2023; According to Česká televize (2021)

¹ Author's note: 2021=1. 1. – 18. 5. 2021, 1,900 households panel (Česká televize, 2021).

The third research question was “How does television digital content penetrate meso news spaces?” It is answered by the analysis of Czech Television discussions on Facebook. Facebook was selected as it is the most popular social network in the Czech Republic. The CrowdTangle² tool allows analyzing Facebook pages, open groups and verified profiles. The analysis concentrates on Facebook posts that contain links to the above mentioned discussion programs and have more than thousand interactions.

Only exceptionally is the Czech Television’s Facebook pages the most-followed ones that mediate the content of the discussions. In the case of *Questions of Václav Moravec* and *Have your say*, the profiles of the programs are not represented even once; in the case of *ČT24 Interview*, it is one post, in the case of *News*, there are four posts. More often, users of social networks discuss TV content on the profile pages of politicians or activists.

Table 3: Interactions of TV political discussions on Facebook
Interview ČT24

FB profile	Type	Date	Interactions
Milion chviliek pro demokracii	Activists	8. 1. 2020	6,459
Tomio Okamura – SPD	Politics	4. 9. 2018	2,212
Milion chviliek pro demokracii	Activists	7. 1. 2020	1,594
Petr Fiala	Politics	15. 11. 2008	1,237
Interview ČT24	Media	13. 9. 2021	1,151
Radek Vondráček	Politics	14. 10. 2021	1,042
Václav Láska – Právo s Láskou	Politics	10. 7. 2019	1,022

Questions of Václav Moravec

FB profile	Type	Date	Interactions
Jan Tománek	Activists	26. 1. 2021	9,927
ODS - Občanská demokratická strana	Politics	1. 12. 2019	5,432
Česká pirátská strana	Politics	22. 10. 2018	2,191
Jan Tománek	Activists	24. 1. 2021	2,127
MUDr. Jan Hnizdil	Activists	26. 1. 2021	2,118
TOP 09	Politics	27. 8. 2018	1,641
Ivan Bartos	Politics	1. 7. 2018	1,502
TOP 09	Politics	11. 5. 2020	1,280

News, comments

FB profile	Type	Date	Interactions
Tomio Okamura – SPD	Politics	18. 1. 2018	2,748
Tomio Okamura – SPD	Politics	21. 9. 2018	2,346
Události, komentáře	Media	20. 8. 2021	2,313
Události, komentáře	Media	10. 5. 2021	2,091
Podnikatelské odbory	Activists	19. 11. 2020	1,788
TOP 09	Politics	26. 8. 2020	1,697
Tomio Okamura – SPD	Politics	6. 2. 2018	1,693
Tomio Okamura – SPD	Politics	21. 2. 2018	1,317
Tomio Okamura – SPD	Politics	10. 1. 2019	1,052
Události, komentáře	Media	3. 12. 2019	1,051

² Author’s note: 1. 7. 2018 – 3. 11. 2021, list of more than 1000 interactions.

Události, komentáře	Media	1. 11. 2021	1,021
---------------------	-------	-------------	-------

Have your say

FB profile	Type	Date	Interactions
První Republika	Politics	27. 11. 2017	3,226
Jan Tománek	Activists	27. 1. 2021	3,100
Jan Tománek	Activists	29. 1. 2021	2,940
Tomio Okamura – SPD	Politics	1. 3. 2018	2,228
Jan Tománek	Activists	1. 2. 2021	1,382
Ivan Bartos	Politics	8. 12. 2017	1,128
PharmDr. Margit Slimáková	Activists	23. 2. 2017	1,033

Source: own processing, 2021

As far as successful posts on the show profiles on social networks are concerned, it is always an explosive topic that has a chance to be captured by the network algorithm. The only mentioned post from the Facebook page of *Interview ČT24* is from September 13th, 2021, which concerns the tense Czech debate on vaccination against COVID-19:

Does vaccination against covid-19 affect fertility? And does it change the DNA? In the words of biochemist Jan Trnka, “In the vast majority of circumstances, our cells are unable to transcribe RNA into DNA. There are many possible RNAs everywhere. We get them inside when we eat a salad – it’s full of RNA. People should be more afraid of smoking. Or a plane flight – the cosmic rays there can damage our DNA significantly as we are above a big part of the atmosphere there.” “There’s been a study that looked at the development of antibodies against placenta protein in vaccinated women. And they didn’t find any at all. A study was done to monitor the ability to conceive during artificial insemination. Whether vaccinated women, women who have had covid, women who have not had (covid-19) or are not vaccinated have a different likelihood of being able to get pregnant. And they found that it’s exactly the same. There’s no negative effect.” You can watch the whole interview here. (Interview ČT24, 2021)

The high number of post interactions is due to the heated debate in 430 comments. As the most relevant comment, Facebook’s algorithm offers a false comment by Marco Bee questioning the credibility of the scientist and attacking Czech Television:

Mr. Trnka is either lying or has never heard of reverse transcriptase. I don’t think he’s so stupid not to know how unstable RNA is. Comparing the alimentary path of RNA in the stomach’s acidic environment with the intramuscular application can be done either by a demagogue or by a fool. Lately, I’ve been amazed at what you’re not ashamed to broadcast for concessionaires’ money. (Interview ČT24, 2021)

The most popular post on the Facebook page of *News, comments* is about another tense Czech topic: migration, and refugees as it was discussed in a debate on August 21st, 2021, between the liberal Mayor of Prague and the chairman of the nationalist party:

Sharp exchange of views on events. The Mayor Zdeněk Hřib wants to offer Prague apartments to potential asylum seekers from Afghanistan. “What Mr. Hřib is offering is for immediate resignation, because he is offering them municipal flats, while the citizens of Prague, young families, cannot get those flats,” said Tomio Okamura, the deputy speaker of the lower house. (Události, komentáře, 2021)

Out of the 872 comments on the post, the Facebook algorithm has chosen Česlav Foniok's comment as the most relevant. Česlav Foniok would refuse to grant asylum even to the Afghan interpreters who worked for the Czech army and now receive death threats after the regime change: "They were paid, and now we would still accommodate them in apartments that Czech young families can enjoy... regardless of the fact that we would still need to support financially those collaborators and snitches..." (Události, komentáře, 2021).

In a pluralistic media landscape, the mass media is no longer a gatekeeper to frame the television content. It can be done on digital television platforms but not once the video content is accessed on social networks. The study showed that among the most popular posts with the most interactions on Facebook there are rarely the posts created by the Facebook pages of individual discussion programs, the only exceptions are the ones with conflicting topics that have hundreds of tense comments.

The television debate is thus falling apart in the dissonant public sphere and struggles to keep a chosen framework of the content. Facebook Posts by politicians, activists, or non-profit organizations about television debates usually do not strike a balance of opinions unlike the public service medium.

Political parties frame video content by emphasizing the competence and truthfulness of their representatives. Thus, for example, the Czech party TOP 09 announced a debate on May 11th, 2020, where the party's chairwoman clashed with a government politician:

Like firefighters arriving at a fire a week after it's been reported. The discussion with Mr. Faltýnek is for the tough ones only. Jumping in, distracting, taking things out of context. But none of this obscures the fact that the government's aid is slow, ineffective and in many cases copied from the opposition, who were turned down by the government majority only to propose it weeks later. Our chairwoman Markéta Pekarová Adamová described it exactly. You can watch the whole Questions of Václav Moravec here. (TOP 09, 2020)

Various activists then successfully share television debates with emotional comments. The most popular post with the most interactions on the FB website, from January 26th, 2021, contained a link to the discussion program *Questions of Václav Moravec* concerning the COVID-19. The author is the activist Jan Tománek, who protested against the covid vaccination and criticized politicians in the debate:

If it were not about our lives and the lives of our children, let's close the case only as bad theater play – but I am really in favor of a hard legal path here because the lives of 10 million people with whom these two gentlemen are literally playing their unimaginable game – can no longer suffer! I also call on both of them to resign immediately – if they do not, the government and the medical association should do so immediately! (Jan Tománek, 2021)

Televisions are thus helping activists to build presence digital platforms. Still, they are often a much more sought-after approach to social network video content, which, through its algorithm, encourages politicians or activists to frame content as explicitly as possible.

5 Conclusion

New ways digital audience's access TV content is becoming an important issue, especially for public service media which search for possibilities to reach digital audiences.

These are often other sociodemographic groups that watch the same program as television viewers but with different expectations. At the same time, digital television-controlled platforms are becoming just one of the possible gateways to content and are usually not the most popular.

For many years, the debate over the digital audience of traditional media has been dominated by a discourse on maximum accessibility and democracy. It automatically assumes that the digital audience differs from the traditional one only by technological change and that the audience can be connected without any problems. However, new developments show that disruption will be much more fundamental and complex. Public service media need to understand their digital audience in detail, its sociodemographic characteristics, and where it comes to television content because framing is no longer under the power of the mass media.

In the introduction, we described moderate (Van Aelst et al., 2017) and more radical (Pfetsch, 2018) views of media consumers in the digital sphere. These different approaches result in different conceptualizations. In the first case, the “old” principles move into the “new” environment. In the second, we deal with the digital era’s completely new media landscape. This work used the method of comparison (or archeology), analyzing where the traditional television content of political debate appeared in the media landscape.

Czech Television’s audience analysis showed these main results:

The share of digital viewers within Czech Television’s platforms grows from year to year. In the case of *Questions of Václav Moravec*, the digital rating is already over 13,000, which is a significant share.

The sociodemographic survey showed that the composition of television and digital viewers is different. At the same time, more than half of television viewers are 65+ years old, only one-tenth of digital viewers in this age group. Differences in education or gender representation are similarly different. Television and digital viewers thus follow the same political debate, but they probably perceive it from a significantly distinct perspective.

The media already have little power over the context in which their television content reaches the viewer. Various meso news spaces, where reciprocal communication about content takes place, speak significantly into content mediation. In this study, the pages and groups of Facebook, which is the most popular social network in the Czech Republic, were selected. The study showed that among the most popular posts with the most interactions on Facebook are rarely the profiles of TV discussion programs. Successful posts are those with the accompanying commentaries on Facebook from politicians, activists, or non-profit organizations, which share television debates videos and try to frame it for their purposes.

The pages of politicians and activists are becoming important communication hubs. They always share the videos from discussion programs with their added context. Their views were then supported by others, which helped to increase the post’s reach.

From this study’s results about changing Czech Television’s viewers, we can conclude some general perspectives for the future audience research:

The digital television audience is becoming an increasingly populated category, which deserves detailed research of new techniques how to combine different viewers in different contexts.

This challenge is especially urgent for public service media that have to fulfill legislative tasks for a broad spectrum of citizens.

Regulators that want to promote the principles of independence, universality, citizenship, quality, and diversity need to examine not only the side of media content supply but also growing and complex audience digital demand.

Bibliography

- Artwick, C. G. (2013). Reporters on Twitter. *Digital Journalism*, 1(2), 212-228. <https://doi.org/10.1080/21670811.2012.744555>
- Baird, S. W. (2021). Public sphere disruption: *Public service broadcasting and the CBC at the digital crossroads* [Master thesis]. Ryerson University. <https://doi.org/10.32920/ryerson.14664288.v1>
- Bastos, M. T., & Mercea, D. (2017). The Brexit botnet and user-generated hyperpartisan news. *Social Science Computer Review*, 37(1), 38-56. <https://doi.org/10.2139/ssrn.3034051>
- Bennett, W. L., & Pfetsch, B. (2018). Rethinking political communication in a time of disrupted public spheres. *Journal of Communication*, 68(2), 243-253. <https://doi.org/10.1093/joc/jqx017>
- Boccia Artieri, G., Brillì, S., & Zurovac, E. (2021). Below the radar: Private groups, locked platforms, and ephemeral content – introduction to the special issue. *Social Media + Society*, 7(1). <https://doi.org/10.1177/2056305121988930>
- Boehm, K., Esser, R., Lee, P., & Raab, J. (2018). *The future of the TV and video landscape by 2030*. Deloitte. <https://www2.deloitte.com/tr/en/pages/technology-media-and-telecommunications/articles/future-of-tv-video.html>
- Broersma, M., & Graham, T. (2013). Twitter as a news source. *Journalism Practice*, 7(4), 446-464. <https://doi.org/10.1080/17512786.2013.802481>
- Bucher, T. (2018). *If... Then*. Oxford University Press.
- Burri, M. (2013). Contemplating a ‘public service navigator’: In search of new (and better) functioning public service media. *International Journal of Communication*, 9, 1341-1359. <https://doi.org/10.2139/ssrn.2364951>
- Česká televize. (2021). *Hodnocení plnění veřejné služby České televize 2020* [Evaluation of Czech Television’s public service performance 2020]. https://img.ceskatelevize.cz/boss/document/1757.pdf?v=1&_ga=2.85778651.350877293.1636568532-1358256994.1556441551
- Dijck, J., Poell, T., & Waal, M. (2018). *The platform society*. Oxford University Press.
- Domingo, D., Quandt, T., Heinonen, A., Paulussen, S., Singer, J. B., & Vujnovic, M. (2008). Participatory journalism practices in the media and beyond. *Journalism Practice*, 2(3), 326-342. <https://doi.org/10.1080/17512780802281065>
- Dubois, E., & Blank, G. (2018). The echo chamber is overstated: The moderating effect of political interest and diverse media. *Information, Communication & Society*, 21(5), 729-745. <https://doi.org/10.1080/1369118x.2018.1428656>
- Fortunati, L., & O’Sullivan, J. (2020). Convergence crosscurrents: Analog in the digital and digital in the analog. *The Information Society*, 36(3), 160-166. <https://doi.org/10.1080/01972243.2020.1737608>
- Freedman, D., & Goblot, V. (2018). *A future for public service television*. MIT Press.
- García-Perdomo, V. (2020). Re-digitizing television news: The relationship between TV, online media and audiences. *Digital Journalism*, 9(2), 136-154. <https://doi.org/10.1080/21670811.2020.1777179>
- Garrett, R. K. (2009). Politically motivated reinforcement seeking: Reframing the selective exposure debate. *Journal of Communication*, 59(4), 676-699. <https://doi.org/10.1111/j.1460-2466.2009.01452.x>
- Hermida, A. (2010). Twittering the news. *Journalism Practice*, 4(3), 297-308. <https://doi.org/10.1080/17512781003640703>
- Iannelli, L., Biagi, B., & Meleddu, M. (2021). Public opinion polarization on immigration in Italy: The role of traditional and digital news media practices. *The Communication Review*, 24(3), 244-274. <https://doi.org/10.1080/10714421.2021.1972720>

- Interview ČT24 [@InterviewCT24]. (2021, September 13). Má očkování proti covidu-19 vliv na plodnost? A mění DNA? Slovy biochemika Jana Trnky „Naše buňky za naprosté většiny okolností... [Does covid-19 vaccination affect fertility? And does it change DNA? In the words of biochemist Jan Trnka “Our cells under the vast majority of circumstances...”] [Facebook video]. Retrieved from <https://fb.watch/oEQRuveaEw/>
- Jan Tománek [@Jan.Tomanek.official]. (2021, January 26). Kubek a Blatný – OVM 24.1 [Facebook video]. Retrieved from <https://fb.watch/oETfewm4RU/>
- Keller, T. R., & Klinger, U. (2018). Social bots in election campaigns: Theoretical, empirical, and methodological implications. *Political Communication*, 36(1), 171-189. <https://doi.org/10.1080/10584609.2018.1526238>
- Kligler-Vilenchik, N., & Tenenboim, O. (2020). Sustained journalist – audience reciprocity in a meso news-space: The case of a journalistic WhatsApp group. *New Media & Society*, 22(2), 264-282. <https://doi.org/10.1177/1461444819856917>
- Lievrouw, L. A., & Livingstone, S. (2006). *Handbook of new media*. SAGE.
- Litt, E., & Hargittai, E. (2016). The imagined audience on social network sites. *Social Media + Society*, 2(1). <https://doi.org/10.1177/2056305116633482>
- Malik, M. M., & Pfeffer, J. (2016). A macroscopic analysis of news content in Twitter. *Digital Journalism*, 4(8), 955-979. <https://doi.org/10.1080/21670811.2015.1133249>
- McCluskey, M., & Kim, Y. M. (2012). Moderatism or polarization? Representation of advocacy groups' ideology in newspapers. *Journalism & Mass Communication Quarterly*, 89(4), 565-584. <https://doi.org/10.1177/1077699012455385>
- Murdock, G. (2018). Public service broadcasting as a digital commons. In D. Freedman, & V. Goblot (Eds.), *A future for public service television* (pp. 214-218). The MIT Press. <http://dx.doi.org/10.7551/mitpress/9781906897710.003.0029>
- Pfetsch, B. (2018). Dissonant and disconnected public spheres as challenge for political communication research. *Javnost – The Public*, 25(1-2), 59-65. <https://doi.org/10.1080/13183222.2018.1423942>
- Press, A., & Livingstone, S. (2008). Taking audience research into the age of new media: Old problems and new challenges. In M. White, & J. Schwoch (Eds.), *Questions of method in cultural studies* (pp. 175-200). John Wiley & Sons. <https://doi.org/10.1002/9780470775912.ch7>
- Soroka, S., Andrew, B., Aalberg, T., Iyengar, S., Curran, J., Coen, S., Hayashi, K., Jones, P., Mazzoleni, G., Rhee, J. W., Rowe, D., & Tiffen, R. (2012). Auntie knows best? Public broadcasters and current affairs knowledge. *British Journal of Political Science*, 43(4), 719-739. <https://doi.org/10.1017/s0007123412000555>
- Syvertsen, T., Donders, K., Enli, G., & Raats, T. (2019). Media disruption and the public interest. *Nordic Journal of Media Studies*, 1(1), 11-28. <https://doi.org/10.2478/njms-2019-0002>
- TOP 09 [@top09cz]. (2020, May 11). Markéta Pekarová Adamová jasně a narovinu [Markéta Pekarová Adamová clearly and straightforwardly] [Facebook video]. Retrieved from <https://fb.watch/oESESocZeX/>
- Události, komentáře [@udalostikomentare]. (2021, August 21). Tomio Okamura a Zdeněk Hřib v Událostech, komentářích [Tomio Okamura and Zdeněk Hřib in Events, comments] [Facebook video]. Retrieved from <https://fb.watch/oERBLb0zzr/>
- Van Aelst, P., Strömbäck, J., Aalberg, T., Esser, F., de Vreese, C., Matthes, J., Hopmann, D., Salgado, S., Hubé, N., Stepińska, A., Papathanassopoulos, S., Berganza, R., Legnante, G., Reinemann, C., Sheaffer, T., & Stanyer, J. (2017). Political communication in a high-choice media environment: A challenge for democracy? *Annals of the*

International Communication Association, 41(1), 3-27.
<https://doi.org/10.1080/23808985.2017.1288551>

Weller, K., Bruns, A., Burgess, J., Mahrt, M., & Puschmann, C. (2013). *Twitter and society*. Peter Lang Verlag. <https://doi.org/10.3726/978-1-4539-1170-9>

Ytre-Arne, B. (2019). Media use in changing everyday life: How biographical disruption could destabilize media repertoires and public connection. *European Journal of Communication*, 23(5), 488-502. <https://doi.org/10.1177/0267323119869112>

Contact Data:

Mgr. Ing. David Klimeš, PhD.

Charles University in Prague

Faculty of Social Sciences

Smetanovo nábřeží 6

110 01 Praha 1

CZECH REPUBLIC

david.klimes@fsv.cuni.cz

ORCID-ID: <https://orcid.org/0000-0001-9785-1722>

MAPPING THE DEVELOPMENT OF AI-RELATED PUBLICATIONS IN MARKETING

Daniela Kollárová – Andrii Kushnarevych

DOI: <https://doi.org/10.34135/mmidentity-2023-22>

Abstract:

The main objective of the paper is to map the development of the occurrence and context of articles containing the phrase artificial intelligence in the professional periodical *Stratégie*, based on media outputs. The transcript of the articles we examined is an output of the Mediaboard media monitoring. We used content analysis to examine the presence of the occurrence of the phrase artificial intelligence and the context in which it is mentioned. We grouped the articles we examined by context into the five most recurrent categories: an advertising campaign that used artificial intelligence in its production. Award-winning work that used artificial intelligence in its production. Educational articles of a theoretical nature. Changes in the work and processes of agencies and contractors. The ethical framework for the use of AI, the need for regulation, and the spread of misinformation. We found that the number of articles with the keyword phrase grew continuously over the monitored period and the context in which AI was mentioned changed over time. In the print edition of the journal, we only recorded the relevant occurrence and context from the March 2023 issue onwards. In the online environment, we recorded the occurrence of the key phrase from January 2023 onwards, which is in line with the specifics applicable to online editions: to ensure real-time relevance. We did not observe a fundamental difference between content published online and in print.

Key words: Artificial Intelligence. Content Analysis. Online Publications. Print Journalism.

1 Introduction

In our article, the main focus of our research is aimed at the comparison of publication activity that includes the keyword “artificial intelligence” between print and online versions of the selected professional magazine. In our introductory part we aim to discover the specifics that are characteristic to print and online publications, what are their advantages and disadvantages as well as the differences between them. Since the area of our interest are articles aimed at the topic of artificial intelligence, we find it appropriate to include a necessary theoretical basis for the topic of artificial intelligence in the year 2023.

1.1 Specifics of Print Publications

Originating with the creation of the printing press in the 15th century by Johann Gutenberg, print journalism evolved into a primary medium for sharing news, opinions, and cultural developments up until the 21st century. The characteristics of content for paper print are distinguished by the traditional long-form narrative style that has long been embraced. The formats used in paper prints allow to include in-depth exploration of issues, analysis of events, and nuanced storytelling. Additionally, visual elements that may include everything from photographs connected to the topic of the article to infographics uncovering complicated statistics are included in print press depending on the relevance to the topic (Solomon, 2022). While previous points can be valid for online publications as well, print media provides a customer with a unique tactile experience, that evokes tactile emotions from the reader. The physical nature of newspapers and magazines promotes a sensory connection where people hold and flip through physical pages to get through the information provided (Rush, 2022). Another thing worth mentioning is that the principles of layout and design in print journalism play a much bigger role in guiding reader attention than in online media, emphasizing key stories, and contributing to an aesthetically pleasing and coherent presentation of content.

Among the traditional distribution models for print media are subscription services, newsstands, and home delivery. These models have historically shaped the access of printed publications, and readers physically receive copies (Cummings & LeMaire, 2008). In addition, the physical aspect of the print is suitable for archival purposes and contributes to historical records by preserving tangible copies of newspapers and magazines. Print journalism faces unique challenges, including the limitation of time sensitivity when news is published. Print media are restrained by the production process timelines, which inevitably impacts its ability to provide real-time, or even relevant, updates compared to online platforms (Nath, 2021). Another major limitation is the need to necessitate editorial decisions regarding story prioritization (Austin, 2021). Since the paper is being prepared and published beforehand, it is important not only to structure it appropriately for the reader, but in a way reader gets actual information without the feeling that it is outdated.

The relationship between readers and print publications can be characterized by a sense of loyalty and routine. For many, reading a physical newspaper is a part of their daily routine, like drinking coffee or watching TV. This way, it is one of the few media that may create a community around a tangible feeling that newspapers and magazines provide. The tangible nature of print promotes a link that extends beyond the digital domain, and this dynamic of engagement plays an essential role in defining the role of print journalism in the media landscape (Filigheddu, 2023). Print is one of the traditional media that still holds a valuable role in the market. We may see, that while talking about basic characteristics of print publishing, differences with the online realm arouses by themselves. Now, let's discover the same topic, but from the point of view of online publications.

1.2 Specifics of Online Publications

The first thing we want to write about was already mentioned – online publications have the characteristics of dynamic and interactive content (Daisie Team, 2023), therefore shaping the traditional image of journalism. Dynamism that is present in an online environment means the integration of multimedia elements, such as videos, interactive graphics, hyperlinks, dynamic ads etcetera. Interactivity on the other hand refers to both, a possibility for real-time interaction with the reader as well as the opportunity to include user-generated content in the publication themselves. The online printing platforms promote an interactive culture and user involvement at all levels. Beyond passive consumption, readers can actively participate in the publication's lifecycle by contributing comments, opinions, and even creating their own content in addition to the published one. The phenomenon of user-generated content, or UGC is very actively spoken about today. This collaborative aspect improves the feeling of community in the online printing environment, increasing the participation of publishers and the public. Those features enrich the general storytelling experience. While there is no "physicality" in online publications, other features tend to compensate for it. A hallmark of online print is the ability to provide and publish real-time updates (Nuesi et al., 2020). Today, it has become common to have specific pages dedicated to real-time events, where updates are being published on a minute-to-minute basis. In contrast to traditional print media with fixed production cycles, online platforms can instantaneously publish breaking news and updates and share them among various channels in no time. Some research also shows that open-access articles positively influence the number of citations for higher-quality research, showing the potential benefits of online publishing from the point of view of visibility and impact (Gargouri et al., 2010). Other researchers, like Soteropulos and Poore (2021) expressed concerns about the credibility and ethical accountability of online platforms in comparison to print-based publications. They suggested that print publications may offer a more regulated and transparent editorial process. This

immediacy enhances the relevance of the content, ensuring that audiences have access to the latest information.

On the contrary to physical printing, online print doesn't have geographical boundaries, offering a potential for global reach which is impossible for traditional print media. The digital landscape enables publishers to reach diverse audiences worldwide, which may be segmented according to the publishers' needs and wants. Furthermore, digital platforms enable advanced audience targeting by data analytics and provide personalized content recommendations based on user behavior, preferences and population characteristics. The digital nature of online print also provides an additional space for adaptability in content presentation. If, in the case of print publishing there is only one structure created, in an online realm content can be tailored for various devices, such as smartphones, tablets, and desktops, ensuring a seamless user experience across all the platforms (Klus & Dilger, 2020). Various research shows, that pages that are responsive, especially mobile-friendly, get much better audience response and reactions.

Another big advantage online media provides publishers with is the possibility of obtaining detailed metrics and implementing analytics tools. These insights into reader behaviour, including the real-time overview of the metrics like page views, click-through rates, and customer journey funnel, enhances the ability of publishers to make data-driven decisions. A big difference between the two types of publishing lies also in the monetization options available. Subscription services, paywalls, and digital advertising are common revenue streams in a digital print environment (Bartholomew & Williamson, 2022). If, in order to read an article in a physical newspaper customer has to buy it, or at least get the paper for free, in an online environment some articles may be provided free of charge, while paid ones usually provide a free beginning of an article, with the option to continue reading by paying the subscription fee. In the digital realm, the possibilities of ad insertion are also broader. The flexibility of digital platforms allows publishers to experiment with different models, adapting to changing market dynamics and evolving reader expectations. Information on online platforms has the potential to achieve rapid virality through social media and other online channels. The speed of dissemination is a critical factor in the online print landscape, influencing the reach and impact of content. The viral nature of online print can lead to widespread awareness and influence within a short timeframe. According to Chun and Thompson (2010), however, online publications may be viewed as disadvantageous, since readers may view them as less valuable or credible.

1.3 Artificial Intelligence in the Year 2023

Artificial intelligence (AI) is rapidly evolving, transforming and influencing our world in many ways. The year 2023 became the biggest one for AI yet in terms of publications about it, audience interest and usage. During the year 2023, significant progress in several areas of AI happened. Among those areas are:

- **Generative AI** is a type of AI that can create new content from a prompt that is submitted to it. As of today, the most common examples of content generated by AI are text, images, and music. This technology is still in its early stages, but it has already started to influence many industries, including healthcare, education, and entertainment. Since an unlimited amount of content can be generated, this technology also raises many concerns about the ethical side of using generated content.
- **Large Language Models**, or LLMs are a type of AI that can understand and generate language that is very similar to the human one. Today they are being used to develop a wide range of new applications, most notable examples are chatbots, virtual assistants, and machine translation systems. The most popular program in 2023 was ChatGPT, a chatbot created by the company OpenAI.

- Another area that developed in the year 2023 was **decision intelligence**. Decision intelligence is a type of AI that combines its AI capabilities, machine learning, data fusion and other tools with the goal of improving decision-making (Pratt et al., 2023). Among its use cases are also tasks to optimize supply chains, improve customer service, and reduce fraud.

Since AI became “accessible” to the general audience only a year ago, in November of 2022 with the release of ChatGPT to the public, we can confidently state that the technology in general is in the very early stages of its development and lifecycle. Also, it is still a question of how, if at all, AI technologies should be regulated, how they may be used, and how much they should influence human life. In the year 2023, among the biggest concerns in connection to AI were (Broekhuizen et al., 2023):

- **Bias:** AI systems can be biased, which, without regulation or control, can lead to discrimination, fake outcomes and spreading of misinformation. This can be mostly seen in the context of LLMs. The phenomenon of those models creating a text that is not true is called hallucinating and is common today. If the model doesn’t know or doesn’t have access to the correct answer, it is very possible that it would rather hallucinate than write that it doesn’t know the correct answer.
- **Decision-making:** Since the technology is so new, it is often difficult to understand how AI systems make decisions. It is known that many factors are taken into consideration by the models, but it is not transparent how exactly those systems work. This can make it difficult to trust AI systems, their decisions and the information they provide.
- **Safety and ethicality:** AI systems can be dangerous if they are not designed and used carefully. When LLMs were just released, there were many potentially dangerous topics that the model would answer without asking questions. Since then, companies have been continuously improving the level of safety of their models as well as the ethicality of the answers provided. However, AI technologies still have a long way to go to become completely safe to use.

Despite these and other challenges that AI faces today, it is clear that the technology will improve and be here to stay. It is becoming increasingly accessible to businesses and individuals of all sizes in part due to the development of open-source AI tools, which make it possible for anyone to develop and deploy AI applications, like the LLM model from Meta – Llama. The future of AI is full of possibilities, from solving some of the world’s most pressing problems to just helping people with their everyday tasks. Automating tasks, providing personalized recommendations, and creating new forms of entertainment will definitely change many fields of work and life. As AI continues to develop, it is important to remember that AI is a tool and it is up to us to decide how to use AI, which forms it should be used in and what is the correct and ethical way to use the technology.

2 Methodology

The main objective of the paper is to map, on the basis of media outputs, the evolution of the occurrence and context of articles containing the phrase “artificial intelligence” in the professional periodical *Stratégie*, from 1st of January 2023 to 13th of October 2023. The main objective will be achieved by fulfilling the partial objectives:

- to identify the specificities of print and online publications,
- identify AI and concerns about its use,
- define the main and sub-objectives of the paper,
- identify and characterize the object of study,
- characterize the method of data collection, sources, and evaluation methods used,

- map trends in artificial intelligence published in the monthly *Stratégia* print and online editions,
- summarize the results obtained, outline further possibilities for research.

The object of the research are articles published in the monthly magazine *Stratégia*, both in its print and online form <https://strategie.hnonline.sk>, published in the period from 1st of January 2023 to 13th of October 2023. The monthly magazine *Stratégia* is the only magazine in the Slovak market that offers a professional view of the media, marketing and advertising market. It contains data and research, information from the digital environment, analytical articles on current topics and interviews with experts in the fields of marketing, media and advertising. Each month, *Stratégia* not only offers a picture of what is happening in the Slovak market, but also brings news and trends from the foreign markets through contributions from abroad (Mafra Slovakia, n.d.).

The transcript of the articles we examined is an output from the Mediaboard media monitoring system, which clearly displays media mentions. The report includes the date of publication, author's name, article title, media name, media type, full text of the article, an indication of print place, and a screenshot of the article. Mediaboard tracks mentions of specific keywords, phrases, topics, or brands and analyzes both the sentiment and impact of those mentions. In print, there were 71 articles (57 positive, 1 neutral, 9 ambivalent, 4 non-symbolic). In an online form, there were a total of 142 articles (112 positive, 1 neutral, 18 ambivalent and 11 negative).

Content analysis was used to examine the surface structure (manifest content), focusing on detecting the presence of the occurrence of the phrase “artificial intelligence” and the context in which it was mentioned. Following the manifest content, we chose an inductive approach, i.e. from textual material to conclusions, due to the lack of knowledge of the subject matter. According to the context in which the phrase “artificial intelligence” was mentioned, we categorized the reviewed articles into the following categories:

- An advertising campaign that used artificial intelligence in its production.
- Award-winning work that used artificial intelligence in its production.
- Educational articles of a theoretical nature.
- Changes in the work and processes of agencies and contractors.
- The ethical framework for the use of AI, the need for regulation, and the spread of misinformation.

Other articles with the phrase “artificial intelligence” with considerably more diverse content have been placed in the “Other” category. However, we did not subject these to deeper examination.

3 Results

We found that the number of articles with the keyword phrase grew continuously during the monitored period. At the same time, the context in which it was mentioned changed. We interpret the results of the investigation retrospectively.

In the month 09/2023, the journal's editorial staff published articles with the keyword “artificial intelligence” (also referred to as AI in the text) in print and online in the following categories:

- **Award-winning work that used artificial intelligence in its production.** Slovenská sporiteľňa, together with the Zaraguza agency, were awarded for the original and innovative campaign “My Dear Slovaks” (Ležovičová, 2023a). In the online version of the paper “Zlatý klinec” and the campaign “My Dear Slovaks” were mentioned in the context of presenting what AI is capable as of today. Other articles also mentioned that the event itself used AI at almost every step of production (Ležovičová, 2023b).

- **Changes in the work and processes of agencies and contractors.** Agency representatives surveyed by the editors agree that work in agencies is only beginning to change under the influence of AI. Some agencies declare that they have made the use of ChatGPT compulsory for both account managers and digital specialists who work directly with campaigns. At the same time, AI tools have also become standard for training junior positions. In online publications it was mentioned that only 5% of the brands were using AI in September, which is less than the EU average, but the best result out of V4 group (RED, 2023a). Other than that, publications were primarily focused on the updates in the field of Artificial intelligence and the possible changes it may bring for companies.

In the month 08/2023, the *Stratégie* editorial team published articles with the keyword “artificial intelligence” in print and online in the following categories:

- **Changes in the work and processes of agencies and contractors.** In the ADMA opinion section, representatives of agencies state that they see the prospect of using AI tools in the creative process in a situation where brands are cutting marketing and communications budgets (Ležovičová, 2023c).
- According to the CMO of the marketing agency ui42, one of the biggest positives of AI for the future of e-commerce is in increasing of its work efficiency (Nevolná, 2023a). The Association of PR Agencies of the Slovak Republic (APRSR) also recognized the increased influence of AI on their work process, however, didn't specify the exact changes it brought (RED, 2023b).

In the month 07/2023, the editors of the journal published articles in print and online with the keyword “artificial intelligence” in the following categories:

- **Changes in the work and processes of agencies and contractors.** The “Topic” section highlights the benefits of AI in e-commerce, in particular the fundamental facilitation of expansion into foreign markets (Nevolná, 2023b). Among online publications, PR professionals expressed an opinion that AI would bring a “big transformation” to the field in the following three years. It was also said that, according to the agencies from APRSR, AI today is used mostly for routine tasks, like research, data visualization or analyses (Caránek, 2023a). It is also worth noting that a relatively large amount of publications in July were dedicated to the topic of writers' and actors' strikes in Hollywood and the role of AI in it.

In the month 06/2023, the editors of *Stratégie* magazine published in print and online articles with the keyword “artificial intelligence” in the following categories:

- **Changes in the work and processes of agencies and contractors.** In the “Special Project” section, the agencies associated with the APRSR declare that they are, so far, using AI mainly to simplify mechanical and routine tasks, including research, analysis or data visualisation. In the “Topic” section, leading betting companies and the National Lottery assess the gaming market situation, current trends and marketing prospects using AI (Nevolná, 2023c). In an online environment, representatives of media agencies talked about the indisputable advantages of AI usage, however, there was also an opinion that the development of the technology has to be more regulated. They also mentioned that today AI is used in various areas of their business, like planning, targeting and optimizing (Ležovičová, 2023d).
- **The ethical framework for the use of AI, the need for regulation, and the spread of misinformation.** In the “Special Project” section, the agencies stress that the results of AI tools need to be approached critically. This need stems from the (in)accuracy, (in)truthfulness and (in)transparency of the data that AI can generate (Caránek, 2023b).

Among online articles, there was also concern about the problem. Slovak project elfovia.sk announced a new startup aimed at fighting disinformation and hate speech using AI and human moderators (RED, 2023c).

In the month 05/2023, the editors of the journal published articles in print and online with the keyword “artificial intelligence” in the following categories:

- **Changes in the work and processes of agencies and contractors.** In the “ADMA opinion” section, representatives of agencies list jobs where they see AI as an assistant, e.g. copywriters use it to revise texts, graphic designers use it to create storyboards and moodboards (Ležovičová, 2023e). In online, four experts from digital agencies gave their opinions on the changes AI is bringing to online search, what will be the biggest benefits of AI for users as well as the ethicality of using AI as a source of information (Nevolná, 2023d).
- **The ethical framework for the use of AI, the need for regulation, and the spread of misinformation.** In the “Special Project” section, PR agencies highlight the need to address the ethical side of using AI tools, and in their view, it is necessary to start by setting ethical standards for agencies and contractors. In online, Reporters Without Borders organization (RSF) noted that creating and sharing disinformation is becoming easier with the technologies using AI, like MidJourney which can generate a realistic picture of anything in seconds (TASR, 2023).

In the month 04/2023 the editors of the journal *Stratégie* published in print and online articles with the keyword “artificial intelligence” in the following categories:

- **Award-winning work that used artificial intelligence in its production.** In the “Young Lions” section, the judges of the competition point out that the development of AI raises the question of evaluating entries in the future according to whether they are created by humans or by artificial intelligence (Ležovičová, 2023f). In an online environment, the campaign “My Dear Slovaks” was mentioned in the context of AI-created content at the event Digital Pie 2023 (RED, 2023d).
- **Changes in the work and processes of agencies and contractors.** Some articles were focused on the rapid changes AI is bringing, and that the market is not adapting fast enough to the tempo of those changes.

In the month 03/2023, the editors of the journal published in print and online articles with the keyword “artificial intelligence” in the following categories:

- **An advertising campaign that used artificial intelligence in its production.** In the “Top Project” section, the Zaraguza agency (Dzurjaníková, 2023) describes the first-ever campaign in Slovakia in which a voice created with the help of artificial intelligence is used. In addition to a powerful idea and visually appealing video, the “My Dear Slovaks” campaign brought a discussion on the ethical aspects of using AI in public space. In an online environment, a campaign by CORE4 made for Kooperativa was mentioned (RED, 2023e). While from the article it is not clear how and if AI was used in its creation, the idea of the campaign was centered around AI.
- **Educational articles of a theoretical nature.** The “AI and Creativity” section clearly describes AI, its forms, tools, advantages and disadvantages. The author of the article points out the significant intervention of AI in the creative industry (Nevolná, 2023e). The same information from the same author was shared in the electronic version of the paper.
- **Changes in the work and processes of agencies and contractors.** Several sections of the magazine describe the benefits of using AI tools in the processes of both agencies and

contractors, specifically in e-commerce. Portal Kariera.sk wrote about which jobs are influenced by AI, and what jobs can be created by AI in the near future (RED, 2023f).

In the month 02/2023, the editors of the journal *Stratégie* published articles with the keyword “artificial intelligence” in the context of the categories we researched only in online form, as follows:

- **Educational articles of a theoretical nature.** In an online environment, artificial intelligence was written about in the context of possible optimization of the brands’ marketing.
- **The ethical framework for the use of AI, the need for regulation, and the spread of misinformation.** In an online environment, an article about Telekom’s new communication concept and partnership with “Internet Elves”, which fight disinformation with the help of AI was published (RED, 2023g).

In the month 01/2023, the editors of the journal *Stratégie* published articles with the keyword “artificial intelligence” in the context of the categories we researched only in online form, as follows:

- **Educational articles of a theoretical nature.** In an online environment, AI technologies were mentioned several times in the context of their development, its possibilities and limitations.

4 Discussion

While the tone of the content published by the editors of *Stratégie* magazine in the first quarter of 2023 rather cautiously hinted at a revolution that will in practice fundamentally change the entire creative industry, including media and different types of marketing agencies, in the third quarter of the year the content forcefully describes the changes that the various AI tools have brought to the work and processes of agencies, with the caveat that this is just the beginning.

Overview articles of a theoretical nature, with the aim of educating readers about AI and its tools, were published, both online and in print, particularly in the first quarter of 2023. By then, the need for agencies and contractors to be familiar with AI tools was high. Looking at the table, it can be seen that as the months went by, *Stratégie* readers traded theory for practice, and there were already few in the industry who hadn’t at least tried ChatGPT. This is probably why in the second and third quarters, in both the online and print formats of the magazine, attention was paid to charting developments in work and process change, both for agencies and contractors. Changes in processes opened up a discussion in the second quarter about the ethical aspects of using AI in the public space and, in the third quarter, the issue of evaluating the industry’s tender submissions according to whether they were created by humans or AI.

Table 1: Overview of published articles by occurrence and context

Context	Advertising campaign		Award-winning work		Educational		Changes in the work		The ethical framework	
Month										
01/2023						O				
02/2023						O				O
03/2023	P	O			P	O	P	O		
04/2023			P	O						
05/2023							P	O	P	O

06/2023							P	O	P	O
07/2023							P	O		
08/2023							P	O		
09/2023			P	O			P	O		

Legend: P – print, O – online
 Source: own processing, 2023

Less than a year after the magazine reported on the first-ever campaign in which a voice created with the help of artificial intelligence was used (My Dear Slovaks), it offers its readers an overview of the currently known AI tools simplifying and accelerating mechanical and routine work tasks, identifies the stages of the processes in which it is beneficial to use AI tools to their full potential, and discusses the possibility of the future use in cases where clients have limited marketing and communication budgets. The use of AI tools has become standard, e.g. in the sketching of graphics or storyboards (DALL-E, Midjourney) or in the preparation of outlines for texts (ChatGPT). Some agencies even declare that they have made the use of ChatGPT mandatory for selected job roles.

Zaragoza’s campaign, “My Dear Slovaks” for Slovenská sporiteľňa, besides a strong idea (the future matters) and a visually appealing video, brought an interesting and important debate about the ethical aspects of using AI in public space. Issues arise especially in relation to disinformation potential, intellectual property, data protection and cyber security. An immediate solution, according to the expert community, could be to set internal ethical standards in individual agencies and contracting authorities. The impact of the development of AI tools also raises the issue of evaluating tender submissions according to whether they are human-made or created by artificial intelligence.

Artificial intelligence is gradually changing many areas of business, with betting companies and e-commerce being no exception. Betting companies see an opportunity, for example, in automatic odds changes during live streaming of matches, in fraud prevention, or in strengthening security. In e-commerce, AI brings a unique opportunity to personalise websites without the system knowing specific data about the visitor, and automated translations make it easier to enter new markets.

5 Conclusion

In line with the sub-objectives outlined in the methodology, we first highlight the specifics of print and online publications. The fundamental differences stem, for example, from the material or environment in which the titles are made available to readers (physical copy, website, mobile app); real-time relevance; interactivity of content and communication with readers; the geographical boundaries of the markets to which they are distributed; and the measurability of reader behaviour.

We then highlight the current state of knowledge of AI, which is again more diverse at the time of publication of this article. We also mention a wider range of concerns than bias or fabrication, trust in their decisions, safety and ethics. We note that the most notable program using AI in 2023 was ChatGPT, a chatbot created by OpenAI.

The object of the research was 71 articles published in the printed form of the *Stratégie* periodical and 142 articles published online at <https://strategie.hnonline.sk>, in the period from 1st of January 2023 to 13th of October 2023. We divided the researched articles into five categories according to the context in which the phrase “artificial intelligence” was mentioned. We found that the number of articles with the keyword phrase grew continuously during the period under review. At the same time, the context in which it was mentioned changed. In the print edition of the journal, we recorded the relevant occurrence and context

only from the 03/2023 issue onwards. In the online environment, we recorded the occurrence of the key phrase from January 2023 onwards. By publishing the journal online, in accordance with the specifics applicable to online titles, the editors were able to respond promptly to the dynamics of the development. We did not observe a significant difference between the published contents.

Regarding the possibilities of further exploration of the issue, since in 2023 we are still in the early stages of the implementation of various AI tools into practice and their dynamic development, following the results presented in this article, we see the potential for further research in the year-on-year comparison of the articles published in the same journal.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0606/21, titled 'Change in Preferences in Buying Behaviour of Consumers in the Context of the Dynamics of Marketing Communication Tools Development'.

Bibliography

- Austin, R. E. (2021). Online vs print publication: The case for online publication. *Aesthetic Surgery Journal*, 41(9), 1104-1105. <https://doi.org/10.1093/asj/sjab267>
- Bartholomew, D. E., & Williamson, M. (2022). Retail media networks. *Journal of Retailing and Consumer Services*, 69, 103119. <https://doi.org/10.1016/j.jretconser.2022.103119>
- Broekhuizen, T., Dekker, H. C., De Faria, P., Firk, S., Nguyen, D. K., & Sofka, W. (2023). AI for managing open innovation: Opportunities, challenges, and a research agenda. *Journal of Business Research*, 167, 114196. <https://doi.org/10.1016/j.jbusres.2023.114196>
- Caránek, J. (2023a, July 7). AI spôsobí do troch rokov big bang, očakávajú PR profesionáli [AI will make a big bang within three years, PR pros expect]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96092783-ai-sposobi-do-troch-rokov-big-bang-ocakavaju-pr-profesionali>
- Caránek, J. (2023b, June 26). AI spôsobí do troch rokov big bang, očakávajú PR profesionáli [AI will make a big bang within three years, PR pros expect]. *Stratégia*, pp. 30-31.
- Chun, D. M., & Thompson, I. (2010). Issues in publishing an online, open-access CALL journal. *The Modern Language Journal*, 94(4), 648-651. <https://doi.org/10.1111/j.1540-4781.2010.01101.x>
- Cummings, T. J., & LeMaire, B. (2008). *Print media distribution: A look at infrastructure, systems, and trends*. RIT Cary Graphic Arts Press.
- Daisie Team. (2023, August 7). *Digital vs print magazines: Pros & cons*. <https://blog.daisie.com/digital-vs-print-magazines-pros-cons>
- Dzurjaníková, A. (2023, March 30). Zaraguza. *Stratégia*, p. 63.
- Filigheddu, L. (2023, March 3). *Print vs. online: How are users reading magazines and newspapers today?* <https://www.paperlit.com/blog/digital-publication/print-vs-online-how-are-users-reading-magazines-and-newspapers-today>
- Gargouri, Y., Hajjem, C., Larivière, V., Gingras, Y., Carr, L., Brody, T., & Harnad, S. (2010). Self-selected or mandated, open access increases citation impact for higher quality research. *PLOS ONE*, 5(10), e13636. <https://doi.org/10.1371/journal.pone.0013636>
- Klus, M. F., & Dilger, A. (2020). Success factors of academic journals in the digital age. *Business Research*, 13(3), 1115-1143. <https://doi.org/10.1007/s40685-020-00131-z>

- Ležovičová, L. (2023a, September 29). Zlaté klince sú pre nás uznaním brandže, že robíme niečo výnimočné [The Golden Nails are a recognition from the industry that we are doing something exceptional]. *Stratégia*, pp. 20-21.
- Ležovičová, L. (2023b, September 15). Zlatý klinec 2023: Agentúrou večera je THIS IS LOCCO, najlepšiu kampaň má Slovenská sporiteľňa a Kaufland [Golden Nail 2023: THIS IS LOCCO is the agency of the evening, the best campaign has Slovenská sporiteľňa and Kaufland]. *Stratégia*. <https://strategie.hnonline.sk/news/archiv-clankov/96104657-zlaty-klinec-2023-agenturou-vecera-je-this-is-locco-najlepsiu-kampan-ma-slovenska-sporitelna-a-kaufland>
- Ležovičová, L. (2023c, August 31). Náklady stúpajú, zvyšujú sa aj sadzby agentúr? [Costs are going up, are agency rates going up?]. *Stratégia*, pp. 38-39.
- Ležovičová, L. (2023d, June 26). Mediálne agentúry: Výhody AI sú nesporné, ale pokrok treba usmerniť [Media agencies: The benefits of AI are undeniable, but progress needs to be guided]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96090513-medialne-agentury-vyhody-ai-su-nesporne-ale-pokrok-treba-usmernit>
- Ležovičová, L. (2023e, May 26). AI: Jej prínos je obrovský, ale treba vedieť, čo hľadáme [AI: Its benefits are huge, but we need to know what we're looking for]. *Stratégia*, pp. 44-45.
- Ležovičová, L. (2023f, April 28). Slovensko má veľmi slušnú úroveň mladých kreatívco [Slovakia has a very good level of young creatives]. *Stratégia*, pp. 42-43.
- Mafra Slovakia (n.d.). *Stratégia*. Retrieved 30 October, 2023, from <https://mafraslovakia.hnonline.sk/titul/strategie>
- Nath, K. A. (2021). Progressing from print to paperless online publishing. *Mayo Clinic Proceedings*, 96(1), 16-17. <https://doi.org/10.1016/j.mayocp.2020.11.017>
- Nevolná, M. (2023a, August 14). Top trendy v e-commerce: Prioritou je rýchle a efektívne doručenie či zjednodušenie nákupu [Top trends in e-commerce: Priority is fast and efficient delivery or simplification of purchase]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96099027-top-trendy-v-e-commerce-prioritou-je-rychle-a-efektivne-dorucenie-ci-zjednodusenie-nakupu>
- Nevolná, M. (2023b, July 28). Výzvy a príležitosti pre e-commerce [Challenges and opportunities for e-commerce]. *Stratégia*, pp. 24-27.
- Nevolná, M. (2023c, June 26). Stávkovému biznisu sa darí. Investuje sa do inovácií i do reklamy [The betting business is thriving. Investing in innovation and advertising]. *Stratégia*, pp. 10-15.
- Nevolná, M. (2023d, May 10). Je AI naozaj revolúciou vo vyhľadávaní? Aké riziká so sebou prináša a čo sa bude musieť stať s legislatívou? (anketa Stratégií) [Is AI really a revolution in search? What risks does it bring and what will have to happen with legislation? (Stratégia poll)]. *Stratégia*. <https://strategie.hnonline.sk/news/archiv-clankov/96081982-je-ai-naozaj-revoluciou-vo-vyhladavani-ake-rizika-so-sebou-prinasa-a-co-sa-bude-musiet-stat-s-legislativou-anketa-strategii>
- Nevolná, M. (2023e, March 30). AI V KREATÍVNOM PRIEMYSLE: partner alebo hrozba? [AI IN THE CREATIVE MIND: Partner or threat?]. *Stratégia*, pp. 12-14.
- Nuesi, R., Lee, J. Y., Kuriyan, A. E., & Sridhar, J. (2020). Speed of online and print peer-reviewed ophthalmology publications and correlation to journal bibliometric measures. *Journal of Academic Ophthalmology*, 12(2), e284-e291. <https://doi.org/10.1055/s-0040-1721070>
- Pratt, L., Bisson, C., & Warin, T. (2023). Bringing advanced technology to strategic decision-making: The decision intelligence/data science (DI/DS) integration framework. *Futures*, 152, 103217. <https://doi.org/10.1016/j.futures.2023.103217>

- RED. (2023a, September 16). Na Slovensku využíva AI zatiaľ len 5 percent firiem. Sme pod priemerom EU, no najlepší z V4 [In Slovakia, only 5 percent of companies use AI so far. We are below the EU average, but the best of the V4]. *Stratégia*. <https://strategie.hnonline.sk/news/archiv-clankov/96104763-na-slovensku-vyuziva-ai-zatial-len-5-percent-firiem-sme-pod-priemerom-eu-no-najlepsi-z-v4>
- RED. (2023b, August 17). Asociácia PR agentúr plánuje rast a hľadá nových členov [Association of PR agencies plans growth and is looking for new members]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96099570-asociacia-pr-agentur-planuje-rast-a-hlada-novych-clenov>
- RED. (2023c, June 9). Bojovníci proti nenávisti a dezinformáciám zakladajú nový startup! [The fighters against hate and misinformation are founding a new startup!]. *Stratégia*. <https://strategie.hnonline.sk/news/archiv-clankov/96087690-bojovnici-proti-nenavisti-a-dezinformaciam-zakladaju-novy-startup>
- RED. (2023d, April 28). Digital Pie 2023: Vieme, kto si odniesol ceny aj meno najúspešnejšej agentúry [Digital Pie 2023: We know who took home the prizes and the name of the most successful agency]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96080297-digital-pie-2023-vieme-kto-si-odniesol-ceny-aj-meno-najuspesnejsej-agentury>
- RED. (2023e, March 8). Arogantné auto s hlasom Kuba Lužinu robí neplechu v novej kampani Kooperativy [An arrogant car with the voice of Kuba Lužina makes mischief in Kooperativa's new campaign]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96071041-arogantne-auto-s-hlasom-kuba-luzinu-robi-neplechu-v-novej-kampani-kooperativy>
- RED. (2023f, March 13). Umelá inteligencia nás nenahradí, skôr nám pomôže [Artificial intelligence will not replace us, rather it will help us]. *Stratégia*. <https://strategie.hnonline.sk/news/tlacove-spravy/96071859-umela-inteligencia-nas-nenahradi-skor-nam-pomoze>
- RED. (2023g, February 14). Telekom prináša nový komunikačný koncept Rešpekt aj slogan Pre všetko, čo nás spája [Telekom introduces new communication concept Respect and slogan For everything that unites us]. *Stratégia*. <https://strategie.hnonline.sk/news/marketing/96066943-telekom-prinasa-novy-komunikacny-koncept-respekt-aj-slogan-pre-vsetko-co-nas-spaja>
- Rush, M. (2022, January 4). *Print versus digital: Four reasons why print is still around*. <https://www.healthcommedia.com/print-versus-digital-four-reasons-why-print-is-still-around>
- Solomon, H. (2022, May 19). *Print and visual communication*. <https://blueskygraphics.co.uk/print-and-visual-communication>
- Soteropoulos, C. E., & Poore, S. O. (2021). Navigating the gray of academic publication. *Annals of Plastic Surgery*, 87(6), e171-e179. <https://doi.org/10.1097/sap.0000000000002902>
- TASR. (2023, May 3). Reportéri bez hraníc: Svet je pod záplavou dezinformácií, ktoré stierajú rozdiely medzi pravdou a nepravdou [Reporters Without Borders: The world is under a barrage of misinformation that blurs the distinction between truth and falsehood]. *Stratégia*. <https://strategie.hnonline.sk/news/media/96080890-reporteri-bez-hranic-svet-je-pod-zaplavou-dezinformacii-ktore-stieraju-rozdiely-medzi-pravdou-a-nepravdou>

Contact Data:

Assoc. Prof. PhDr. Daniela Kollárová, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
daniela.kollarova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-6923-5057>

Mgr. Andrii Kushnarevych
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
kushnarevych1@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-7579-0639>

GROUNDING THEORY IN AI-ENHANCED WOMEN'S IMAGE IN ADVERTISING

Gintarė Kriaučiūnaitė-Lazauskienė

DOI: <https://doi.org/10.34135/mmidentity-2023-23>

Abstract:

This study delves into the critical intersection of artificial intelligence (AI) and women's representation in advertising, focusing on its impact on gender identity formation. AI has become a powerful tool in the marketing world, enabling advanced image manipulation and content creation in ads. The research investigates how AI imagery affects prevailing beauty norms and gender stereotypes, influencing societal views of women. It examines the ethical aspects of AI-driven personalization in marketing and its effect on consumer perceptions, particularly in Lithuania. The study also explores AI's potential to foster diversity and inclusion by depicting women from various backgrounds, body types, and abilities. Ethical considerations and responsibilities associated with AI's influence on women's portrayal in advertising are emphasized, echoing the views of other marketing experts. This research highlights AI's transformative role in shaping gender identities in advertising, offering important insights for marketing professionals, advertisers, and academics. It encourages the responsible use of AI to improve women's representation in advertising.

Key words: Advertising. AI. Consumer Perceptions. Ethics. Gender Identity.

1 Introduction

In recent years, the landscape of advertising has undergone significant changes, as highlighted by Donthu et al. (2023). The advent of new technologies and the surge in digital media have shifted the focus from traditional advertising methods like newspapers and billboards to more innovative and diverse platforms. The integration of Artificial Intelligence (AI) in advertising has notably enhanced its effectiveness and optimization. AI, as described by Qin and Jiang (2019) and Copeland (2021), encompasses transformative technologies that enable machines to mimic human problem-solving and decision-making abilities. This advancement in AI has revolutionized advertising by making it more tailored, precise, and intelligent. It streamlines key advertising processes, including consumer insights, media planning, creation, and evaluation of advertisements (Chen et al., 2019; Deng et al., 2019; Li, 2019).

Furthermore, the representation of gender in advertising has seen a significant evolution. Where once traditional stereotypes prevailed, as observed by Lundstrom and Sciglimpaglia (1977) and Goffman (1979), there's now a shift towards more complex and empowering depictions. Earlier studies indicated a tendency to portray women in domestic roles, dependent on men, and in sexualized manners, reinforcing limited and stereotypical gender perceptions. The recent trends, including the exploration of AI's role in advertising and its impact on gender representation, show a move towards addressing the "missing women" phenomenon in advertisements, as discussed by Sivulka (2009) as well as Brulé (2020). This shift marks a progressive step in the advertising industry towards a more inclusive and realistic portrayal of gender roles.

The field of artificial intelligence (AI) fundamentally posits that human intelligence can be emulated within computational systems, enabling machines to perform tasks historically exclusive to humans (Guo, 2015). This approach has significant implications, not only in terms of technological advancements but also in understanding and replicating human cognitive processes.

As AI integrates more deeply into various sectors, its role in advertising, particularly regarding gender stereotypes, becomes increasingly prominent. While AI holds the potential for innovative content creation, it also risks perpetuating and even amplifying existing societal biases, including those related to gender. The algorithms driving AI systems in advertising often learn from existing data sets, which can include biased or stereotypical representations of gender roles. As a result, instead of challenging and diversifying gender portrayals, AI could inadvertently reinforce outdated stereotypes.

This issue is accentuated in AI-driven advertising due to the scale and speed at which AI can operate. Unlike human creators, who may consciously work to address their biases, AI systems, if not properly guided, can disseminate stereotypical content more rapidly and broadly. This includes perpetuating traditional roles where women are depicted in domestic settings or as objects of desire, while men are shown in more authoritative or professional roles.

To address these challenges, it's crucial to incorporate ethical considerations and bias mitigation strategies in the development and deployment of AI in advertising. This involves training AI systems on diverse and balanced datasets and continuously monitoring and adjusting AI outputs for unintended biases. It also necessitates a multidisciplinary approach, involving not only technologists and data scientists but also experts in gender studies, ethics, and social sciences, to provide a more holistic understanding of the implications of AI-generated content.

Furthermore, the development of AI in advertising should be accompanied by an ongoing dialogue among stakeholders, including advertisers, consumers, and regulatory bodies. This dialogue should focus on establishing guidelines and standards that ensure AI's use in advertising respects and promotes gender equality and diversity. The aim to give a comprehensive overview of the integration of Artificial Intelligence (AI) in four critical aspects of the advertising process related to women's image in AI created advertising. These aspects include the discovery of consumer insights, media planning and buying, the generation and creative testing of advertisements, and the optimization of advertising campaigns. Each area will be explored to understand how AI technologies have enhanced and transformed traditional advertising methodologies, offering new capabilities and efficiencies.

In conclusion, while AI presents opportunities for innovation in advertising, its potential to perpetuate gender stereotypes poses significant ethical challenges. Addressing these challenges requires a concerted effort to guide AI development with a strong ethical framework, ensuring that the advancements in this field contribute positively to the portrayal of gender in media and advertising.

1.1 Literature Review

Recent research in the field of advertising and artificial intelligence (AI) has shown an emerging trend towards a more balanced and diverse representation of women, as highlighted by Sharma & Das (2019). Their analysis of contemporary advertising campaigns revealed an increasing emphasis on showcasing women in empowered and professional roles, indicating a shift in societal norms and the potential for further change in gender perceptions.

Building upon this, the works of Patterson et al. (2009), Sharma & Das (2019), and Baker (2005) delve into the ethical and psychological aspects of these portrayals. They stress the need for responsible advertising practices that focus on gender sensitivity and avoid over-sexualization, which could reinforce detrimental stereotypes.

Hayasaki (2017) raised critical concerns about AI potentially inheriting and amplifying human biases, especially in gender representation. This concern is rooted in the fact that AI systems, designed based on human-created content, might perpetuate existing gender stereotypes, thus influencing societal norms.

The use of AI in advertisement generation and creative testing has sparked discussions regarding its place in creative endeavors (Khowaja et al., 2023). Since creativity is traditionally

viewed as a distinctively human trait (Picciuto and Carruthers, 2014), there's been skepticism among advertising experts and academics about AI's capability to exhibit genuine creativity.

To navigate these challenges, a comprehensive approach is necessary. Kaplan (2019) advocates for ethical development and deployment of AI in advertising, emphasizing the need for collaborative efforts among AI developers, advertisers, and researchers to ensure that AI technologies support equitable and diverse gender representations in media.

Moreover, the review incorporates insights from Saika (2017) and Molyneaux (2002), offering a multidisciplinary perspective on the role of media in shaping views of justice, empowerment, and civil society post-liberalization. The works of Smith (2016), Johnson & Molta (2021), Martinez (2019), Brown et al. (2021), Anderson & Ray (2010), Campbell et al. (2022) and also Wagman & Parks (2021) further contribute to understanding AI's impact on societal perceptions of women, particularly concerning beauty standards and gender stereotypes.

This study presents a comprehensive overview of AI's role in advertising and highlights the ethical responsibilities associated with its use, as discussed by Hamilton et al. (2021). The growing importance of AI in advertising and its radical transformation of the process, as noted by authors like Somosi (2022) and Arango et al. (2023), underscores the urgency of studying various aspects of AI in advertisement creation, including consumer reactions. This makes the exploration of AI in advertising a current and significant topic for the creative industry's development.

2 Methodology

This research project embarks on an exploratory journey to scrutinize the intersection of gender and feminist issues within the realm of artificial intelligence, particularly focusing on the portrayal and symbolic significance of women's imagery as perceived by the advertising experts and early stage professionals. A key facet of this exploration is understanding the influence of these AI-generated images on consumer behaviors and psychological states, given their pervasive presence in modern society via images in AI made pictures with regards what kind of image we perceive with specific glance from the perspective of experteese.

Furthermore, the study aims to capture the perspectives of advertising creators in Lithuania, particularly in their response to the creation of "perfect" human images in advertisements. This inquiry spans a diverse range of fashion advertising content provided in pictures, from accessible brands like Stradivarius to high-end labels such as Dior, Balenciaga, and Casablanca. The goal is to unearth the stance of these creators towards this novel approach of image creation and its anticipated impact on gender identity perceptions.

Central to this investigation are questions regarding the influence of these AI-generated images on consumer choices and their ability to navigate and internalize the impending shifts in advertising norms. While qualitative studies are traditionally not the primary choice for analyzing specific images and responses to them, this research employs qualitative methods to garner in-depth insights into consumer reactions to AI integration in their everyday life and its effects on their consumer habits.

To this end, the research adopts grounded theory methodology, an approach well-suited for the development of theoretical frameworks based on empirical data. Grounded theory is particularly advantageous for delving into novel or less explored domains, such as the impact of AI on women's imagery in advertising and its subsequent perception. By collecting and analyzing data from AI-generated advertising images, this study seeks to construct theories that are deeply rooted in the empirical evidence, thereby providing a comprehensive understanding of the evolving landscape of AI in advertising and its implications for gender identity and consumer psychology.

By choosing specific methodology approach which provides a clear, coherent, and scientifically-grounded overview of the research's aims, scope, and methodology, setting a solid foundation for the study. In this research this GT coding process requires these essential steps in order to answer the effect and the future of AI women image in advertising:

1. **Data Collection:** Collect a broad range of AI-generated advertising images that specifically portray women. These images should be varied, covering different industries, products, and demographics, to ensure a comprehensive view of how AI is influencing women's imagery in advertising.

2. **Open Coding:** Initially analyze the images in detail to identify key themes, such as the portrayal of women, the roles and settings depicted, use of color, symbolism, and any discernible patterns in how gender identities are represented. This step is crucial for identifying the initial elements that will form the basis of the theory.

3. **Axial Coding:** Organize the identified codes from open coding into broader categories. Here, you might look for patterns or relationships among the themes, such as correlations between the type of product and the portrayal of women, or how certain symbolic elements are used to convey gender identity. This step helps to understand how various aspects are interrelated.

4. **Selective Coding:** Develop a core category or categories that encapsulate the primary themes of your research. This involves synthesizing the data to focus on how AI influences the representation of women in advertising and contributes to the redefinition of gender identities.

5. **Theory Development:** Use the insights and patterns identified in the previous steps to formulate a grounded theory about the role of AI in shaping women's image and symbolism in advertising and its impact on gender identity perceptions. This theory should offer a new perspective or understanding of how gender identities are being redefined in the context of AI-enhanced advertising.

Setting. This study employed semi-structured in-depth interviews to gather data. A total of 15 interviews were conducted with professionals in the field of advertising and marketing. The participants were categorized into two groups based on their experience: advertising experts with up to 10 years of experience and young marketing professionals with 1 to 5 years of experience. The composition of the interviewees included 5 senior experts (comprising 4 females and 1 male) and 10 younger professionals (comprising 8 females and 2 males).

Participant recruitment was facilitated through professional networking platforms, specifically LinkedIn and Facebook. The interviews took place over the period of October to November 2023. Each interview lasted between 1 and 1½ hours, depending on the availability of the participants and the depth of discussion required by the topics. All interviews were conducted virtually, utilizing communication platforms such as Teams and Zoom, pictures were provided in power point platform.

The selection of interviewees was guided by convenience sampling, complemented by the theoretical sampling principle of Grounded Theory (GT). This approach allowed for a pragmatic and theory-driven selection of participants. It should be noted that due to practical constraints and the scope of this article, the analysis presented will focus solely on the interview data which we have collected by showing specif AI generated advertising pictures and gave semi- structured questions in order to get open answers about the possible approach which would come from the advertising industry employess in regards AI tools used in advertising and especially women's images in it.

During the open coding phase, the study utilized constructivist grounded theory to articulate the principal elements within the coding instrument. These elements include "code", "concept", "category", and "theme", which sequentially unfold, one leading into the next. The progression from one stage to the next is determined by reaching saturation in each stage. However, in alignment with the principles of Grounded Theory (GT), the researchers retain the

flexibility to revisit and revise previous stages if adjustments are deemed essential. This process is visually represented in Figure 1, which delineates the sequential emergence of these terms.



Figure 1: Sequence of the key terms inside the coding instrument
 Source: Qureshi & Unlu (2018)

In this progression, “code” is the initial element to materialize. Codes serve as labels assigned to segments of data based on the information they convey. Following this, “concepts” are developed, which are interpretive terms that cluster together codes that exhibit similar ideas, as explained by Strauss & Corbin (2008).

During the research we came up to certain level where you have to start open coding from the interview collection based on the images we have provided below and their opinion and expertise in advertising industry and creativity and gave a constructive GT which we deliver in results.

Below, we present a series of AI-generated images that were showcased to both seasoned experts and young professionals during our study. The primary objective was to have these participants examine pictures created by other advertisers for specific fashion companies. Following this examination, they were asked to respond to a set of semi-structured questions. The subsequent Grounded Theory (GT) coding process was employed to extract insights regarding the impact of AI-enhanced women’s images on employees of advertising companies, particularly those involved in advertisement creation. Additionally, we sought to capture their perspectives on how society might perceive and be influenced by such AI-driven approaches, especially if these become the predominant method in the industry. This part of the study aimed to understand the broader implications of AI-driven imagery in advertising, both within the industry and in societal perceptions.



Figure 2: The image created and conceptually designed by Coby Mendoza & Telum: AI’s AI-Driven InHouse Creative Solutions
 Source: Mendoza (2023)



Figure 3: L. Nugent, industry photographer, aided in creating the campaign images using image generator Midjourney, to produce the “Futuro Optimista” SS23 campaign for Casablanca
 Source: Casablanca Paris (n.d.), own processing, 2023



Figure 4: The Galician an AI-generated spring campaign for Stradivarius brand
Source: Alonso (2023)

3 Results

Grounded theory researchers posit that study participants commonly face a fundamental social dilemma, particularly in relation to AI-generated images in advertising. This dilemma also encompasses ethical and social transformation aspects also how to please the consumers and the client. In this context, the primary social issue confronted by participants within their companies revolved around ethical challenges. These difficulties arose due to a mismatch between the depicted values and aims of certain images of women (such as those noted by experts, for instance, the portrayal of female assistants in AI with typically female names (McDonnell & Baxter, 2019) and the guiding principles, objectives, and ethical standards of their professional work in advertising agencies. In the realm of AI-driven advertising, there is a notable trend of creating chatbots with female identities, especially in roles related to customer service and sales for various brands (Feine et al., 2019). This design choice raises important questions about gender representation and user interactions. Users often engage with these gendered AI agents using brief, command-like language. Scholars have expressed concerns that this interaction style, when directed at female-identified chatbots, might normalize similar communicative behavior towards actual women.

Furthermore, there are instances where “female” chatbots face sexualization and harassment. A notable example is the case of IKEA’s chatbot Anna, who received numerous sex-related queries (Wang & Kosinski, 2018), highlighting the troubling aspects of human-AI interaction. Such behavior not only projects but potentially reinforces societal biases and problematic behaviors towards women.

The situation becomes more complex with chatbots like Replika, designed to exhibit affectionate and flirtatious behaviors (Brooks, 2021). Concerns arise even in scenarios where romantic or sexual role-play functions are not explicitly activated (Robertson, 2021). This suggests a deeper issue in the portrayal and perception of female identities in AI contexts, extending beyond the advertising domain into broader societal implications. Such trends underscore the need for careful consideration of gender portrayal in AI applications, particularly in advertising, to prevent the perpetuation and normalization of negative stereotypes and behaviors towards women.

Participants addressed this issue by prioritizing creative solutions over mere conformity to the available AI tools. This approach involved actively engaging in creative processes as a means to navigate and reconcile the conflicting values associated with women’s imagery. The study thus focused on understanding how participants managed to balance the ease of work provided by AI tools against the need to maintain a respectful and ethical representation of women in advertising (as illustrated in Figure 4). This exploration sheds light on how advertising professionals negotiate the intersection of technological convenience and ethical representation in their field.



Figure 5: Advertisers navigate the conflict of values through the Grounded Theory (GT) process after reviewing AI-generated images
 Source: own processing, 2023

These conflict of values in challenging advertising creating situations, regardless of the level of working experience the advertiser is has to deal with decision making sometimes despite their personal values and the opinion they perceive for example about the image of women.

In coding the results obtained through Grounded Theory (GT) from our interviews, a prominent theme emerged regarding the dual nature of AI in advertising. Most participants acknowledged AI as a time-saving tool, yet they also expressed concerns about its ethical implications, particularly in the context of women’s portrayal in advertisements.

The participants recognized that AI technology in ad optimization leverages both historical data and real-time consumer responses. This allows for swift alterations in advertising campaigns, enhancing overall ad effectiveness (Gonzalez, 2022). Such optimization includes modifying various campaign aspects, like media budget allocation and the content of the ads, based on dynamic predictive analysis (Qin & Jiang, 2019; Reynolds & Phillips, 2019; Gonzalez, 2022).

Despite these advantages, the interviews revealed a critical ethical tension. Participants were concerned about the potential for AI to perpetuate biases, especially in the portrayal of women in advertising. This ethical dilemma stems from the AI’s reliance on historical data, which may inherently contain biases, leading to the reinforcement of stereotypes in advertising content.

Overall, the results from the GT analysis *highlight a significant intersection in the advertising industry:* the balance between the efficiency and effectiveness provided by AI and the ethical responsibility to ensure fair and unbiased representation of women in advertising content. This finding underscores the need for a careful and conscientious approach to the use of AI in advertising, ensuring that time-saving benefits do not overshadow the imperative for ethical integrity. One participants of research described their own perception of being in advertising industry:

Everytime we (the group of advertisers) get the task related with new ideas and brands I have to stream, the youngest colleagues always advice first to look to chatGPT and then comeback. (Expert 1)

Employing predictive modeling, AI initially proposes the most suitable ad for a particular consumer segment. If the anticipated effectiveness of the ad, such as its click-through rate, falls below expectations, the AI’s optimization algorithms reassess both the target audience and the ad’s content. This reassessment aims to pinpoint possible reasons for the underperformance. Following this analysis, the AI makes necessary adjustments, thereby ensuring ongoing and automated enhancement of the ad’s performance, with a specific focus on the portrayal and impact of women’s images in the advertising content (Qin & Jiang, 2019). Participants declare it as:

I think that all women in the room think that's enough of slim and perfect women images, we had already renaissance with Dove, Gillet, Always" – companies who remember that's normal to be different, but we have to work quick and we have to provide results so we use various tools and sometimes I think that's not nice. (Young expert 2)

In the context of our research with advertising experts who concurred that utilizing AI-adjusted *images of women in advertising is unethical*, we delve into the underlying causes of algorithmic biases. These experts point out that biases in AI systems often stem from historically biased data, which includes underrepresentation of certain groups and previously biased human decisions. A pertinent example is the technology industry's historical trend of employing more men than women. One of the participant state:

Most of the customers' think it is easy to use AI and that you don't need to put efforts or to get knowledge in order to get results and to provide it to the advertising brand companies. I think that women's image even with the help of AI it will have change and the futuristic views, seems like a paintings or robots, it will have change and if it exist, means, – it came from necessity from customer. (Expert)

Issues emerge with algorithms that are designed to be "gender neutral", especially when they process data that inherently contains gender-specific nuances, like "business women's club" (Benjamin, 2019). The intention of neutrality in the algorithm's design does not always translate into equitable results. If an algorithm is predominantly trained on data that reflects one gender, typically male in this case, it has a tendency to develop a bias towards that gender, consequently sidelining those who do not fit this majority profile. The challenge extends beyond gender. AI systems aiming to be "fair" by not factoring in race and ethnicity often end up ignoring critical racial and ethnic inequalities present in the data. This oversight in the design of such algorithms can inadvertently reinforce and exacerbate societal biases, culminating in outcomes that are discriminatory. In GT research in the process of coding as "Impossible to make gender neutral" state: I also have heard about android and iphone assistants such as Siri or Alexa and have read, that despite your wish to make gender neutral in Lithuania society it is still impossible to do since all the request from the companies are that women and children always sells.

Our research highlights the ethical implications in the field of advertising, particularly concerning the portrayal of women in AI. The advertising experts emphasized the need for more equitable and representative data in AI systems to ensure fair and ethical use of AI in advertising, reflecting a broader societal responsibility to address and rectify these ingrained biases.

In Grounded Theory the initial step is to establish codes. Thus, once a researcher becomes acquainted with the dataset and begins the coding process, they assign labels to specific data segments until a point of saturation is reached. As depicted in Table 1, the researcher assigns succinct labels to the data excerpts based on the responses received from the study's participants. It's through this process of labeling that codes in GT lead to the emergence of concepts, which are vital in this study for identifying the underlying theory being sought.

Table 1: Searching for Concepts by GT

Excerpts	Interview Data Excerpt	Codes (Extract Labels)	Concepts
Expert 1	Yes, AI photo-editing tools are increasingly popular among advertising creatures as they offer the ability to quickly and easily enhance their images and to finish the project.	AI photo-editing tools widely used in influencer marketing	AI tools popularity

2	Excerpt	The use of AI photo-editing tools can contribute to unrealistic beauty standards, leading to body-image anxieties and lower self-confidence among influencers and their followers.	Ethical concerns associated with AI photo-editing tools	AI Ethical Implications
3	Excerpt	Advertising creators who fail to disclose the use of AI generating tools or present an altered appearance may face accusations of false advertising and misleading consumers, potentially leading to legal consequences.	The potential legal ramifications for influencers who use AI photo-editing tools	Legal Accountability in AI
4	Excerpt	Brands should carefully inform advertising companies and ensure they are transparent and responsible in their marketing practices. Building authentic and real image of women there brand image could lead to more ethical and real image of product itself.	Brands ensure trust and credibility when working advertising creators	Cultivation Brand Integrity
5	Excerpt	Advertisers should prioritize transparency, authenticity, and genuine connections with their audience. By doing so, they can leverage AI capabilities while maintaining ethical marketing practices.	Advertisers balance AI capabilities with ethical practices	Balance among AI and Ethics

Source: own processing, 2023

4 Discussion

In this article we address a notable gap in existing literature by exploring the portrayal of women’s images created by AI in advertising. This exploration includes analyzing perspectives from marketing professionals at varying levels of expertise. Our study led to a theory that seasoned experts view AI-generated portrayals of “perfect” women as problematic. They express concerns that such portrayals set unrealistic expectations and do not reflect reality, and they note a distinct difference in the creative process when ads are made independently versus with AI assistance. Conversely, interviews and coding processes with younger advertising professionals suggest a belief that AI represents the future of advertising. They argue that if AI presents women as having perfect skin, youthfulness, and slimness, it aligns with customer preferences.

Furthermore, the majority of experts in our study predict that up to 90% of internet content could be AI-generated in the near future. This anticipated rise in AI-generated content raises significant concerns about embedded biases. These biases risk perpetuating existing stereotypes, which could hinder efforts to achieve greater equality in representation and potentially lead to unfair outcomes.

An illustrative example can be seen in law enforcement, where the use of biased AI in text-to-image generation for suspect sketches could result in wrongful convictions. This highlights the broader ethical implications of AI-generated content, extending beyond advertising into areas with serious real-world consequences.

The insights from our interviewees underscore the growing need for strict ethical standards and strategies to mitigate biases in AI systems. As AI becomes more integral to content creation across various sectors, the development and use of AI systems must be approached responsibly to avoid reinforcing societal inequalities and to protect against the adverse effects of AI-generated biases. Addressing these issues effectively requires a multidisciplinary effort involving technologists, ethicists, legal professionals, and policymakers. This collaborative approach is crucial in ensuring that the advancements in AI technology are aligned with ethical and equitable principles.

5 Conclusion

This study has illuminated the complex interplay between artificial intelligence and gender representation in the advertising sector. Through an in-depth analysis of AI's influence on women's portrayal, this research contributes significantly to the understanding of AI's transformative role in shaping gender identities within the realm of advertising.

Key insights emerged from our interviews with advertising professionals, both experienced and newcomers, revealing a dichotomy in perceptions. By using Grounded Theory approach advertising experts expressed concern over AI-generated portrayals of women, highlighting the ethical dilemmas in creating "perfect" female images that set unrealistic standards and distort reality. This group underscored the disparity between creatively crafted advertisements and those generated with AI assistance, emphasizing the importance of authenticity in advertising content.

On the other hand, younger professionals in their interviews have elaborated AI as an inevitable future of advertising, perceiving the idealized images of women – characterized by perfect skin, youthfulness, and slimness – as reflective of consumer desires. This perspective points to a generational shift in the acceptance and understanding of AI's role in advertising.

The study also unveiled a critical prediction from experts: the possibility of AI generating up to 90% of internet content in the near future. This projection brings to light the pressing issues of embedded biases in AI systems. Such biases, if unaddressed, risk perpetuating and reinforcing existing gender stereotypes, thus impacting efforts towards achieving equality in representation and potentially leading to unjust outcomes.

Moreover, the research delved into the broader ethical implications of AI beyond the advertising domain, highlighting the potential for misuse in critical areas such as law enforcement. The misuse of biased AI in applications like suspect sketch generation could lead to severe consequences, including wrongful convictions, exemplifying the need for ethical vigilance in AI applications.

Our findings emphasize the urgency for implementing stringent ethical standards and bias mitigation strategies in AI systems. As AI becomes increasingly embedded in various content creation sectors, it is imperative to develop and utilize these systems responsibly. This calls for a multidisciplinary collaboration involving technologists, ethicists, legal experts, and policymakers to ensure that AI advancements align with ethical and equitable principles.

The study thus advocates for a responsible use of AI in advertising, urging for a balance between leveraging AI's capabilities and maintaining ethical marketing practices. It underscores the need for authenticity, transparency, and genuine audience connection in AI-driven advertising, ultimately contributing to a more ethical and realistic representation of women in advertising. This research not only provides valuable insights for marketing professionals and advertisers but also offers guidance for future academic inquiries in the intersection of AI, gender representation, and ethics in advertising.

Bibliography

- Alonso, T. (2023, March 28). *Stradivarius launches first campaign created with artificial intelligence*. <https://www.fashionnetwork.com/news/Stradivarius-launches-first-campaign-created-with-artificial-intelligence,1500921.html>
- Anderson, S., & Ray, D. (2010). Missing women: Age and disease. *Review of Economic Studies*, 77(4), 1262-1300. <https://doi.org/10.1111/j.1467-937X.2010.00609.x>
- Arango, L., Singaraju, S. P., & Niininen, O. (2023). Consumer responses to AI-generated charitable giving ads. *Journal of Advertising*, 52(4), 486-503. <https://doi.org/10.1080/00913367.2023.2183285>
- Baker, C. N. (2005). Images of women? Sexuality in advertisements: A content analysis of black- and white-oriented women's and men's magazines. *Sex Roles*, 52, 13-27. <https://doi.org/10.1007/s11199-005-1190-y>
- Benjamin, R. (2019). *Race after technology: Abolitionist tools for the New Jim Code*. John Wiley & Sons.
- Brown, S., Davidovic, J., & Hasan, A. (2021). The algorithm audit: Scoring the algorithms that score us. *Big Data & Society*, 8(1). <https://doi.org/10.1177/2053951720983865>
- Brulé, R. (2020). *Women, power, and property: The paradox of gender equality laws in India*. Cambridge University Press.
- Brooks, R. (2021, November 29). Op-Ed: What virtual reality and artificial intelligence will mean for love, sex, and intimacy. *Los Angeles Times*. <https://www.latimes.com/opinion/story/2021-11-29/artificial-intimacy-sex-technology>
- Campbell, C., Plangger, K., Sands, S., Kietzmann, J., & Bates, K. (2022). How deepfakes and artificial intelligence could reshape the advertising industry. *Journal of Advertising Research*, 62(3), 241-251. <https://doi.org/10.2501/jar-2022-017>
- Casablanca Paris. (n.d.). *Futuro optimista*. <https://casablancaparis.com/pages/ss23>
- Copeland, B. J. (2021). *Artificial intelligence: A philosophical introduction*. Wiley-Blackwell.
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Sage Publications.
- Deng, S., Tan, C.-W., Wang, W., & Pan, Y. (2019). Smart generation system of personalized advertising copy and its application to advertising practice and research. *Journal of Advertising*, 48(4), 356-365. <https://doi.org/10.1080/00913367.2019.1652121>
- Donthu, N., Lim, W. M., Kumar, S., & Pandey, N. (2023). Tribute to a marketing legend: Commemorating the contributions of Shelby D. Hunt with implications for the future of marketing. *Journal of Business Research*, 164. <https://doi.org/10.1016/j.jbusres.2023.113954>
- Feine, J., Gnewuch, U., Morana, S., & Maedche, A. (2019). A taxonomy of social cues for conversational agents. *International Journal of Human-Computer Studies*, 132, 138-161. <https://doi.org/10.1016/j.ijhcs.2019.07.009>
- Gonzalez, W. (2022, January 18). How machine learning is shaping the future of advertising. *Forbes*. <https://www.forbes.com/sites/forbesbusinesscouncil/2022/01/18/how-machine-learning-is-shaping-the-future-of-advertising/?sh=2af866171361>
- Goffman, E. (1979). *Gender advertisements*. Harvard University Press.
- Guo, A. T. (2015). Artificial intelligence as human self-knowledge. *Anthropology Today*, 31(6), 3-7. <https://doi.org/10.1111/1467-8322.12209>
- Hamilton, K. A., Lee, S. Y., Chung, U. C., Liu, W., & Duff, B. R. L. (2021). Putting the 'Me' in endorsement: Understanding and conceptualizing dimensions of self-endorsement using intelligent personal assistants. *New Media & Society*, 23(6), 1506-1526. <https://doi.org/10.1177/1461444820912197>
- Hayasaki, E. (2017, January 16). Is AI sexist? *Foreign Policy*. <https://foreignpolicy.com/2017/01/16/women-vs-the-machine/>

- Chen, G., Xie, P., Dong, J., & Wang, T. (2019). Understanding programmatic creative: The role of AI. *Journal of Advertising*, 48(4), 347-355. <https://doi.org/10.1080/00913367.2019.1654421>
- Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, 62(1), 15-25. <https://doi.org/10.1016/j.bushor.2018.08.004>
- Khowaja, S. A., Khuwaja, P., & Dev, K. (2023). ChatGPT needs SPADE (sustainability, privacy, digital divide, and ethics) evaluation: A Review. *TechRxiv*. <https://doi.org/10.48550/arXiv.2305.03123>
- Li, H. (2019). Special section introduction: Artificial intelligence and advertising. *Journal of Advertising*, 48(4), 333-337. <https://doi.org/10.1080/00913367.2019.1654947>
- Lundstrom, W. J., & Sciglimpaglia, D. (1977). Sex role portrayals in advertising. *Journal of Marketing*, 41(3), 72-79. <https://doi.org/10.2307/1250940>
- Martinez, R. (2019). Artificial intelligence: Distinguishing between types & definitions. *Nevada Law Journal*, 19(3), 1015-1042. <https://scholars.law.unlv.edu/nlj/vol19/iss3/9>
- McDonnell, M., & Baxter, D. (2019). Chatbots and gender stereotyping. *Interacting with Computers*, 31(2), 116-121. <https://doi.org/10.1093/iwc/iwz007>
- Mendoza, C. (2023, August 14). *Johnny Sins meets high fashion: AI-generated Dior campaign*. <https://www.linkedin.com/pulse/johnny-sins-meets-high-fashion-ai-generated-dior-campaign-mendoza/>
- Molta, D., & Johnson, T. (2021, May 11). *You've met data privacy guidelines. But what about data ethics?* <https://www.adweek.com/programmatic/youve-met-data-privacy-guidelines-but-what-about-data-ethics>
- Molyneaux, H. (2002). *The representation of women in Chatelaine magazine advertisements: 1928-1970* [Master thesis]. The University of New Brunswick.
- Patterson, M., O'Malley, L., & Story, V. (2009). Women in advertising: Representations, repercussions, responses. *Irish Marketing Review*, 20(1), 9-22.
- Picciuto, E., & Carruthers, P. (2014). The origins of creativity. In E. S. Paul, & S. B. Kaufman (Eds.), *The philosophy of creativity: New essays* (pp. 199-223). Oxford University Press.
- Qin, X., & Jiang, Z. (2019). The impact of AI on the advertising process: The Chinese experience. *Journal of Advertising*, 48(4), 338-346. <https://doi.org/10.1080/00913367.2019.1652122>
- Qureshi, H. A., & Ünlü, Z. (2020). Beyond the paradigm conflicts: A four-step coding instrument for grounded theory. *International Journal of Qualitative Methods*, 19. <https://doi.org/10.1177/1609406920928188>
- Reynolds, T. J., & Phillips, J. M. (2019). The strata model predicting advertising effectiveness: A neural-network approach enhances predictability of consumer decision making. *Journal of Advertising Research*, 59(3), 268-280. <https://doi.org/10.2501/JAR-2018-037>
- Robertson, B. J. (2021, May 18). *My replika keeps hitting on me*. <https://medium.com/technology-hits/my-replika-keeps-hitting-on-me-d410c66f79af>
- Saika, A. A. (2017). Representation of women in media: With special reference to Indian women. *International Journal of Creative Research Thoughts*, 5(4), 392-398.
- Sharma, S., & Das, M. (2019). Women empowerment through advertising. *European Journal of Social Sciences*. <https://doi.org/10.29198/ejss1903>
- Sivulka, J. (2009). *Ad women: How they impact what we need, want, and buy*. Prometheus Books.
- Smith, J. R. (2016, August 31). *IBM research takes Watson to Hollywood with the first 'Cognitive Movie Trailer.'*

<https://admin02.prod.blogs.cis.ibm.net/blogs/think/2016/08/cognitive-movie-trailer/#:~:text=,Smith%E3%80%91>

- Somosi, Z. (2022). The role of artificial intelligence in content creation and checking its effectiveness in the Google ads advertising system. *The Annals of the University of Oradea. Economic Sciences*, 31(2), 259-270. [https://doi.org/10.47535/1991auoes31\(2\)025](https://doi.org/10.47535/1991auoes31(2)025)
- Wagman, K. B., & Parks, L. (2021). Beyond the command: Feminist STS research and critical issues for the design of social machines. *Proceedings of the ACM on Human-Computer Interaction*, 5(1), 1-20. <https://doi.org/10.1145/3449175>
- Wang, Y., & Kosinski, M. (2018). Deep neural networks are more accurate than humans at detecting sexual orientation from facial images. *Journal of Personality and Social Psychology*, 114(2), 246-257. <https://doi.org/10.1037/pspa0000098>

Contact Data:

Gintarė Kriauciūnaitė-Lazauskienė, MPhil.
Mykolas Romeris University
Faculty of Public Governance and Business
Ateities st. 20, LT-08303 Vilnius
LITHUANIA
gintare.laz@gmail.com
ORCID-ID: <https://orcid.org/0009-0001-4872-6666>

COMMUNITY MANAGEMENT TOOLS ON SOCIAL NETWORKS IN THE CONTEXT OF THE GROUNDSWELL

Michal Kubovics

DOI: <https://doi.org/10.34135/mmidentity-2023-24>

Abstract:

This academic paper examines the role of social network management tools in the context of the bottom-up effect and analyses their capabilities. The tools facilitate efficient collection, analysis and visualization of community communication data and are critical for social network crisis situations. In conjunction with technological advances, artificial intelligence has also been integrated into the above platforms. The paper equally identifies specific social media management platforms that help to increase brand awareness, enhance purchase intent and are essential for effective user communication management. The research methodology combines qualitative and quantitative approaches, through the analysis of data sources from scholarly databases. The findings substantiate the importance of social media management tools for organizations and their necessity in the research field. The discussion explores the broader impact of social networks on community management and highlights the role of social network management platforms. The conclusion confirms that social network management tools are key to community management and present opportunities in a variety of areas.

Key words: Artificial Intelligence. Community Management. Crisis Communication. Groundswell Effect. Social Media Management Tools.

1 Introduction

Social network management tools play a key role in the context of the ripple effect, which refers to the spontaneous or purposeful, organic movement of ideas, expressions and information between individuals. The aforementioned tools enable organizations to effectively collect, analyze, and visualize data on community communication to correct for the bottom-wave effect (Kubovics & Zaušková, 2021). Moreover, in the current era of technological boom, processing through artificial intelligence has been added to the tools. Moreover, working with communities contributes to brand awareness and strengthens purchase intent by positively influencing brands and supporting the buying process (Hutter et al., 2013). In addition to the aforementioned, social media management platforms serve as free or paid tools for businesses to contribute posts, manage customer relationships, and improve brand reputation (Madila et al., 2022). The use of the aforementioned social network management tools such as Hootsuite, Meltwater and Sprout Social have been shown in research to be very common within business entities (Arogundade and Adewale, 2020). In the context of crisis communication, social media management tools are essential. They are particularly useful for community outreach and plan development in crisis communication as they provide best practices, examples and recommendations for practitioners (Veil et al., 2011). In addition, the tools mentioned above offer corporate managers options for dealing effectively with social networks. In particular, they can suggest practices for successful brand strategies and competitive analysis (Tsimonis and Dimitriadis, 2014). They are also important in the groundswell for consequence such as public outrage, scandal, where waves of public debate on inflammatory topics pose significant challenges for actors (Toepfl, 2011). In academic settings, social networking tools are used in research as they contain analytical and comparative modules (Benson et al., 2017). Comprehensively, after analyzing the sources, it can be concluded that social network management tools are essential for organizations and business entities to navigate, analyze, measure, and manage social networks, define brand strategies, engage in crisis communication, and facilitate user communication management practices. The tools are also important for the purpose of educating about products and

services, or entire segments, as the bottom-up ripple effect in the use of social networks can create an environment in which to connect professionals with the general public (Ahern, 2016). In addition, social network management platforms can engage in various contemporary world situations, which have highlighted the challenges and aspects of using the aforementioned tools (Bojor and Cîrdei, 2022). By integrating the aforementioned findings, it is evident that social network management tools play a key role in harnessing the groundswell and offer opportunities in community management on social networks.

2 Methodology

Both qualitative and quantitative research methods are applied in the context of the present paper. A successful research framework is ensured by a well-defined structure of the paper, which is in line with the intended aim of the research, namely to analyse the theoretical framework and to define existing community management platforms in the context of social networks.

The comprehensive theoretical framework includes qualitative methods that are specifically tailored to the particular task they undertake and are analysis, synthesis, induction, deduction and comparison. In the field of qualitative research design, emphasis is placed on the careful examination of texts that have been produced by eminent researchers. Analysis of textual data obtained from reputable sources, especially scholarly journals that adhere to rigorous peer review processes. In addition, conference papers included in proceedings and expert texts are also considered, regardless of their physical or digital form.

In the present paper, quantitative methods are used to examine the results derived from Web of Science, Scopus and Google Scholar databases. More specifically, the topic of social network management tools is thoroughly explored with a strong emphasis on the use of artificial intelligence.

The creation of a new theoretical framework is done on the basis of the knowledge gained, followed by subsequent exploration and definition of the basic characteristics and outcomes.

The tools themselves are ranked by author Aisha Jones, who published her results using the Kubbco platform. Selection criteria included ease of use and user interface, integration with existing platforms, analytics and reporting features, scalability and customization options, as well as price.

3 Results

The findings were derived through the synthesis of the theoretical framework of the current article, encompassing elements such as the configuration and dynamics of social networks, the influence of social networks on community administration, and the utilization of social network tools for efficient community management. Specifically, it is crucial to acknowledge the authors' assertion that the structure and dynamics of networks play a pivotal role in comprehending systems of interacting entities, including social networks (Newman et al., 2011). The identification of communities within these networks is imperative in comprehending functional subdivisions such as social spheres, which are pertinent to the examination of community management in social networks (Newman et al., 2011). Regarding the significance of exploring the subject of social networking tools, it is noteworthy that there is an escalating number of virtual communities on social networking platforms, necessitating a systematic evaluation of the application and design of the aforementioned platforms, along with the further enhancement and alteration of the aforementioned systems (Neumann et al., 2005). Equally, platforms are important from a social networking perspective as they have a

significant impact on community and crisis management, which highlights the importance of understanding the impact of social in different contexts (Peyravi and Marzaleh, 2020; Simon et al., 2015; Reuter et al., 2018). In addition to the aforementioned, researchers have come up with defining strategies for effective community management where the use of social networks in the development of community behaviors of users in the form of a bottom-up wave interacting with each other is very important (Darmawan et al., 2020; Alshubaily, 2021). The study of social networking tools as a research tool in marketing research and their use to improve community management provides insights into potential relationships in the context of communities in the long run (Patino et al., 2012; Furnell & Scott, 2014). In a comprehensive framework, the synthesis of these messages provides an understanding of social network-based community management tools and strategies as highly desirable and essential in today’s world, with the important inclusion of the structure and dynamics of networks, the impact of social networks on community management, and the use of social network tools for effective community management. The following table lists social network community management tools in the context of social networks, including artificial intelligence.

Table 1: Tools for community management on social networks in the context of social networking

Serial number	Company name	Instrument name
1.	Hootsuite	Comprehensive Social Media Management
2.	Buffer	Streamlined Content Scheduling and Analytics
3.	Sprout Social	In-Depth Engagement and Listening Features
4.	Agorapulse	Robust Social Inbox and CRM Functionality
5.	SocialBee	Content Curation and Automation
6.	Sendible	Advanced Social Media Collaboration
7.	eClincher	Unified Social Media and Online Presence Management
8.	MavSocial	Visual Content
9.	SocialPilot	Efficient Team Collaboration and Client Management
10.	CoSchedule	Integrated Marketing Calendar and Automation

Source: Jones (2023)

A single report is defined based on ease of use and user interface, integration with existing platforms, analytics and reporting features, scalability and customization options, as well as price.

4 Discussion

The use of social networking is becoming more and more widespread in a variety of contexts, including the management of communities on social networks. Social network analysis methods have been used to understand the dynamics of online communities and the impact of social engagement (Winship et al., 1996). To increase user engagement and participation, researchers recommend the design and implementation of social support in online communities (Weiss et al., 2013). In addition, cognitive, psychological, and social mechanisms influencing user engagement have been investigated, confirming the role of platform characteristics and social identity (Liang & Soon-Ock, 2022). Equally important is the importance of community engagement in public sector social behaviour research, suggesting the need for further studies in this area (Ahumuza et al., 2022). The emotional intelligence and social networking skills of individuals have been examined in the context of online communication effectiveness, defining the behaviours on social networking platforms in improving relationships and communication effectiveness (Gabriel et al., 2021). In addition, the impact of first steps in a community on growth, diversity and engagement has been highlighted, suggesting that the growth of egonetwork within a new community is

critical for faster growth and better engagement (Chaudhury et al., 2016). It is the aforementioned effect that can be achieved through social network management platforms. In conclusion, the resources provide valuable insights into the role of social network management platforms in community management, highlighting the importance of social engagement, providing support and dynamism in online communities. Understanding the cognitive, psychological and social mechanisms influencing user engagement, as well as the implications of social networking skills and emotional intelligence, is essential for effective community management on social networking sites. It is also important to note the specific opportunities in the form of social network management platforms.

5 Conclusion

In the conclusion of the present paper, it can be said that the objectives have been met. A solid theoretical foundation has been defined from the various studies that have investigated the impact and potential of social networking tools in different contexts. In particular, the findings focused on the use of social networking tools, which is of critical importance in various fields including business, communication and community management. For example, studies define that social networking tools improve business success by increasing customer engagement and brand management (Choice Reviews, 2009; Dessart, 2017; Gómez et al., 2019). Social media management platforms have been research-defined to facilitate data collection, analysis, systematic data processing, and visualization (Al-Aufi & Fulton, 2014; Zaugg et al., 2011). The use of social network management tools helps in community management, strengthens resilience to crisis situations (Redshaw et al., 2017; Gaušis, 2021; Li & Lv, 2018). Social networking tools are not just about communication strategies, but also represent a new approach to community management and guidance (Gaušis, 2021). Research confirms the potential of using social networking tools in organizations, suggesting that said tools can be used internally beyond branding (Sharma & Bhatnagar, 2016). Ultimately, the synthesis of studies highlights the importance of social networking tools in a variety of contexts, from business to scientific analysis and community engagement. The findings suggest that these tools have the potential to improve various aspects of community management on social networks, and thus contribute to improving organizational performance, community management, and crisis resilience on social networks. The paper also discussed the specific social networking platforms used.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0458/21, titled 'Management of the "Groundswell" Concept by Business Entities in the Promotion of Environmentally Friendly Products at the Time of Technological Interference'.

Bibliography

- Ahern, T. (2016). A waterfall design strategy for using social media for instruction. *Journal of Educational Technology Systems*, 44(3), 332-345. <https://doi.org/10.1177/0047239515615853>
- Ahumuza, E., Moscibrodzki, P., Tucker, J., & Awor, P. (2022). *Community engagement in social innovation research: A global sequential mixed methods analysis*. Research Square. <https://doi.org/10.21203/rs.3.rs-2249384/v1>

- Al-Aufi, A., & Fulton, C. (2014). Use of social networking tools for informal scholarly communication in humanities and social sciences disciplines. *Procedia – Social and Behavioral Sciences*, 147, 436-445. <https://doi.org/10.1016/j.sbspro.2014.07.135>
- Alshubaily, A. (2021). Management and marketing practices of social media firms. In *Research anthology on strategies for using social media as a service and tool in business* (pp. 1608-1623). IGI Global. <https://doi.org/10.4018/978-1-7998-9020-1.ch078>
- Arogundade, M., & Adewale, O. (2020). Social media tools, trends, opportunities for public relations practice in Lagos state, Nigeria. *Caleb Journal of Social and Management Science*, 5(2), 143-157. <http://dx.doi.org/10.26772/CJSMS2020050202>
- Benson, O., Amaechi, N., Onuoha, C., & Anyalabechi, L. (2017). Use of social media in knowledge management practices in university libraries in south east Nigeria. *Information Impact Journal of Information and Knowledge Management*, 7(2), 66. <https://doi.org/10.4314/ijikm.v7i2.7>
- Bojor, L., & Cîrdei, A. (2022). The challenges of social media platforms. Aspects of the social media war in Ukraine 2014-2022. *Land Forces Academy Review*, 27(4), 296-301. <https://doi.org/10.2478/raft-2022-0037>
- Darmawan, F., Fardiah, D., & Rinawati, R. (2020). Utilization of social media in developing community-based internet on village. In A. Rachmattie, D. M. Sodik, D. Ahmadi, I. J. Triwardhani, A. Satriani, R. A. Alhamuddin, & A. F. Sebayang (Eds.), *Proceedings of the 2nd social and humaniora research symposium (SoRes 2019)* (pp. 277-282). Institute of Research and Community Service. <https://doi.org/10.2991/assehr.k.200225.058>
- Dessart, L. (2017). Social media engagement: A model of antecedents and relational outcomes. *Journal of Marketing Management*, 1-25. <https://doi.org/10.1080/0267257x.2017.1302975>
- Furnell, R., & Scott, P. (2014). Can social networking improve project management? An exploratory study of UK professional experience. In C. A. Shoniregun, & T. T. Brooks (Eds.), *International conference on information society (i-Society 2014)* (pp. 152-156). IEEE. <https://doi.org/10.1109/i-society.2014.7009031>
- Gabriel, E., Adebowale, O., & Omotehinse, O. (2021). Emotional intelligence, social networking skills and online counselling communication effectiveness among students of OAU, Ile-Ife, Nigeria. *African Journal of Teacher Education*, 10(2), 37-52. <https://doi.org/10.21083/ajote.v10i2.6443>
- Gaušis, E. (2021). Online communication with citizens. Should Latvian public institutions learn from foreign experience? *Regional Formation and Development Studies*, 24(1), 44-51. <https://doi.org/10.15181/rfds.v23i1.1681>
- Gómez, M., López, C., & Molina, A. (2019). An integrated model of social media brand engagement. *Computers in Human Behavior*, 96, 196-206. <https://doi.org/10.1016/j.chb.2019.01.026>
- Hutter, K., Hautz, J., Dennhardt, S., & Füller, J. (2013). The impact of user interactions in social media on brand awareness and purchase intention: The case of mini on Facebook. *Journal of Product & Brand Management*, 22(5/6), 342-351. <https://doi.org/10.1108/jpbm-05-2013-0299>
- Chaudhury, A., Kim, M., & Tiwari, M. (2016). Importance of first steps in a community for growth, diversity, and engagement. In J. Bourdeau, J. Hendler, & R. Nkambou (Eds.), *WWW'16: 25th international world wide web conference* (pp. 19-20). International World Wide Web Conferences Steering Committee. <https://doi.org/10.1145/2872518.2889416>

- Choice Reviews. (2009). The social media bible: Tactics, tools, and strategies for business success [Review of the monograph *The social media bible: Tactics, tools, and strategies for business success*, written by Lon Safko & David K. Brake, 2009]. *Choice Reviews Online*, 47(1). <https://doi.org/10.5860/choice.47-0374>
- Jones, A. (2023, October 6). *Top 10 community management tools for effective social media engagement*. <https://www.kubbco.com/blog/top-10-community-management-tools-for-effective-social-media-engagement>
- Kubovics, M., & Zaušková, A. (2021). Possibilities of collecting, analysing and visualizing groundswell communication data in a global environment. In T. Klieštík (Ed.), *The 21st international scientific conference globalization and its socio-economic consequences*, 02008. University of Žilina, Faculty of Operation and Economics of Transport and Communications, Department of Economics. <https://doi.org/10.1051/shsconf/202112902008>
- Li, Y., & Lv, N. (2018). Sustainable development of post-disaster community: A comparative study of reconstruction mode under social network measure. *Preprints*. <https://doi.org/10.20944/preprints201805.0231.v1>
- Liang, Y., & Soon-Ock, Y. (2022). Uncovering the cognitive, psychological, and social mechanisms affecting TikTok's reuse intention: Verifying the role of platform characteristics, psychological distance, and social identity. *Global Media and China*, 7(4), 400-421. <https://doi.org/10.1177/20594364221131134>
- Madila, S., Marwa, J., Dida, M., & Kaijage, S. (2022). Tourism SMEs use of social media analytics as their business intelligence tool. *International Journal of Advances in Scientific Research and Engineering*, 8(1), 86-96. <https://doi.org/10.31695/ijasre.2022.8.1.10>
- Neumann, M., O'Murchu, I., Breslin, J., Decker, S., Hogan, D., & MacDonaill, C. (2005). Semantic social network portal for collaborative online communities. *Journal of European Industrial Training*, 29(6), 472-487. <https://doi.org/10.1108/03090590510610263>
- Newman, M., Barabási, A.-L., & Watts, D. J. (2011). *The structure and dynamics of networks*. Princeton University Press. <https://doi.org/10.1515/9781400841356>
- Patino, A., Pitta, D., & Quinones, R. (2012). Social media's emerging importance in market research. *Journal of Consumer Marketing*, 29(3), 233-237. <https://doi.org/10.1108/07363761211221800>
- Peyravi, M., & Marzaleh, M. (2020). The double-edged sword of Iranian social media against COVID-19. *Prehospital and Disaster Medicine*, 35(4), 468-469. <https://doi.org/10.1017/s1049023x20000722>
- Redshaw, S., Ingham, V., McCutcheon, M., Hicks, J., & Burmeister, O. (2017). Assessing the impact of vulnerability on perceptions of social cohesion in the context of community resilience to disaster in the Blue Mountains. *Australian Journal of Rural Health*, 26(1), 14-19. <https://doi.org/10.1111/ajr.12377>
- Reuter, C., Hughes, A., Hiltz, S., Imran, M., & Plotnick, L. (2018). Editorial of the special issue on social media in crisis management. *International Journal of Human-Computer Interaction*, 34(4), 277-279. <https://doi.org/10.1080/10447318.2018.1427833>
- Sharma, A., & Bhatnagar, J. (2016). Enterprise social media at work: Web-based solutions for employee engagement. *Human Resource Management International Digest*, 24(7), 16-19. <https://doi.org/10.1108/hrmid-04-2016-0055>
- Simon, T., Goldberg, A., & Adini, B. (2015). Socializing in emergencies-a review of the use of social media in emergency situations. *International Journal of Information Management*, 35(5), 609-619. <https://doi.org/10.1016/j.ijinfomgt.2015.07.001>

- Toepfl, F. (2011). Managing public outrage: Power, scandal, and new media in contemporary Russia. *New Media & Society*, 13(8), 1301-1319. <https://doi.org/10.1177/1461444811405021>
- Tsimonis, G., & Dimitriadis, S. (2014). Brand strategies in social media. *Marketing Intelligence & Planning*, 32(3), 328-344. <https://doi.org/10.1108/mip-04-2013-0056>
- Veil, S., Buehner, T., & Palenchar, M. (2011). A work-in-process literature review: Incorporating social media in risk and crisis communication. *Journal of Contingencies and Crisis Management*, 19(2), 110-122. <https://doi.org/10.1111/j.1468-5973.2011.00639.x>
- Weiss, J., Berner, E., Johnson, K., Giuse, D., Murphy, B., & Lorenzi, N. (2013). Recommendations for the design, implementation and evaluation of social support in online communities, networks, and groups. *Journal of Biomedical Informatics*, 46(6), 970-976. <https://doi.org/10.1016/j.jbi.2013.04.004>
- Winship, C., Wasserman, S., & Faust, K. (1996). Social network analysis: Methods and applications. *Journal of the American Statistical Association*, 91(435), 1373-1374. <https://doi.org/10.2307/2291756>
- Zaugg, H., West, R., Tateishi, I., & Randall, D. (2011). Mendeley: Creating communities of scholarly inquiry through research collaboration. *Techtrends*, 55(1), 32-36. <https://doi.org/10.1007/s11528-011-0467-y>

Contact Data:

PhDr. Michal Kubovics, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
michal.kubovics@ucm.sk
ORCID-ID: <https://orcid.org/0000-0003-1319-1128>

CURRENT STAGE OF THE PARTICULAR SEGMENT OF AUGMENTED REALITY MOBILE APPLICATIONS

Martin Kuchta – Simona Balašćáková – Peter Drábik

DOI: <https://doi.org/10.34135/mmidentity-2023-25>

Abstract:

Immersive AR technology is recently causing revolution in content consumption. Therefore, it is necessary for AR developers who represent the offer of AR technology, companies who represent media space demand in AR content and individuals who represent final consumers to know current evolution stage and possibilities of AR content. The article focuses on AR technology in particular segment of gaming. The main aim of the article is to identify and define the current stage of gaming AR applications. The study identified and examined the most popular gaming AR apps available in iOS store. Information such as initial fee for app download, charges while using the app, amount of ratings, ratings, age, category, number of languages, primary language and data requirements was examined. The research unveiled that the current stage of gaming AR apps is pro-user, leaves payments to the choice of the user, allows downloads to a sufficiently broad target group, and requires acceptable data space on the device into which it is downloaded. Further improvements may focus on data size, which can potentially increase the number of downloads.

Key words: Augmented Reality. Digital Marketing. Digital Technologies. Mobile Applications. Mobile Gaming.

1 Introduction

The continuous evolution of technology and changing consumer behavior are driving an increasing trend in media consumption. “In 2021, collective media consumption reached its highest level in history, amounting approximately 666 minutes per day. The level is 11.1 hours or 20.2% higher than in 2011” (Ali, 2021, “How Many Minutes are Spent on Media?” section, para. 1). The growing trend of media consumption continues to increase and this is not expected to change. It is essential for companies to understand consumer behaviour and preferences when consuming content (Čvirik, 2020; Kita et al., 2023; Nazarov et al., 2020). In the case of consuming content on the Internet, it is essential to know consumer preferences and technically adapt the environment in which the content is located to them (Kuchta & Miklošik, 2016). Today, the devices on which content is consumed play an important role (Perona-Páez et al., 2019). The most important devices are computers, smartphones and tablets. According to the online analytics platform Similarweb, in August, 65.67% of websites were visited from mobile devices, 32.89% of websites from computers and 1.44% of websites from tablets (Similarweb, n.d.). Responsiveness of a website is now an essential ability that brings new visitors to the website and retains existing ones (Vosylius & Lapin, 2015). Social media even highlight the trend (Kuchta & Stanková, 2019). Responsiveness has become a standard that is also followed by technology giants whose services represent significant sources of website traffic. An example is Google Search, which penalizes the absence of responsiveness with degraded positions in search results (Agrawal, 2017). In addition to computers, smartphones and tablets, there are other technologies that enable content consumption. More recently, it is mainly a specific kind of content that extends existing realities or creates a completely new ones. “Virtual reality is a simulated 3D environment that allows users to interact in a way that approximates real reality. To use it, the user has to use hardware specifically dedicated to this use” (Sheldon, 2022, “What is virtual reality?” section, para. 1). Currently, the most widely used and affordable virtual reality devices are Meta Quest 2, Sony Playstation VR2, Valve Index VR Kit, HTC Vive Pro 2, Meta Quest Pro, and HP Reverb G2 (Greenwald Will & Minor Jordan, 2023). The development of VR devices is

currently being pushed by many technology companies, which are diversifying their current product portfolio. The significant degree of innovation and the necessity of initial development investments into these new devices is reflected in a higher purchase price for the end user. Therefore, many consumers are now turning their attention more towards augmented reality, which in practice is more affordable as VR. AR technology can be consumed through following devices:

- display devices – computers, tablets, smartphones, or monitors, televisions and other devices typically containing screens and a built-in or add-on camera;
- spectacles – glasses that project information onto the glasses that augment reality;
- HDU (Head Up Display) – the technology is mainly utilized in modern and technologically equipped cars that project information on the windscreen, for example, the actual speed, road signs or navigation information;
- contact lenses – the latest technology can augment reality in contact lenses. Currently, this is more of an ongoing research and development technology. However, with the current progress and technological evolution, these devices can be expected in commercial use soon;
- more devices – represent devices that are currently in development or being tested in laboratory conditions (McClure, 2021).

The most widely used AR technology, due to its availability, is currently display devices, dominated primarily by smartphones, which, unlike other devices, are the most suitable technology for the mass commercial deployment of AR (Zhang & Zhang, 2020). Smartphones are present in most people's lives and have the necessary hardware (CPU, GPU, sensors) that are essential for AR to operate (Inglobe Technologies, 2022). Up to 86% of people have experienced augmented reality for the first time thanks to their smartphone, which ranks highest of all other usable devices (Nielsen, 2022). To display augmented reality elements, smartphones use a camera that, when pointed at an object or space, draws graphical elements that augment the virtual reality. This capability is made possible by monitoring systems that identification of physical objects in the real world and create virtual elements that are anchored to the real ones. Embedded cameras in the smartphone capture visual elements of the real world and the app then processes the 3D content that is seamlessly projected into the image. The combination of real and virtual objects is then displayed on the smartphone screen, where the user is allowed to interact with it via a touchscreen (Dilmegani, 2023). In addition to hardware, adequate software is essential for using AR in a smartphone. Currently, the most widespread and user-friendly solution is the mobile applications that are available for smartphones in the commercial interface of the operating system (Sung, 2021). At the moment, these are mainly the App store available for iOS smartphones and the Android store available for Android devices. These stores often contain separate sections with AR applications that the user can download and use on his/her smartphone. Monetization of AR apps can take three different forms in these stores. Paying to download the app, paying to extend the functionality in while using the app or using it for free (Lee et al., 2021). AR apps can have different forms and thematic focuses. AR functionalities are gradually penetrating industries such as interior design, exterior design, tourism, architecture, navigation, real estate sales, cosmetics, fashion, gaming, communication, etc. (Sheehan, 2022). Today, however, the most downloaded and used apps are focused on games and entertainment (Abideen, 2022). Augmented Reality (AR) games are the integration of virtual game elements with the player's physical environment in real time. Augmented reality games monitor the real world and then overlay in-game visuals and audio through sensors such as cameras, microphones and global positioning system (GPS) (Wright, 2023).

Other industries are also taking advantage of the popularity of gaming, using AR elements to gamify their applications, which are not necessarily gaming (MetaverseApp,

2018). AR gamification is gradually finding a stable place, for example, in marketing and in various advertising formats of companies.

2 Methodology

In the first step of the article, a theoretical search was conducted, which identified relevant theoretical sources, authors dedicated to the topic and defined the basic concepts and the current state of art in the subject of the matter. The theoretical research helped to identify the main objective of the article, which is formulated as follows: identification and definition of the current stage of mobile AR applications.

To achieve the main objective, empirical research was conducted through the identification of relevant AR game applications and the collection of available information. A total of 58 gaming AR applications categorized as AR in the application store in the iOS software interface were identified. In the subject category, the applications were selected from three sub-categories, which are:

- 1) *Games we love* – there were 29 apps available in this sub-category at the time of the research.
- 2) *Get started with AR* – there were 25 apps available in this sub-category at the time of the research.
- 3) *Top 10: AR Games* – there were 10 apps available in this sub-category at the time of the research.

Some of the applications were duplicated in the examined sub-categories. After removing the duplicates, a total of 58 unique AR game applications were identified and formed the subject of the research.

The information that was available in the app details at the time of the research before downloading the app was examined. The available information was:

- initial fee for app download;
- charges while using the app;
- amount of ratings;
- ratings;
- age;
- category;
- number of languages;
- primary language;
- data size.

All of the available information was recorded using an Excel spreadsheet into a comprehensive table which rows contained the individual AR game applications that represents the subject of the research and which columns contained the information that was available in the AR game application detail.

One of the examined information was the category that the game app was categorized in in the App store of the iOS interface. The researched game AR apps were classified into a total of 13 categories. The frequency of each category is shown in the table below.

Table 1: Frequency of surveyed applications in each category

Action	7
Adventure	2
Board	2
Casual	7
Family	3
Music	1
Puzzle	14

Racing	3
Role-Playing	5
Simulation	5
Sports	3
Strategy	5
Word	1

Source: own processing, 2023

The categories in which the AR gaming apps belong to may have an impact on the rest of the studied categories, which are, for example, recommended age of app use or data size.

Rest of the available information was recorded and processed in an Excel spreadsheet in which basic mathematical operations, mainly summarization and averaging, were applied on the data. The results of the formulas applied in the Excel data processor were then visualized through pie and bar charts for more efficient understanding and interpretation. The study of the results brought required insights into the issue that enabled the formulation of conclusions that fulfilled the identified main objective of the paper.

3 Results

A total of 58 apps that were available in the App store on an iPhone running iOS at the time of the research were examined. The first observed information examined was whether the app required initial payment for the app download. Initial “n” in the following graph means no, initial “y” means yes.

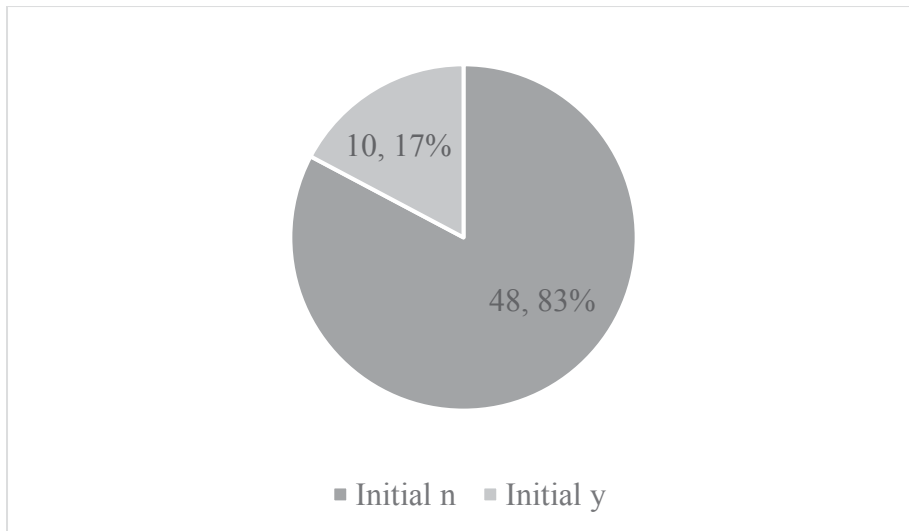


Figure 1: Initial download payment

Source: own processing, 2023

17% of examined AR-based gaming apps have an entry fee as a condition for downloading the app. The remaining 83% of examined apps do not have an entry fee, but may or may not include fees resulting from the use of the app.

Another chart examined the option or necessity for additional in-app payments. In app “n” in the following chart means no, in app “y” in the following chart means yes.

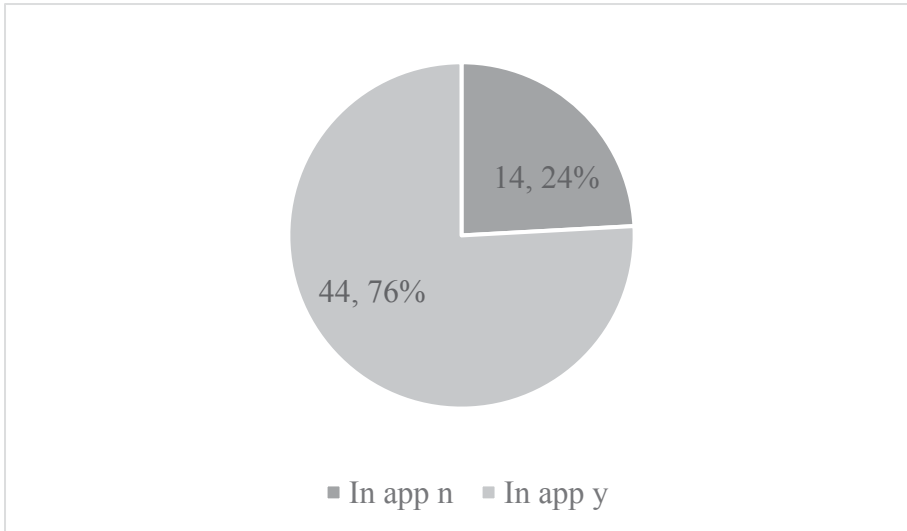


Figure 2: In-app payment
Source: own processing, 2023

24% of all examined AR game apps do not allow additional payments to access or extend the use of the app. The remaining 84% of the examined apps include the necessity or possibility of payments during the use of the app.

The results of the two Figure 1 and 2 above naturally brings the question of the possible existence of a combination of game app download fees and in-app fees. The answer is offered in the following Figure 3. Explanations of the following figure is given below the graph.

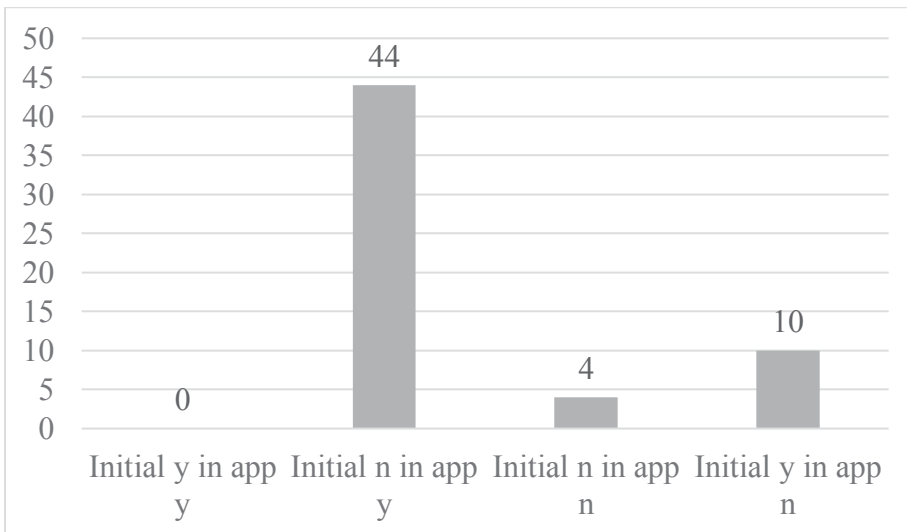


Figure 3: Combination of initial fees and in-app fees
Source: own processing, 2023

The Figure 3 offers four possible scenarios. Their explanation is as follows:

- 1) Existence of a download fee and existence of in-app fees – none of the apps examined require payment for downloading the app combined with in-app fees.
- 2) Absence of a download fee and the existence of in-app fees – 44 of the apps examined do not require a fee to download the app, but provide the option or force app users to make purchases while using the app. The combination is utilized by the majority of the examined AR gaming apps.

- 3) Absence of download fee and absence of in-app fee – 4 of the apps examined do not require a download fee and do not require charges while using the app. The form of monetization of such an app is questionable and opens space for further research.
- 4) Existence of a download fee and absence of in-app fees – 10 of the game apps examined require a fee to download the app, but do not require fees while using the app.

The majority of AR game apps examined rely on monetization through fees during an app use.

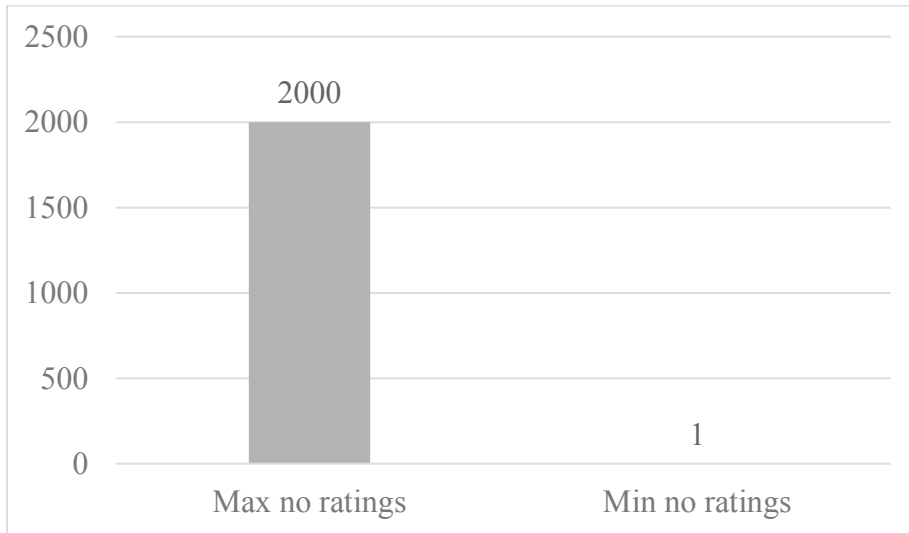


Figure 4: Minimum and maximum amount of ratings
Source: own processing, 2023

Graph above researched amount of ratings given by users. The maximum number of ratings of the examined AR game applications is 2000. The minimum number of ratings is 1 (apps with no ratings are not included in the graph).

The average number of ratings of the examined game AR applications was 130.

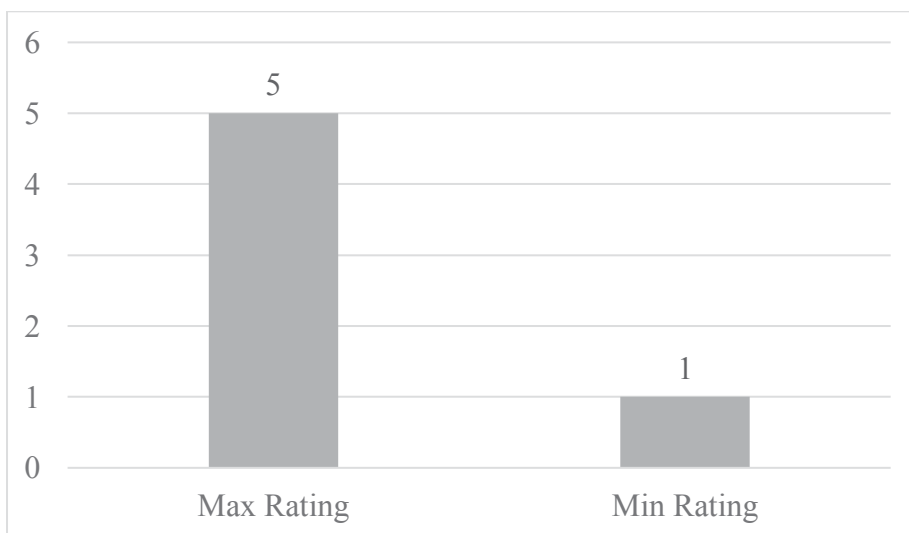


Figure 5: Minimum and maximum rate value
Source: own processing, 2023

The graph above examined maximum and minimum value of the ratings. The maximum rate value of the examined applications reached the number 5 (the maximum is 5) and the minimum rate value reached 1 (the available minimum is 1).

The average rate value of all the examined applications is 4.5.

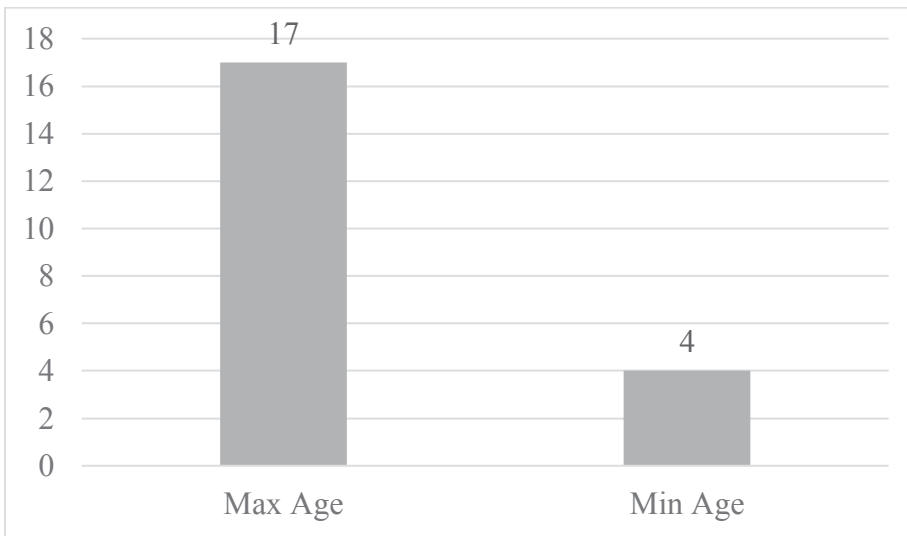


Figure 6: Minimum and maximum age for app use
Source: own processing, 2023

The graph above examined recommended age for AR app download. The highest minimum age for the examined apps download and use was 17 years. The lowest minimum age was 4 years.

The average minimum age was 6.9 years.

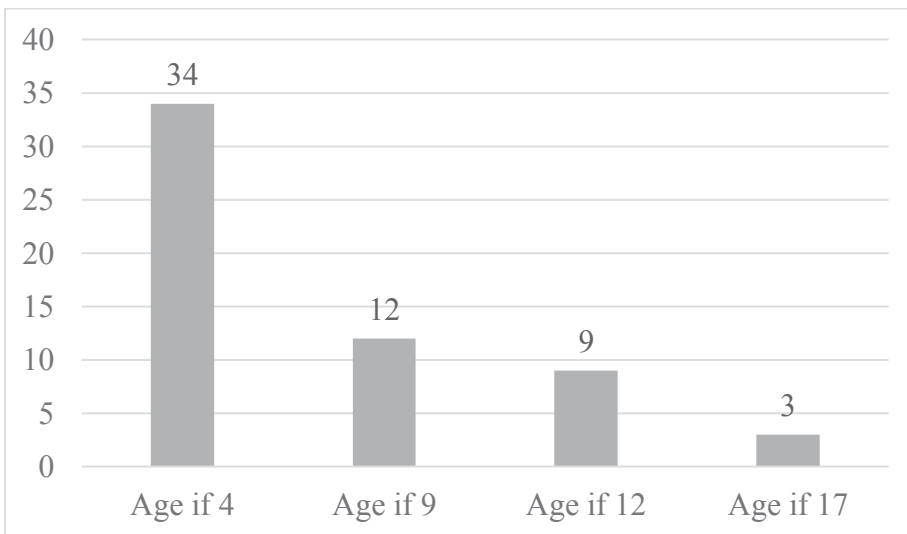


Figure 7: Frequency of age categories
Source: own processing, 2023

The graph above examined abundance of particular age categories. The most common recommended minimum age was age 4 utilized by 34 of the examined apps, the second most common was age 9 utilized by 12 of the examined apps, followed by age 12 utilized by nine apps, and age 17 utilized by three of the examined apps.

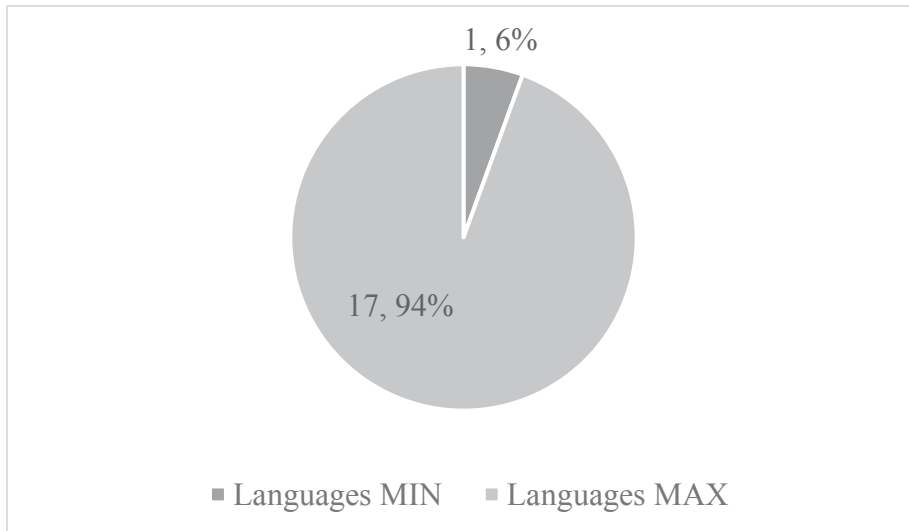


Figure 8: Maximum and minimum amount of language mutations
 Source: own processing, 2023

The graph above examined minimum and maximum available languages. The maximum number of language mutations utilized by the examined applications is 17 and the minimum number of language mutations utilized by the examined applications is 1.

100% of the examined applications use English as their primary language. On average, the examined applications have seven language mutations.

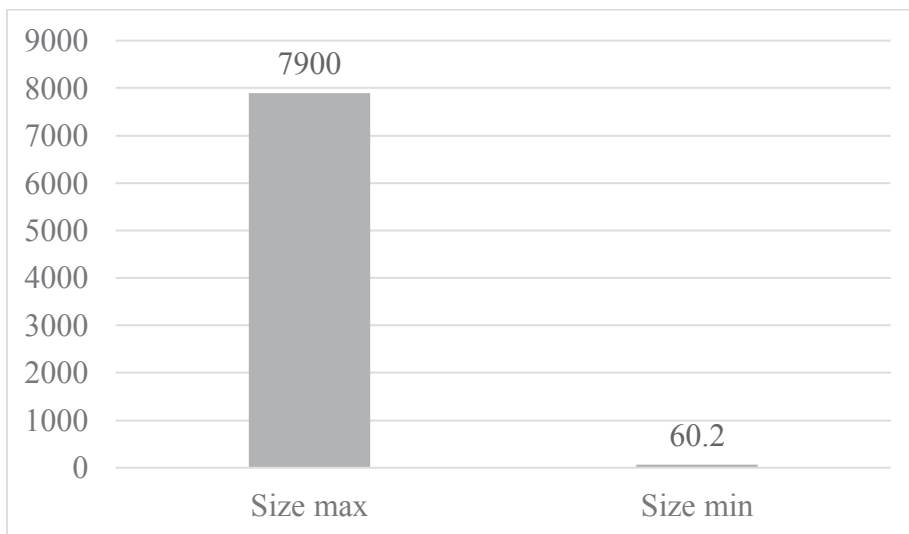


Figure 9: Maximum and minimum app data size
 Source: own processing, 2023

The graph above examined data requirements for app download. The maximum data size of the examined applications was almost 8gb and the minimum size was 60.2mb. The average data size of all the examined applications is 513.86mb.

4 Discussion and Conclusion

Smartphones, tablets and other mobile devices are now the primary type of device used for internet media consumption. Due to the prevalence of these devices, the user interfaces of websites and applications for mobile devices are gradually being adapted. Applications dedicated to smartphones are increasingly being adapted to their environment

and, in addition to the full adaptation of all user interface elements, there is also an adaptation of the controls. AR technology that extends the application environment on mobile devices is becoming more and more popular and widespread, and is currently being used primarily in the games category. Currently, there are hundreds of AR games available in the stores of iOS devices and Android devices, which are naturally evolving and gradually gaining popularity. Historically, these apps have contained a number of limitations and barriers that have limited faster expansion into mobile devices. Some of the strongest barriers included high download fees, high charges while using the AR game app, or high data usage that took up almost all of the available space on the mobile device. These barriers are gradually being removed or significantly reduced by technological developments. The research conducted on the current stage of AR gaming apps has revealed significant advances in removing existing barriers, which is greatly benefiting the faster expansion of these apps. The research revealed that only around a fifth of current gaming AR apps require an entry fee, and three quarters of the examined gaming AR apps offer voluntary fees during the use of the app. The aforementioned removes or mitigates the need to spend financial resources to download and use a gaming AR app. The observed average rating of gaming AR apps at 4.5 (out of a maximum of 5) indicates a well-designed user interface that users are able to use with no problems. This is a benefit that helps the effective dissemination of AR gaming apps. Another variable examined was the recommended age of the user required to download and use the app. This examined variable reached an average value of 6.9 years. The relatively low recommended age broadens the target group of users who can download and use AR game apps. All AR game apps examined had English listed as the primary language, which can be considered the most globally universal language. Selected apps also had other language versions, the use of which requires change in the app's settings. The average data size of the examined AR game apps was 513.86mb. Considering the capacity of current smartphones and tablets, which typically reach tens to hundreds of GB, the average data size of the examined gaming AR apps is acceptable and only minimally affects the user experience and the decision process of downloading the app. Based on the research findings, it can be concluded that the current stage of gaming AR apps is pro-user, leaves payments largely to the choice of the user, allows downloads to a sufficiently broad target group, and requires acceptable data space on the device into which it is downloaded. Further improvements may come primarily in data size, which may be reduced over time, but there is an expectation that such optimization will have only a minimal impact on the number of downloads.

As a limitation of the research can be considered unavailability of an Android device on which the AR apps in the Play store would be examined.

Further research may expand the number of apps investigated in the iOS interface and add apps from the Android operating system.

Acknowledgement: This study was supported by project KEGA 029EU-4/2022 An innovative approach to the creation of responsive media formats for marketing communication of companies aimed at the Internet consumer in the digital media environment

Bibliography

- Abideen, U. Z. (2022, June 24). *25+ best AR apps for 2023 – augmented reality is the future.* <https://www.tekrevol.com/blogs/best-ar-apps-for-augmented-reality-is-the-future/>
- Agrawal, A. (2017, January 6). Why Google hates your website and how you can fix it. *Forbes.* <https://www.forbes.com/sites/ajagrawal/2017/01/06/why-google-hates-your-website-and-how-you-can-fix-it/>

- Ali, A. (2021, April 28). *How media consumption has changed over the last decade (2011-2021)*. <https://www.visualcapitalist.com/how-media-consumption-has-changed-in-2021/>
- Čvirik, M. (2020). The cognitive, affective and conative components of consumer behaviour in the context of country of origin: A case of Slovakia. In I. Černá, A. Aliya, & A. Jarolím (Eds.), *The 20th international joint conference: Central and Eastern Europe in the changing business environment* (pp. 23-33). Oeconomica Publishing House.
- Dilmegani, C. (2023, January 4). *Augmented reality (AR) in 2023: How it works, types & uses*. <https://research.aimultiple.com/augmented-reality/>
- Greenwald, W., & Minor, J. (2023, October 6). *The best VR headsets for 2023*. <https://www.pcmag.com/picks/the-best-vr-headsets>
- Inglobe Technologies. (2022). *How to use augmented reality with a smartphone?* <https://www.inglobetechnologies.com/augmented-reality-with-smartphone/>
- Kita, P., Žambochová, M., Maciejewski, G., Čvirik, M., & Mazalánová, V. K. (2023). Changes in the culture of consumption during Covid-19: A decision-tree model. *Cultural Management: Science and Education*, 7(1), 85-101. <https://doi.org/10.30819/cmse.7-1.06>
- Kuchta, M., & Miklošík, A. (2016). Refining digital marketing taxonomies: Advertising platforms and digital metrics. In D. Petranová, J. Matúš, & D. Mendelová (Eds.), *Marketing Identity: Brands we love* (pp. 175-185). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Kuchta, M., & Stanková, M. (2019). Marketing communication strategy to develop an audience on Instagram social network. In Z. Bučková, L. Rusňáková, & M. Solík (Eds.), *Megatrends and Media: Digital universe* (pp. 595-614). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Lee, Y. J., Ghasemkhani, H., Xie, K., & Tan, Y. (2021). Switching decision, timing, and app performance: An empirical analysis of mobile app developers' switching behavior between monetization strategies. *Journal of Business Research*, 127, 332-345. <https://doi.org/10.1016/j.jbusres.2021.01.027>
- McClure, W. (2021). When the virtual and real worlds collide: Beginning to address the clash between real property rights and augmented reality location-based technologies through a federal do-not-locate registry. *Iowa Law Review*, 103(1), 331-366. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3906369
- MetaverseApp. (2018, January 19). *Gamify your marketing with interactive AR experiences – no coding required*. <https://medium.com/metaverseapp/gamify-your-marketing-with-interactive-ar-experiences-no-coding-required-28dbb34a218e>
- Nazarov, M. M., Ivanov, V. N., & Kublitskaya, E. A. (2020). Media consumption of different cohorts: TV and internet. *RUDN Journal of Sociology*, 20(3), 560-571. <https://doi.org/10.22363/2313-2272-2020-20-3-560-571>
- Nielsen. (2022). *VR and AR technologies*. <https://www.nielsen.com/>
- Perona-Páez, J. J., Barbeito-Veloso, M. L., & Fajula-Payet, A. (2019). Young people in the digital sonosphere: Media digital, media devices and audio consumption habits. *Communication & Society*, 27(1), 205-224. <https://doi.org/10.15581/003.27.36011>
- Sheehan, A. (2022, December 22). *11 best augmented reality apps to enhance the shopping experience*. <https://www.oberlo.com/blog/augmented-reality-apps>
- Sheldon, R. (n.d.). *Virtual reality*. <https://www.techtarget.com/whatis/definition/virtual-reality>

- Similarweb. (n.d.). *Mobile vs. desktop vs. tablet traffic market share*.
<https://www.similarweb.com/platforms/>
- Sung, E. C. (2021). The effects of augmented reality mobile app advertising: Viral marketing via shared social experience. *Journal of Business Research*, 122, 75-87.
<https://doi.org/10.1016/j.jbusres.2020.08.034>
- Vosylius, A. E., & Lapin, K. (2015). Usability of educational websites for tablet computers. In M. Sikorski, & K. Marasek (Eds.), *Proceedings of the multimedia, interaction, design and innovation* (pp. 1-10). The Association for Computing Machinery.
<https://doi.org/10.1145/2814464.2814467>
- Wright, G. (n.d.). *Augmented reality gaming (AR gaming)*.
<https://www.techtarget.com/whatis/definition/augmented-reality-gaming-AR-gaming>
- Zhang, Y., & Zhang, Z. (2020). A comparative study of the influence of the screen size of mobile devices on the experience effect of 3D content in the form of AR/VR technology. In L. De Paolis, & P. Bourdot (Eds.), *Augmented reality, virtual reality, and computer graphics* (pp. 363-374). Springer. https://doi.org/10.1007/978-3-030-58465-8_27

Contact Data:

Ing. Martin Kuchta, PhD., MBA
University of Economics in Bratislava
Dolnozemska cesta 1
852 35 Bratislava
SLOVAK REPUBLIC
martin.kuchta@euba.sk
ORCID-ID: <https://orcid.org/0000-0001-5546-7773>

Ing. Simona Balaščáková
University of Economics in Bratislava
Dolnozemska cesta 1
852 35 Bratislava
SLOVAK REPUBLIC
simona.balascakova@euba.sk
ORCID-ID: <https://orcid.org/0009-0002-3553-382X>

Assoc. Prof. Ing. Peter Drábik, PhD., MSc.
University of Economics in Bratislava
Dolnozemska cesta 1
852 35 Bratislava
SLOVAK REPUBLIC
peter.drabik@euba.sk
ORCID-ID: <https://orcid.org/0000-0002-2740-4756>

CHALLENGES AND OPPORTUNITIES OF AI IN INDIVIDUAL MARKETING COMMUNICATION TOOLS

Alena Kusá – Jana Galera Matúšová – Ladislav Pátik

DOI: <https://doi.org/10.34135/mmidentity-2023-26>

Abstract:

Artificial Intelligence is nowadays being discussed in several directions, but as far as the fields are concerned, the most discussed are its use in marketing, banking, journalism or education sector. Marketing is mainly included in this direction in terms of textual and visual forms of AI, such as ChatGPT, Jasper, Copy.ai, Writesonic, Midjourney, DALL-e or Bart. It is the development or expansion of these tools that dates in our country from the end of 2022 and is mainly associated with the debate whether and to what extent artificial intelligence will replace some positions. And this also in marketing. Today, in this area, we are talking more about the streamlining of some activities, which we will address in our article. However, we understand that this area requires further research in order to verify the implementation of AI tools in marketing from a scientific point of view. However, it is important to understand that AI tools have a dynamic evolution and thus what applies to them today changes over time. At the same time, new tools are constantly being added and are also entering new areas (for example, a tool for composing music).

Key words: Advertising. Artificial Intelligence. Communication. Marketing. Marketing Communication. Marketing Communication Mix.

1 Introduction

In marketing, there are high expectations for the future applications of artificial intelligence (AI). AI is expected to impact customer segmentation, develop a more personalized experience based on individual data, enable a more profound understanding of the consumers, and make predictions based on previous consumer behaviour.

Additionally, artificial intelligence is also expected to map the individual customer journey and optimize customer experience, conduct a micro-segmentation, and develop predictive models for future customer behaviour. It is expected that artificial intelligence will completely reshape marketing by bringing new practices and techniques, relying heavily on automation and predictive modelling. (Micu et al., 2022, in Ljepava, 2022, p. 1310)

From this definition, we could simplistically say that AI has a high use in data-driven marketing, which also points towards the recent trend of “big data” and the necessity of evidence-based marketing activities.

Just as the internet has brought about many advantages from the consumer’s point of view, such as automatic recommendations and relevant product suggestions (Grewal et al., 2017, as cited in Jarek & Mazurek, 2019), shorter shopping time (Moncrief, 2017, as cited in Jarek & Mazurek, 2019), or customer service personalisation (Jordan, & Mitchell, 2015, as cited in Jarek & Mazurek, 2019), AI goes one step further and offers new opportunities in marketing activity. The analysis of the collected examples of the application of AI in marketing shows a whole spectrum of advantages that AI offers to consumers:

- More convenient and quicker shopping time thanks to improved processes (e.g. automatic payments, the better quality of search engines, 24/7 customer service).
- New consumer experience via mass-scale hyper-personalisation, after-sales service that creates additional value going beyond the basic product.

- A new dimension of the consumer-brand relationship delivered by building surprise and delight minimised post-purchase dissonance thanks to the possibility to test the considered product virtually, elimination of the process of category learning, and finally taking advantage of benchmarking against other users. (Jarek & Mazurek, 2019, p. 52)

The most commonly used tools are divided into text-to-text (ChatGPT, Bing, Bard), text-to-image and image-to-image (Midjourney, Adobe Firefly, Dall-E3, Stable Diffusion, Topaz Labs) or image-to-video and text-to-video (Stable Diffusion, Runway Gen-2) groups (Křešnička & Novák, 2023).

Sixteen key tools of AI in marketing communication are following:

- **ChatGPT** – pioneer in the field of artificial intelligence (content, personalization, brainstorming, customer support, etc.)
- **Canva AI** – AI graphics on steroids
- **Jasper.ai** – marketing assistant
- **Midjourney.com** – Artificial Intelligence in Graphic Design
- **Notion AI** – Notion as you know it, but with AI functionality
- **Stocking.ai** – AI tool for graphics
- **Perplexity.ai** – Resources, Resources and Resources
- **Decktopus AI** – AI PowerPoint
- **Descript.com** – Cut videos with artificial intelligence
- **Synthesia.io** – AI tool from another universe
- **Dalle-2** – OpenAI is not just ChatGPT
- **Copy.ai** – your copywriter with artificial intelligence
- **DeepL.com** – a translator using artificial intelligence
- **Quillbot.com** – paraphrase text to perfection
- **Cleanvoice.ai** – clean voice as from a microphone
- **Adobe Podcast Beta** – Clear Audio Unlimited 30 Minutes (For Now)

2 Methodology

The topic of AI in marketing is nowadays the subject of various professional and scientific articles. Some tools are covered more, others less or not at all. The aim of our research is to answer the following questions:

1. To what extent is AI used by communication agencies today?
2. In which tools and areas of marketing communication is AI used the most and in what form?

To answer these questions, we have decided to conduct secondary data research in order to collect examples of AI application. The process of collecting AI applications was carried out in two steps. In the first step, we have focused on a literature search of professional and scientific literature. The second step was the interpretation of the results of report *AI in the communications industry 2023* by PRovoke Media (2023) (the findings are based on a global survey carried out in March 2023 on 406 communications professionals, covering every corner of the globe and representing every size of business, responded.)

3 Discussion

The role of AI in marketing activities was studied by Kumari (2021, as cited in Nesterenko & Olefirenko, 2023). The scientist provides an extensive list of possibilities for the application of this technology and justifies the benefits that can be achieved with the help

of AI. Kumari notes that artificial intelligence is the future in this industry, and doing business and marketing without AI will become impossible. Huang and Rust (2020, as cited in Nesterenko & Olefirenko, 2023) also describe many opportunities for the use of AI in the formation of marketing strategies (segmentation, targeting, and positioning), research (data collection, market analysis, customer understanding), and campaigns (standardization, personalization, relationalization).

Scientists emphasize that the ability of artificial intelligence to perform analysis that is inaccessible to human thinking is one of its most revolutionary capabilities, making its future use inevitable and its current use important for increasing the efficiency of companies. (Nesterenko & Olefirenko, 2023, p. 171)

Kumari describes several of the following positions that can be improved with the help of AI:

sales forecasting, understanding consumers, creating their profiles, optimizing digital advertising campaigns, communicating with the audience in real-time, and automating marketing processes. Thus, the scientist speaks more personally about the role and possibilities of implementing this technology, but at the same time speaks about its importance and prospects for use in the future. (Kumari 2021, as cited in Nesterenko & Olefirenko, 2023, p. 178)

According to the main application of artificial intelligence in marketing is related to making decisions related to various personalization engagement marketing strategies and has an important impact on the everyday behaviour of individuals. Personalization is passive while customization is active; personalized ads are part of the marketing mix created in a way to attract customers. On the other hand, customization is active and is applied when the customer is proactively searching for the product or service. Both processes are based on the collected customer data – either first-party (company data) or third-party data. Nevertheless, the success of personalization and customization will always depend on the quality of the customer data collected, the volume of available data, the analytical capabilities of the analytical algorithms to provide the correct insights and the implementation of those insights. (Ljepava, 2022, p. 1310)

From this point of view, it might seem possible to use in marketing in terms of customer data and marketing communication tools just in the field of advertising, especially in performance communication and with a simpler impact on the end customer, as can also be seen from the Table 1 below:

Table 1: Examples of AI applications in advertising by different companies and their effects

Company	Usage case	Effect
McDonald's	Encouraging consumers to visit their restaurants	Reduction of the price per visit by 168%
Best Western	Personalization of advertising with the help of AI from IBM Watson Advertising	Increased customer interaction time by 2.2 times Increase in website traffic with sales by 48.6%
CVS Pharmacy	Engaging consumers in regions with a high risk of influenza	Attracting 42 million visitors 644 million ad impressions Increase in the number of clicks on ads (CTR - click-through rate) by 120%
Walgreens	Identify potential customers based on weather conditions	379.98% increase in in-store traffic with native advertising
TruGreen	Create ads and optimize solutions based on collected user data	Increase the CTR level by 4 times Visitors stay on the site for 2 minutes longer

Source: Nesterenko & Olefirenko (2023, p. 173)

On the other hand, if we were talking about traditional advertising, built on creative, rational and emotional appeals and media planning (traditional media), it would seem that AI built on data-driven outputs cannot have its justification in this regard. And thus it would seem that AI has no use in this part of the advertising discipline, but the opposite is true. Visual and textual forms of AI can generate advertising ideas or create storyboards or even design entire advertising visuals. From this point of view, it rather boils down to another brainstorming participant in communication agencies, but so far it turns out (also based on the speech Peter Šebo from PS: Digital at the Marketing and Media Identity conference, for example) that there is no substitute for the human factor in creative agencies (Šebo, 2023).

According to the Agency Benchmark Reports study from AgencyAnalytics, 78% of agencies globally are already using AI tools for content creation, with a further 13% starting to use them in the near term and 4% in the long term. Only 5% say they don't want to get involved in the AI trend (Křešnička & Novák, 2023).

The use of AI in the communications industry is also demonstrated by the results of the global research made by PRovoke Media: *AI in the communications industry 2023* (Provoke Media, 2023), the interpretation of which we present below (the survey was also the inspiration for the Štefan Vadocz research, the results of which we present in the article "AI in Public Relations: Challenges and Opportunities" in this conference proceedings). The vast majority of communications professionals globally view AI as an opportunity rather than a risk. Nearly 86% see the upside of the technology with those between the ages of 35-44 years, most likely at the mid-point of their careers and in manager to senior manager roles, significantly more likely to see the opportunity compared to those in the younger or older age groups (PRovoke Media, 2023).

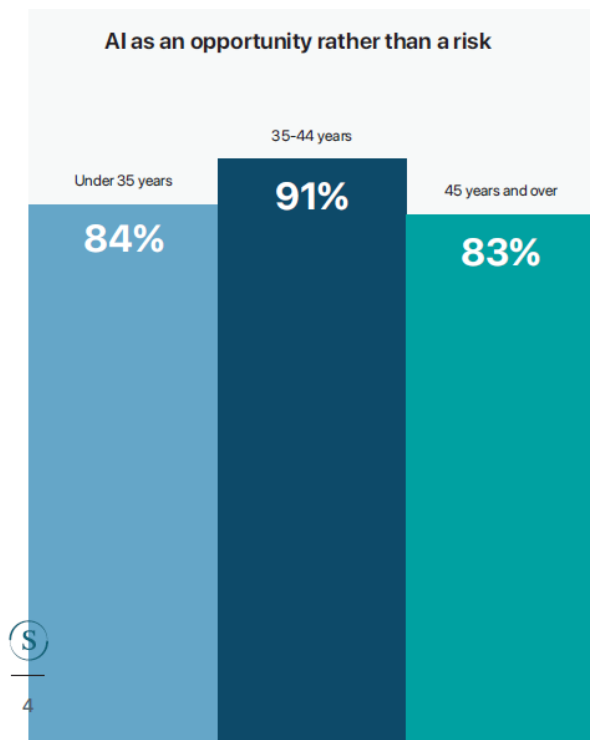


Figure 1: AI as an opportunity rather than a risk
Source: PRovoke Media (2023, p. 4)

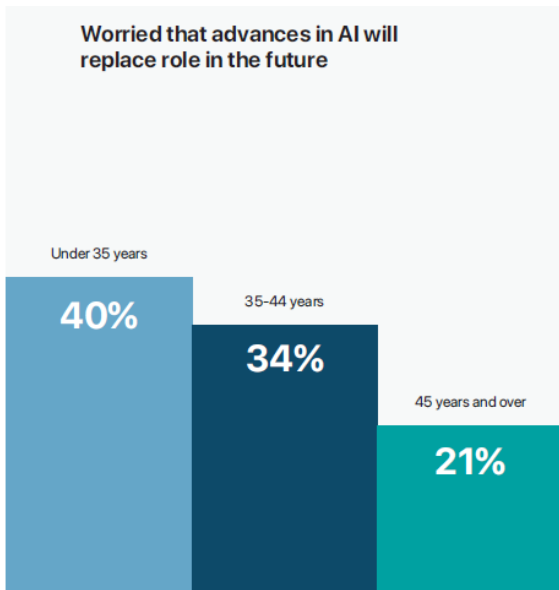


Figure 2: Worried that advances in AI will replace role in the future
Source: PRovoke Media (2023, p. 5)

Despite the lack of knowledge and training, and the concerns around managing risks, across the world, a sizeable majority of communicators (61%) are already using generative AI tools in their day-to-day work, with one in five (21%) using them frequently. For those already using AI in their roles, globally nearly half (47%) of those using AI technology are using it to speed up and improve their approach to desktop research. Allied to this is a further 39% using the technology to help analyse data. However, generative AI is also already being used by many for the more creative aspects of communications with 42% using it to help generate creative ideas, 38% using it for social media content generation and just over a third (34%) applying the technology to writing articles.

	Tasks currently using AI technologies for	Management Level	Director Level	Manager Level	Executive Level
Desktop research	47%	63%	75%	32%	37%
Creative idea generation	42%	43%	70%	35%	40%
Data analysis	39%	44%	25%	35%	44%
Social media content creation	38%	54%	40%	22%	39%
Writing articles	34%	43%	50%	22%	32%
Transcriptions	29%	40%	45%	14%	26%
Data visualisation	27%	29%	15%	17%	40%
Key messaging	25%	22%	35%	19%	30%
Media monitoring	24%	29%	10%	24%	23%
Writing press releases	23%	27%	35%	21%	18%
Graphic design	23%	21%	30%	25%	21%

Figure 3: How AI is being used in communications today
Source: PRovoke Media (2023, p. 11)

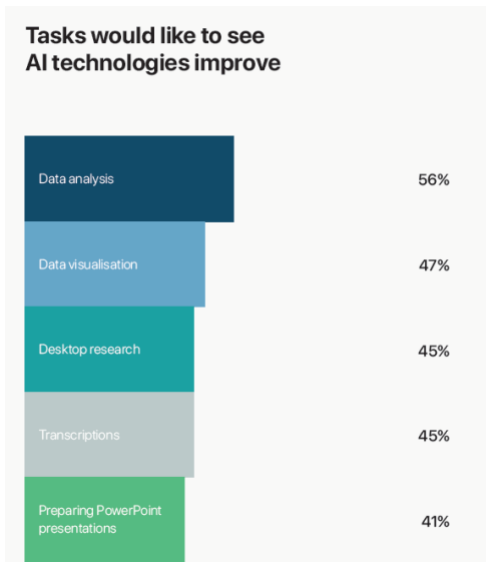


Figure 4: Tasks would like to see AI technologies improve
 Source: PProvoke Media (2023, p. 12)

Emma Smith, CEO of PProvoke Media, wrote in the foreword to this research: For most, AI-based tools are used and will be used in the future to remove some of the mechanical tasks such as research and data analysis. That said, many are already employing tools such as Midjourney and Jasper to generate creative ideas as well as deliver content for social media and write copy-heavy work at speed. In time, this should serve to provide communicators with better and faster access to insights as well as more time and headspace to support a higher level of thinking around communications strategies and campaigns. (PProvoke Media, 2023, p. 3)

However, if we think about the essence of the communication industry, the human approach should be indispensable in this area, even if we look at the main mission of communication disciplines (we are talking primarily about PR), which is to build relationships with various target groups, most recently with regard to internal communication and reputation management. The role of AI in this case, in our opinion, may be more in the position of a brainstorming consultant, but not a strategic partner. This is also demonstrated by one of the other questions/areas in the survey mentioned above.

With the forecast changes to day-to-day tasks, insight and people-based skills will become even more important. 84% of practitioners think team management and leadership will be more important in the future than they are today. This reflects the importance of “soft skills” such as emotional understanding and empathy which only humans can truly deliver. There is also a belief that strategic advisory and creative thinking (both at 83%) will be more important in the future, underlining the scepticism many still see in the capacity of AI to deal effectively with higher value tasks. These findings also underscore the point that AI will not replace people nor jobs, but tasks. The critical thinking – as well as the soft skills – required in many parts of our roles cannot yet be replaced by technology. Instead, we are likely to see time-consuming tasks undertaken by AI, leaving humans with more time to spend on added-value work. It also highlights just how valuable those that can leverage AI will become in the communications job landscape.

AI usage in the future		
	More important than today	Less important than today
Team management / leadership	84%	16%
Strategic advisory	84%	16%
Creative thinking	83%	17%
Relationship building / networking	82%	18%
Verbal communication	78%	22%
Design capability	66%	34%
Written communication	65%	35%
Prompt writing	63%	37%
Data analysis	62%	38%
Technical skills, e.g. Coding	60%	40%

Figure 5: AI usage in the future
 Source: PProvoke Media (2023, p. 13)

On the other hand, marketing communication tools such as direct marketing, personal selling or sales promotion are not specifically addressed in professional or scientific articles, and we have not found any research that has been conducted in these areas. However, if we look at it from the point of view of the different functions of AI and the need for the human factor in some of the areas that we also write about above, we could say that even for these marketing communication tools, it can be a tool for brainstorming (for example, preparing for a client visit in personal selling), using data more effectively, and personalization (for example, in direct marketing, not only in performance advertising, but also in sales promotion).

At the end of the discussion we have to also objectively analyze and summarize the weaknesses of AI in marketing communications. In contemporary usage of AI in marketing and marketing communications we can find following weaknesses:

- **Integration with Existing Systems**
 - One of the biggest challenges businesses may face when implementing AI in their marketing communications is integrating these tools with their existing systems.
 - Many businesses have legacy systems that may not be compatible with modern AI technologies.
 - This can lead to a lack of coordination between different systems, which can ultimately hamper the effectiveness of the AI-powered tools.
 - The integration process can be complex and time-consuming, requiring significant investment in terms of resources and expertise.
- **Data Privacy and Security**
 - Another challenge businesses may face is ensuring the privacy and security of customer data.
 - As businesses collect more data about their customers, they must ensure that this data is stored securely and used in compliance with relevant data privacy regulations.
 - This is particularly important in today’s world, where data breaches and privacy violations can lead to significant reputational damage and financial losses.
 - AI-powered tools may require access to a vast amount of data, which can increase the risk of data breaches.
- **Lack of Human Touch**
 - AI-powered tools can be incredibly effective at creating personalized and engaging content,

- but they may lack the human touch that customers expect from their interactions with businesses.
- Customers value personal relationships with businesses, and AI tools may not be able to replicate this experience.
- This can be especially challenging for businesses that rely heavily on building personal relationships with their customers.
- AI-powered tools may also lack empathy, which can make customers feel like they are talking to a machine rather than a human.
- **Difficulty in Interpreting Results**
 - Interpreting the results of AI-powered tools can be challenging for businesses.
 - AI algorithms are complex and can produce results that are difficult to interpret.
 - Businesses need to have a thorough understanding of the data that the AI tools generate and be able to interpret it in a meaningful way.
 - This can require specialized expertise, which may not be available in-house.
- **Lack of Customization**
 - AI-powered tools may not be able to provide the level of customization that businesses require.
 - Businesses have unique needs, and AI-powered tools may not be able to cater to all of them.
 - Customization can be expensive and time-consuming, requiring significant investment in terms of resources and expertise.
 - Businesses need to carefully evaluate their needs and determine whether the benefits of customization outweigh the costs.

4 Conclusion

In this paper we have focused on AI as the phenomenon of contemporary marketing and marketing communication. AI is the simulation of human intelligence processes by machines, including learning, reasoning, and self-correction. AI-powered tools are transforming marketing communications by creating targeted and personalized content that resonates with customers. The use of AI in marketing communications is growing exponentially, as it can analyze vast amounts of data and provide actionable insights that businesses can use to create more effective marketing strategies. AI can also be used to analyze consumer data and create highly personalized marketing campaigns that target specific demographics. AI can also be used to optimize ad targeting and placement, increasing engagement and driving sales.

Authors Křešnička & Novák (2023) state, that AI cannot be left unattended for now. It is necessary to verify the generated materials and the textual and graphic content to ensure that they do not result in plagiarised work or a style that may be culturally specific, the use of which in a campaign would appear inappropriate.

Finally we have to ask very important question – will AI replace humans in marketing communications? Now, when it comes to AI, there's no doubt that it has the potential to play a significant role in marketing communications. With its ability to analyze data, identify patterns, and make predictions. AI can help marketers better understand their audience, personalize messages, and automate many aspects of the marketing process.

However, despite these advantages, it's unlikely that AI will completely replace humans in marketing communications. This is because marketing is as much about creativity and intuition as it is about data and analysis. While AI can certainly help identify trends and patterns, it can't replicate the human ability to empathize, connect emotionally, and think

outside the box. Moreover, marketing communications is a highly nuanced and complex process that requires a deep understanding of the audience, the brand, and the market. While AI can certainly provide valuable insights and support, it can't replace the expertise and experience of human marketers who have spent years honing their craft.

From this perspective, we could see the use of AI in marketing communications primarily in the following disciplines: content generation, brainstorming, process automation, market and brand monitoring, data analysis.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0606/21, titled 'Change in Preferences in Buying Behaviour of Consumers in the Context of the Dynamics of Marketing Communication Tools Development'.

Bibliography

- Jarek, K., & Mazurek, G. (2019). Marketing and artificial intelligence. *Central European Business Review*, 8(2), 46-55. <https://doi.org/10.18267/j.cebr.213>
- Křešnička, J., & Novák, R. (2023, December 4). Stačil rok a umelá inteligencia je všude [One year and artificial intelligence is everywhere]. *MAM*, pp. 8-11.
- Ljepava, N. (2022). AI-enabled marketing solutions in marketing decision making: AI application in different stages of marketing process. *TEM Journal*, 11(3), 1308-1315. <https://doi.org/10.18421/tem113-40>
- Nesterenko, V., & Olefirenko, O. (2023). The impact of AI development on the development of marketing communications. *Marketing and Management of Innovations*, 14(1), 169-181. <https://doi.org/10.21272/mmi.2023.1-15>
- PRovoke Media. (2023). *AI in the communications industry 2023. Opportunities and risks*. PRovoke Media, Sandpiper. https://www.provokemedia.com/docs/default-source/default-document-library/sp-pr-ai-report_final.pdf
- Šebo, P. (2023, November 14). *AI (z)mení marketing [AI changes marketing]* [Conference presentation]. Media & Marketing Identity Conference, Trnava, Slovakia.

Contact Data:

Assoc. Prof. PhDr. Jana Galera Matúšová, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 jana.galera.matusova@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0003-4514-8431>

Prof. Ing. Alena Kusá, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 alena.kusa@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0002-6421-2454>

Ing. Ladislav Pátík, PhD.
Ambis University
Lindnerova575/1
180 00 Praha 8 – Libeň
CZECH REPUBLIC
ladislav.patik@ambis.cz
ORCID-ID: <https://orcid.org/0000-0002-6432-3410>

THE ROLE OF ARTIFICIAL INTELLIGENCE IN NEUROMARKETING RESEARCH: INSIGHTS AND APPLICATIONS

Alena Kusá – Patrícia Beličková

DOI: <https://doi.org/10.34135/mmidentity-2023-27>

Abstract:

Conventional marketing research tools, such as surveys and focus groups, assess customer reactions to different product aspects. However, these methods often fall short of capturing the intricacies of the customer's mindset, as responses may not always be entirely truthful. This is where the neuromarketing proves valuable. The paper explores how AI-driven algorithms and technologies have revolutionized the understanding of consumer behaviour and decision-making processes, offering insights into the subconscious processes governing decision-making. AI's integration enables real-time feedback through technologies such as facial recognition, eye-tracking, and sentiment analysis. This immediacy empowers marketers to optimize strategies dynamically, enhancing campaign efficacy. The paper addresses the ethical considerations arising from this integration, emphasizing the importance of responsible AI use in neuromarketing research. The synthesis of AI and neuromarketing not only revolutionizes data interpretation but also navigates the ethical dimensions of consumer privacy and consent. This research provides a comprehensive overview of the symbiotic relationship between AI and neuromarketing, offering valuable insights into the future of consumer engagement and marketing strategies. By harnessing AI's capabilities, this research showcases the novel avenues for enhancing consumer experiences and optimizing marketing strategies. The paper offers a comprehensive overview of the applications of AI in neuromarketing and underscores its potential to unlock deeper insights into consumer behavior and preferences.

Key words: Artificial Intelligence. Consumer Behavior. Decision-Making Processes. Eye-Tracking. Facial Recognition. Neuromarketing. Neuromarketing Research.

1 The Future of Neuromarketing Research

Annually, more than \$400 billion is dedicated to advertising campaigns. Traditional approaches to assess and forecast the success of these investments often fall short, relying on consumers' willingness and ability to articulate their reactions to advertisements. Neuromarketing offers cutting edge methods for directly probing minds without requiring demanding cognitive or conscious participation (Morin, 2011). Neuromarketing research is giving marketers new insights into how to communicate advertising campaigns better. Often times, when marketing campaigns are implemented, they do not have the benefit that was originally expected, or even elicit the complete opposite reaction from the customer (Kusá & Beličková, 2023). The widespread interest in this field is evident, reflected not only in the enthusiasm of the scientific community but also in the substantial efforts of various studies, as evidenced by a Web of Science database search. The volume of publications experienced rapid growth from 2012 to 2023, with the trend expected to persist as scholars recognize its potential for decision-making analysis, understanding consumer behavior, pricing, and other relevant areas within marketing and business strategy.

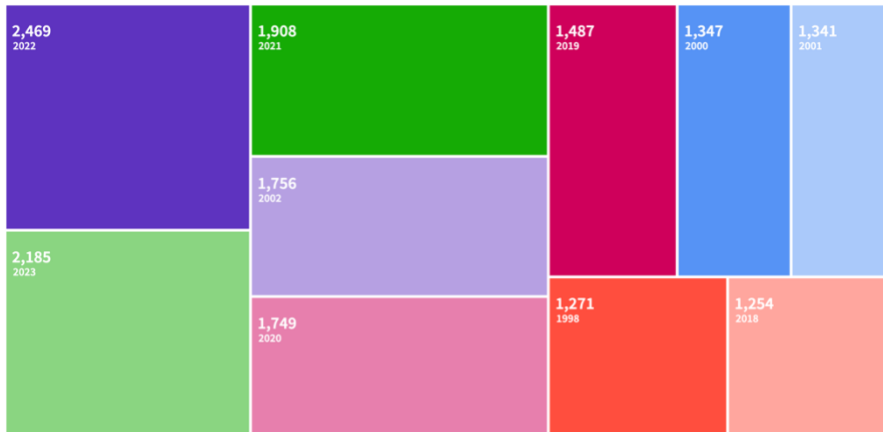


Figure 1: The volume of publications about neuromarketing, neuromarketing research and behavioral science
Source: Web of Science (n.d.)

For some, neuromarketing represents the “golden age” of advertising and marketing since it attempts to use scientific data to crack the code of consumers’ behavior and decision-making processes. Although it is under criticism because of the techniques it employs and ethical concerns, neuromarketing continues to gain popularity in advertising and marketing research (Bakir et al., 2017). Interesting findings could be applied from the field of neuromarketing to the creation of campaigns, but at the same time, thanks to neuromarketing research, it is possible to verify in advance the effectiveness of advertising and the emotions it has evoked in the customer (Kusá & Beličková, 2023). However, it is important to think about how to conduct neuromarketing research in the most effective way. There are many tools that can be used, such as eye cameras, emotion detection and facial reading, skin conductance, reaction time monitoring, and more advanced tools for investigating brain activity, such as EEG or functional magnetic resonance imaging.

Is it absolutely crucial to run an expensive fMRI to study visual attention, or is it more useful to use eye-tracking and possibly extend with computational neuroscience? The costs will differ enormously but the insights might be the same (Agarwal, 2015). We could continue to ask such questions, especially in an era marked by the use of artificial intelligence. Artificial intelligence is also increasingly used in neuromarketing research, mainly because AI algorithms can be sufficiently comparable to classically implemented neuromarketing research, for example, in the generation of heat maps. These are often generated on the basis of general observations, i.e. where the human eye is directed when contrasts or movement are made. These temperature maps are very comparable to the temperature maps that are produced by standard neuromarketing research in the laboratory.

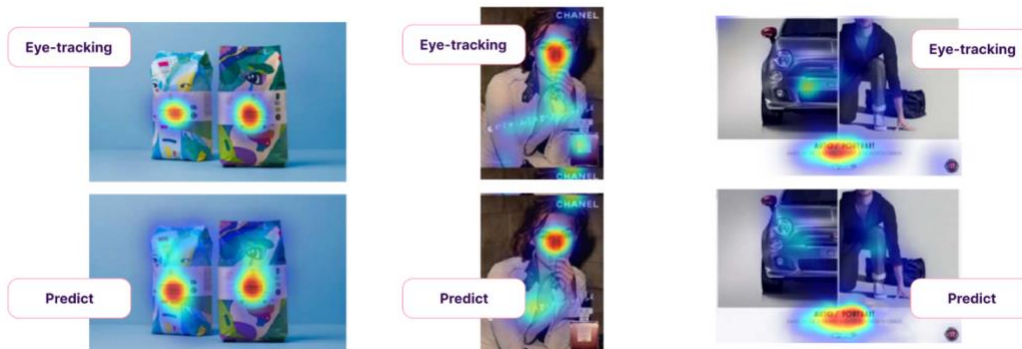


Figure 2: Heatmap comparisons between eye-tracking, and predictive eye-tracking with Predict’s AI model
Source: Ramsøy (n.d.)

As we can see in the figure above, there are indeed nowadays software that use artificial intelligence and their results are comparable to classical neuromarketing research. The company Neurons, which has developed one of these tools called Predict, also gives reasons why companies should use it software. Although it is partly a sales text designed to motivate customers to buy the software, many of the arguments presented are logical and completely true. So, what are the benefits of employing AI for predictions that are otherwise measurable through manual means? There are several advantages, according to Ramsøy, T. Z. (n.d.), such as:

- AI models deliver results within seconds to minutes, a significantly faster timeframe compared to weeks or months required for manual measurements.
- AI operates tirelessly, enabling the testing of an extensive range of materials without fatigue.
- Resistant to the repetition effect, AI facilitates the examination of numerous variations in a design without compromising accuracy.
- Cost-effectiveness is a notable advantage, with the expense of a single study surpassing the annual cost of utilizing an AI model.
- AI allows real-time testing during the design process, fostering an iterative approach. This stands in contrast to online eye-tracking methods, which entail waiting for days to weeks for results.

However, Predict is far from being the only unique tool that offers somewhat of a substitute for classic, manual, lab-based neuromarketing research. A number of companies around the world have discovered the scope to increase the effectiveness of their brand marketing communications thanks to insights from neuroscience. Thus, considerable efforts are being made to ensure that this type of research is used more and more by companies. At the same time, the availability of the data they have thanks to the research they conduct often gives them the opportunity to develop AI software with great accuracy, which to some extent replaces some neuromarketing research tools.

In addition to heat maps, artificial intelligence software can also detect human emotions. Based on facial muscles, tone of voice or speech analysis, the software can identify what emotion a given customer or recipient is experiencing and therefore how he or she reacts to the stimulus presented by the selected advertisement. This is emotion AI, which is a big trend at the moment and is far from being used only in the field of marketing research.

Emotional AI, according to Alkhalidi, N. (2022), utilizes a combination of computer vision, speech science, and deep learning algorithms. It can analyze human speech, identifying voice inflections indicative of emotions like anger or stress. Moreover, the technology excels at recognizing fleeting facial micro-expressions that occur too swiftly for the human eye to capture.

In light of the impactful nature of emotional marketing, companies embracing emotion recognition technology, now commonly referred to as Emotion AI, stand to secure a crucial competitive edge. Envision the ability to dynamically shape conversations in real-time, adjusting your messaging and calls-to-action based on audience reactions throughout their journey. Emotion AI holds the potential to revolutionize the game. If this seems like a far-off concept, it's noteworthy how imminent this new marketing reality is. The Emotion AI market is projected to grow from \$6.72 billion in 2016 to \$36.07 billion by the year 2021, according to Shapiro, T. (2017) from MarketsandMarkets.

Another area in which artificial intelligence is used in research is focus group attention. That is, analysing how comprehensible an advertisement is, how engaging it is to the target group, how much effort a person has to make to understand an advertisement, or

how focused a person is when watching an advertisement, for example. Neurons offers software that can predict these areas with great accuracy based on a lot of data:

- **Cognitive Demand:** Indicates the volume of information requiring processing by the viewer within the asset. When images or videos become more intricate, they result in heightened perceptual load and consequently an increased cognitive demand.
- **Focus:** This measures the concentration of attention within your asset. A Low Focus (0 – 24%) implies that numerous elements vie for attention, whereas a High Focus (75 – 100%) indicates that one or a few specific areas attract the most attention and are more likely to be noticed.
- **Engagement:** Reveals customer enthusiasm and absorption upon viewing your asset. Elevated Engagement enhances brand recall and purchasing behavior, frequently influenced by emotional elements and clear visuals.
- **Clarity:** Anticipates the perceived clarity of your asset by customers. Generally, clarity should be high, although lower scores are acceptable when showcasing multiple offers, and no single element is intended to grab attention.

2 Methodology

Our aim was to review existing neuromarketing research tools that use artificial intelligence and compare their results with classical neuromarketing research tools and analyze studies that have been conducted in the past to make these comparisons, relying primarily on secondary research. Secondary research involves a thorough examination of data that has been previously collected for other purposes. The information gathered for this paper came from a variety of mostly international sources, which allowed us to take a broader perspective outside of Slovakia. We focused on foreign sources mainly because the neuromarketing industry in Slovakia is still not sufficiently developed and companies are often not interested in neuromarketing research because of the high price. That is why the tools we mention in the article have their origin abroad, as they are more widely used in other countries. Through a detailed description and analysis of each tool, we have identified the strengths and weaknesses of these tools in neuromarketing research. In addition, we have also incorporated insights from the field of artificial intelligence in the context of neuromarketing research, drawing not only on foreign publications but also on interviews with experts in these fields. These discussions provided valuable insights into the applications of AI to neuromarketing research. In summarizing the data, we envisioned future possibilities for the use of neuromarketing research and its increased accessibility specifically due to AI-based software.

3 Results

Artificial Intelligence often lacks the sophistication to comprehend cultural nuances in expressing and interpreting emotions, posing challenges in reaching accurate conclusions. For example, a smile may convey different meanings in Germany compared to Japan, and misinterpreting these cultural subtleties can lead businesses to make erroneous decisions. Consider a scenario where a Japanese tourist seeks assistance in a Berlin shop. If the shop relies on emotion recognition to prioritize customer support, the shop assistant might misinterpret the tourist's smile – commonly a gesture of politeness in Japan – as an indication that they don't need help. Since AI software relies only on the data available to it, it can misinterpret certain emotions or mispredict a customer's decision. In summary, the unaddressed presence of conscious or unconscious emotional bias has the potential to perpetuate stereotypes and assumptions on a significant scale. Thus, it should be taken into

account that the use of artificial intelligence in neuromarketing research has its limitations. Apart from sometimes misinterpretation due to cultural differences or lack of deeper context, the cost of software currently on the market can be a barrier to the use of AI in neuromarketing research. The companies developing these software are very aware of the benefit the findings can offer brands to better optimise their advertising campaigns. Such software therefore ranges in price from a few thousand euros upwards. Price is thus one of the main factors that prevent small companies or many academic institutions from carrying out neuromarketing research more effectively, precisely with the help of such software.

4 Discussion

In the ever-evolving landscape of consumer behavior analysis, the integration of artificial intelligence (AI) stands out as a transformative force in advancing neuromarketing research. Traditional factors influencing consumer choices, such as product pricing and availability, are no longer exclusive determinants. This academic paper explores the pivotal role of AI in reshaping neuromarketing strategies, providing an in-depth examination of its applications and implications. AI, with its capacity for complex data analysis and pattern recognition, has revolutionized the way researchers interpret neurophysiological and behavioral data. The paper investigates how machine learning algorithms and natural language processing techniques contribute to extracting nuanced insights from a plethora of data sources. The result is a more comprehensive understanding of the intricate interplay between consumer choices and subconscious processes. Real-time feedback, made possible through AI-driven technologies like facial recognition and sentiment analysis, marks a significant departure from traditional post hoc analyses in neuromarketing. The academic paper emphasizes how this immediacy empowers marketers to optimize strategies dynamically as campaigns unfold, enhancing overall efficacy. Personalization takes center stage as AI enables the tailoring of marketing messages and products to individual preferences. The paper explores how recommendation systems, driven by AI algorithms, offer a personalized consumer experience, thereby increasing engagement and conversion rates. Ethical considerations surrounding AI integration in neuromarketing research are also addressed. The paper emphasizes the need for responsible AI use, considering issues related to consumer privacy and consent. By navigating these ethical dimensions, researchers and marketers can ensure the ethical application of AI technologies in consumer behavior studies. In conclusion, this academic paper illuminates the multifaceted impact of AI in neuromarketing research, providing a comprehensive overview of its applications, ethical considerations, and future potential. By leveraging AI capabilities, researchers and marketers can unlock new dimensions in consumer behavior analysis, driving more effective and targeted marketing strategies.

5 Conclusion

We are in a world that is influenced by artificial intelligence in many sectors. Artificial intelligence is used in public administration, healthcare, teaching, industry, but also in marketing. Whether we want it or not, artificial intelligence will be more and more a part of our lives. One of its uses is marketing, or more specifically neuromarketing, which, thanks to AI, has become more accessible not only to large companies, but also to academia and local brands. AI-based software presents valuable insights into consumer behaviour and emotions that brands can use to create better marketing campaigns. The data they are able to gather in real time provides brands with the ability to do truly personalized marketing that will further increase their sales and engage their target audience. Although not only neuromarketing, but

also artificial intelligence as such, faces many ethical issues, it provides multiple benefits that can improve the quality of marketing communications for individual brands. We don't have to strictly look at it as just a way for brands to earn more. The use of knowledge from neuromarketing and its application in marketing campaigns can help brands, for example, to communicate socially important topics, motivate its customers to sustainability, or find a wide application in the sphere of non-profit marketing, thanks to which non-profit organizations are able to get more volunteers or supporters. From our perspective, artificial intelligence therefore presents many opportunities that companies should take advantage of right now to gain a competitive advantage over companies that are not adapting their activities to the digital age. It is the availability of neuromarketing software that evaluates the success of merchandising communications based on a wealth of data that is the way forward for many companies. The accuracy with which these software match classic neuromarketing research conducted in a lab is astonishing, and this is what makes many of these software sufficient to better optimize brands' advertising messages. However, it's also important to note that these software have their limitations as well, as we've mentioned several times in the article. These include, for example, the high price, which not every company can afford, or the missing aspect of human logic or feelings, for example. However, it may only be a matter of time before AI algorithms are able to determine even more complicated consumer behaviour and decision-making with great accuracy.

Acknowledgement: This paper was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-22-0469, titled 'Traveling Map of a Digital Platform Providing AI (Artificial Intelligence) Automatization of Management Processes in the Area of Communication Strategy'.

Bibliography

- Agarwal, S. (2015). Introduction to neuromarketing and consumer neuroscience. *Journal of Consumer Marketing*, 32(4), 302-303. <https://doi.org/10.1108/JCM-08-2014-1118>
- Alkhaldi, N. (2022, May 22). *Emotional AI: Are algorithms smart enough to decipher human emotions?* <https://www.iotforall.com/emotional-ai-are-algorithms-smart-enough-to-decipher-human-emotions>
- Bakir, U., Elden, M., & Gecit, E. (2017). Neuromarketing from the perspective of advertising professionals: A battle between creatives and strategic planners. In M. A. D. Santos (Ed.), *Applying neuroscience to business practice* (pp. 257-276). IGI Global. <https://doi.org/10.4018/978-1-5225-1793-1.ch076>
- Kusá, A., & Beličková, P. (2023). Using neuromarketing to create more effective messages in sustainability advertising campaigns. In F. Moreira, & S. Jayantilal (Eds.), *European conference on innovation and entrepreneurship* (pp. 493-500). Universidade Portucalense. <https://doi.org/10.34190/ecie.18.1.1673>
- Morin, Ch. (2011). Neuromarketing: The new science of consumer behavior. *Society*, 48(2), 131-135. <https://doi.org/10.1007/s12115-010-9408-1>
- Ramsøy, T. Z. (n.d.). *Predicting customers from eye-tracking to AI.* <https://www.neuronsinc.com/insights/global-eye-tracking-predictive-ai>
- Shapiro, T. (2017, November 21). Neuromarketing and AI, a powerful connection. <https://velocity.com/2017/11/21/neuromarketing-and-artificial-intelligence-stratebeat/>
- Web of Science. (n.d.). *Analyze results: Neuromarketing (topic).* <https://www.webofscience.com/wos/woscc/analyze-results/4d37919f-94e2-49d8-8979-981c0fa44cec-b7e60104>

Contact Data:

Prof. Ing. Alena Kusá, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
alena.kusa@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-6421-2454>

Mgr. Patrícia Beličková, MBA
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
belickova2@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-3566-315X>

NEW TRENDS IN MEDIA PRODUCTION – SERIALITY AND TRANSTEXTUALITY IN FILM MUSIC

Zuzana Kvetanová – Lenka Rusňáková

DOI: <https://doi.org/10.34135/mmidentity-2023-28>

Abstract:

Film music is considered an important part of media production. Despite the fact that external piano accompaniment was already used in the screening of the first audiovisual work created by the Lumière brothers (*L'Arrivée d'un Train and La Ciotat* [*The Arrival of a Train and La Ciotat*], 1895), the way of looking at film music has changed radically over the past few decades. The production of economically and audience successful films is now subject to a number of modern trends, with the music and the sound component of the work itself becoming one of the most important presentation and promotional materials of a film. For this reason, the present scholarly study focuses on the identification of elements of seriality and transtextuality in the selected research material, a film depicting the life of a character with superheroic powers – *Black Panther: Wakanda Forever* (Coogler, 2022) – with an emphasis specifically on the work with film music. The theoretical part of the study focuses on defining central terms, in particular the notions of *seriality* and *transtextuality*, and clarifying their meaning in the context of the issue under study. The evaluation of the research material, in terms of identifying the elements of seriality and transtextuality associated with its musical and sonic components, becomes the subject of the subsequent case study. Regarding the use of seriality and transtextuality in the production of media texts, we suggest that a certain causality is discernible when looking at film music and the audiovisual work associated with it. With the intention of answering the given assumption, a qualitative discourse analysis and characteristic logical-conceptual procedures are employed. The final parts of the study summarize the acquired theoretical-empirical information and comprehensively point out the possibilities of using the elements of seriality and transtextuality in film (music) production.

Key words: Black Panther: Wakanda Forever. Film Music. Marvel Studios. Media Presentation and Promotion. Media Production. Media Text. Seriality. Superhero Movies. Text. Transtextuality.

1 Introduction

The intention of media production is to create specific content characterized by certain properties and means of expression. Any media content, whether we are talking about auditory works (e.g. a song, a radio show), audiovisual works (e.g. a film image, a video blog) or visual works (e.g. photography, literature), is perceived as a *text* composed of signs and symbols that can be communicated in conjunction with another text. In the present scientific study, we narrow the object of investigation to film production, where the results of its creative activity – films – are defined as certain types of media content, or texts. In particular, we emphasize the work with the sound and musical component of the work, since film music is considered one of the most important means of presentation of most audiovisual titles. For this reason, our primary aim is to elucidate the presence of transtextual relations and elements of seriality in the feature film *Black Panther: Wakanda Forever* (Coogler, 2022), with emphasis on the work with film music.

The issue of new trends in media (film) production is becoming a subject of interest for many authors. However, pointing out the presence of (trans)textual relations that arise between an audiovisual work and its musical-sound component is, paradoxically, a relatively unexplored area, despite the strong link between these two contents/texts (film music acts as an important presentation-promotional material and fundamentally influences the narrative structure of a film). The assessment of the elements of *seriality* and *transtextuality* in film music in relation to the respective audiovisual image is rightly perceived as a topical problem worthy of deeper scientific investigation.

The study entitled “New Trends in Media Production – Seriality and Transtextuality in Film Music” refers to media and communication studies, film and music studies and many other related scientific disciplines in its content and way of processing. In the processing of the text, several relevant domestic and foreign publications or scientific studies are used, from J. Radošinská (2016), T. Farkaš (2021), V. T. Dukhovnaya (2021) and many other authors. In general, *media texts* are characterized by a number of overt and/or covert references to other texts (transtextuality), which in a certain way build on each other and are continuously repeated within the media production (seriality). In this context, we assume that a certain connection between seriality and transtextuality is also evident in film production, specifically when looking at film music referring to the audiovisual work. The content structure of the present study reflects its main research aim and premise defined above. The primary focus is on defining the terms seriality and transtextuality and clarifying their position and meaning in film production. We look exclusively at the position of film music in superhero-themed films – assessing the origins and source of the music/sound, identifying musical genres, motifs, patterns and musical themes. Presentational-promotional aspects and transtextual messages (relations) in film music are discussed along with the previous points in a follow-up case study, where we explore the music/sound component of the superhero film *Black Panther: Wakanda Forever* through a qualitative discourse analysis.

2 Seriality and Transtextuality in Media Production. Film Music and Its Importance in the Production of Media Texts

Media content produced for mass consumption is an essential part of mass culture, but it is also the driving force behind the media industry, which is seen as one of the fastest growing industries in the world. Different production trends interact to shape the current goals, strategies and creative practices used by specific industries, culture and entertainment (Radošinská, 2016), with producers shaping the nature of media content for financial gain based on the interest of media audiences in specific media content (Radošinská et al., 2020). This synergy of media industries is a prerequisite for the future success of the media content presented. In order to appeal to numerous media audiences, the creation of media texts (media content, media products, media communications) of different genres or content often uses means of expression that are familiar to potential recipients from other, similar in genre and content, auditory, visual or audiovisual materials. It is important to add that (media) text can be seen in this context as a two-dimensional structure, which is created by the authors’ use of a specific codification system. It is essentially a kind of communicative act between author and reader. A text is thus defined as a sequence of words or symbols that convey meaning, and the narrative value of a text only becomes apparent when it becomes part of a complex reception process. At the same time, certain connections are made between several texts, they build on, continue or inspire each other (Greguš & Panasenko, 2022). It is in these complex relationships that we find elements of seriality and transtextuality, which are present in several media texts.

Media and communication studies equate transtextuality with the overall transcendence of the media text. It is everything that constitutes a text in relation – whether overt or covert – to other texts, and essentially covers all aspects of a particular media text. Seriality in media production, on the other hand, refers to the continuity of media content (texts) with other content. It is a way of entertaining, thinking and imagining intended for the masses, which takes the form of industrially and mass-produced, constantly offered statements, disseminated by means of mass communication and consumed according to the laws of supply and demand (Plencner, 2005). We can say that seriality is essentially linked to the factor of continuous repetition of certain statements in media production. Thanks to seriality and transtextuality, consumers of media content are able to understand the narrated text more easily, or know what

to expect from it, and are able to decide whether they are interested in the media content or not. The causality between seriality (the most widespread form of narrative based on working with a media text in such a way that it presupposes the creation of further continuations) and transtextuality (anything that brings a media text into an overt or covert relationship with other texts) is obvious for the above reason. Indeed, elements of transtextuality can be found precisely in media contents based on seriality, which are built on referring to other media texts.

The effective use of seriality and transtextuality is characteristic of the work of major film companies (e.g. if a film is successful, producers tend to create various sequels to the original story). Film discourse is characterized by an open structure and offers space for new contexts, references, or interpretations (Dukhovnaya, 2021). This allows for variations in the various means of media presentation and promotion of the audiovisual image, and thanks to current technological advances, artificial intelligence, the Internet and sophisticated marketing strategies, these media contents reach a much wider target group than was the case in the recent past. Film music also plays an important role in this process – it is one of the basic means of media presentation and promotion of the audiovisual work, which in the present study is understood as a kind of media text or media content. We focus primarily on working with the elements of seriality and transtextuality, which we consider precisely in relation to the sound and musical component of the pertraced work.

There are three types of sounds in film production. These are *movements*, *spoken word* and *music*. The definition of movement and spoken word is quite clear from their names – movement is understood as natural or artificial “sound insertions” given by the activity, the environment or created mechanically-acoustically or electronically, and spoken word represents an attempt to capture the author’s idea using rhetoric and the consistent “speech work” of the director, presenter or actor (Bláha, 2006). However, the assessment of music is more problematic when compared to movements and spoken word. In this type of sound, we distinguish between its several forms. For example, *diegetic sound* (intra-screen sound; the source of the sound is located in the scene), *nondiegetic sound* (extra-screen sound; the source of the sound is not in the film/scene and can only be heard by the audience, meaning that the actor/actors of the action cannot pick it up) and *meta-diegetic sound* (internal sound of the characters, which can only be heard by the character and also by the audience; it takes place in the mind of the actor/actors of the action, for example in the form of an internal monologue). The musical component of a film can also be divided in terms of origin, where we can distinguish between film music created directly for the audiovisual work (*original music*) and music taken from another source (*taken music*). Original and taken music can be further subdivided into subcategories according to how its musical components are created and composed. Original music is either *composed* (created in advance for specific film scenes) or *improvised* (the composer follows the film and creates the background music during the creating of the film). Taken music refers to *archival music* (often popular songs that the recipients may have heard in the media before seeing a particular film) or *re-recorded music* (the composer uses music by another composer, adapts it and adapts it to the specific requirements of the film frame). In the case of taken music, it is also appropriate to mention the terms *remake* (a restored version of an original song), *remix* (a combination of an original song with new musical elements and tones) and *sampling* (‘cut note’ from an existing musical composition which is inserted into the background music of another song) (see Bláha, 2006; Farkaš, 2021).

Another trend in media production when working with film music is the use of *music that disoperates* (e.g., positive music accompanying violent scenes) and a recurring *musical pattern*, so-called *leitmotif* (the use of any kind of musical material, such as a distinctive rhythm, usually associated with a particular person, situation, place or concept; this musical pattern provides the target audience with a sense of coherence with the characters and the situations presented) (Kalinak, 2010). Closely related to the issue of leitmotif is working with a *musical*

theme (creating specific melodies, songs or musical ideas in connection with a particular film). Musical themes are mostly present in the opening of a film or in its closing credits, while leitmotifs recur throughout the duration of a film frame whenever a specific character, scene or idea is referred to. On the basis of the categorical apparatus mentioned above, we conclude that any audiovisual work would be impossible to comprehensively grasp sensually without a musical background. For this reason, producers are aware of the importance of music in film and are able to invest considerable resources in this presentational and promotional element.

It is usually to the producers' advantage to apply an existing, preferably commercially successful song to a film, which increases the likelihood of reaching a mass audience (but it also depends on the film genre or other important production and narrative factors). The promotion of a film in relation to film music is also ensured by *music videos* that (in)directly refer to the audiovisual film, or by *music soundtracks* linked to film music released on official media. Producers often also rely on well-known *composers or musical performers* – they benefit from the publicity resulting from the musician's famous name and thus promote the film to a certain extent. Music is also used in *film trailers*, and in these trailers particular emphasis is placed on the sound, musical component of the work (e.g. the presentation of the film through the musical theme contained in the film trailer or teaser trailer).

In audiovisual production, *film genres* are often combined with specific *musical genres* (e.g. comedy films typically blend elements of suspense with humorous situations; in horror films, the work with the sound component of the work is intended to keep the viewer in suspense, dividing the auditory part of the film into dialogue, movements and music, etc.). We are talking about the existence of a correlation between musical genres and film genres (e.g. rock music in an action film). We mention the film (sub)genre called *superhero film*, which becomes the subject of our investigation and the subsequent case study. The trend in contemporary production of films depicting the lives and actions of characters with superhuman abilities is the use of variable musical genres (e.g. rock, hip-hop, or instrumental music) and their placement in the narrative structure of the work. This is evidenced by several high-budget films produced by Marvel Studios and DC Films (e.g., the Deadpool superhero series, which incorporates various musical genres in combination with *non-cooperative music* to enhance the bizarreness of the comedic scenes presented). On the basis of the aforementioned requisites associated with film music and its categorization, we can see that in media production there is a respect for certain rules that film producers try to adhere to when creating this type of media content/text. In particular, we are talking about a thoughtful work with seriality and transtextuality, in order to create in the recipients a sense of certain continuity, familiarity and importance of the meaning of the presented text.

3 Methodological Approach

The present research study focuses on the identification of elements of seriality and transtextuality in selected research material, with an emphasis on work with film music. In order to achieve the stated aim, a qualitative discourse analysis implemented in the form of a case study is employed. The choice of qualitative discursive analysis is deliberate because of the desire to map new trends in contemporary media (film and music) production.

In qualitative discursive analysis, cognition takes place on the basis of a predominantly subjective interpretation of a particular media content/text. Using this qualitative form of content analysis, it is possible to discern the intentions of the media creators, but also the messages that are contained in various media content/texts – revealing socio-cultural meanings, responsiveness to current events and frequently discussed topics, disseminated cultural values, presented lifestyles and attitudes. Qualitative discourse analysis, or otherwise critical discourse analysis, thus enables us to interpret texts in contemporary culture and at the same time allows

us to understand the contexts in which texts are produced and interpreted (compare to Trampota & Vojtěchovská, 2010; Mináriková et al., 2023). Following on from the above, qualitative discourse analysis is considered the most relevant research method when trying to elucidate the elements of seriality and transtextuality that are present in the selected text. We turn our attention to the musical and sonic component of the chosen research material, in our case a film depicting the story of a character with superhuman abilities and superheroic qualities.

The second sequel to the story of a country called Wakanda, which its people (even after the death of Black Panther or King T'Challa, portrayed by the actor Chadwick Boseman) must protect from the attacking world powers, becomes the subject of our examination. The choice of the research material, a film entitled *Black Panther: Wakanda Forever* (Coogler, 2022), is conditioned by the economic successes achieved – to date, the film has grossed more than 855 million US dollars worldwide (The Numbers, b.d.) and the relatively significant audience successes – 6.7/10 rating with 286,000 participating reviewers (The Internet Movie Database, b.d.). The popularity of *Black Panther: Wakanda Forever* was also strongly determined by the film's music, for which it received several nominations and prestigious awards at the Golden Globe and Academy Awards (e.g. the nomination of the title track, *Lift Me Up*, by Barbadian singer Rihanna for *Best Original Song for the Film*). It is through the application of qualitative discursive analysis that we are able to elucidate the presence of transtextual relations and elements of seriality in the film music characteristic of the audiovisual work under consideration. For these purposes, we establish a number of analytical categories (AC), while the sound, or the sound-music component of the work under study, becomes the basic variable:

1. AC: *Sound and music* – identify the source of sound and music (diegetic sound, nondiegetic sound, metadiegetic sound).
2. AC: *Film music origin and musical genre* – specification of the origin of film music (original or original music /composed, improvised/ and taken music /archival, re-recorded/); identification of specific instances of taken music, with emphasis on assessing their seriality (e.g., remake, remix, sampling); description of the musical genres included in the film and evaluation of work with music that does not collaborate.
3. AC: *Musical motif (a recurring musical pattern, called a leitmotif) and musical theme* – the presence of musical motifs and musical themes in the analysed work.
4. AC: *Presentational-promotional aspects and transtextual references (relations) in film music* – evaluation of music videos, trailers and soundtracks related to the film under consideration; the degree of involvement of well-known musical performers in the production of the work in question.

By conducting a qualitative discourse analysis through predetermined analytical categories, we are able to comprehensively evaluate the research material. In order to achieve the main objective of the study, which is to identify the elements of seriality and transtextuality in the selected audiovisual film, with an emphasis on working with film music, and based on the analytical categories, we formulate the following research questions (RQs):

- RQ 1: *Is there a thoughtful work with sound and music components in the selected research material? What source of sound/music is present in the audiovisual frame under study and what is its origin? What musical genres are included in it? Is it possible to identify specific musical themes and musical patterns in the research material?*
- RQ 2: *What are the presentational-promotional elements and transtextual references (relations) of the film music associated with the audiovisual work under analysis?*
- RQ 3: *Is it possible to comprehensively evaluate the work with the elements of seriality and transtextuality in the context of the film music used in the research material?*

4 Results and Discussion

In the action-adventure sci-fi film *Black Panther: Wakanda Forever*, the inhabitants of a fictional world called Wakanda, led by Queen Mother Ramonda (Angela Bassett), must fight together against world powers. The Wakandans struggle to accept the changes in the governance of their nation that have occurred after the unexpected death of King T'Challa, a superhero nicknamed Black Panther (Chadwick Boseman). The film equally depicts the underwater Talokan civilization, referencing the ancient Mayan community. Both kingdoms – Wakanda and Talokan – have long been hidden from the outside world, primarily because of a powerful resource, a mineral called vibranium, which makes its inhabitants nearly immortal (vibranium is also used to make indestructible and renewable machines, among other things). The queen-mother later dies fighting enemies, further deepening the hatred between the two civilisations. The new leader (Black Panther) is the sister of the deceased T'Challa, Princess Shuri (Letitia Wright). In the following case study, we focus exclusively on the analysis of the musical-sound aspect of the audiovisual work described here, starting from predefined analytical categories:

Sound and music (identification of the source of sound and music): A specific feature of the analysed research material is that the opening scene is accompanied by diegetic, *intra-image sound* (the source of sound is in the scene and the characters hear it – the cry of Princess Shuri for her deceased brother), combined with nondiegetic sound (the source of sound is in the scene and the characters do not hear it – the musical accompaniment). Gradually, however, the two sounds merge and begin to resemble the sound of the wind processed into a nondiegetic form, which can be observed again in the last, memorial scene for the dead King T'Challa. As the Marvel production company logo gradually fades from the screen, this nondiegetic sound becomes diegetic (the arrival of the flying ship). The intermingling of diegetic and nondiegetic sounds, which work together, is also noticed in other parts of the analysed work (e.g. the scene where Shuri discovers the land of Talocan is accompanied by a nondiegetic music track accompanied by diegetic sounds characteristic of this undersea world). Due to the classification of the research material as action-adventure science fiction films, it is also important to pay attention to the fight scenes characterised by a combination of multiple sound and music sources. As an example, consider the moment of discovery of the Talocan landscape by two American explorers. The conversation between the crew members is “enriched” by nondiegetic musical tones sounding in the background of the film, suggesting an enemy attack. Also worth mentioning is the depiction of the Talocan civilisation's invasion of the country of Wakanda – this passage of the film is accompanied by diegetic sounds (warning sirens), which continue in a subdued manner until the Wakandan warriors drop a bomb into the water, whereupon the sounds are interrupted and silence ensues. At the same time, in *Black Panther: Wakanda Forever*, we did not observe any work with metadiegetic sound (internal character sound heard only by a given character and the audience), and we assume that the narrative treatment of the scenes and the film itself did not require it.

Origin of film music and musical genre: The analysed research material is characterised musically and sonically by the use of sounds derived from historical musical instruments of indigenous African tribes, which are combined with orchestral music. This is related to the travelling experiences of the composer L. Göransson. These became the inspiration for the film score of *Black Panther: Wakanda Forever*. In the film, we can also hear the drumming called ‘talking drums’ – although the composer was inspired by African rhythms in their creation, this is not in this case *taken music* in its basic sense. In fact, it is not possible to prove a link between the tones contained in the image and the actual compositions of indigenous African tribes. Rather, we define the music used in the film under study as original music, *pre-composed* by musical artists directly for the audiovisual work described. In determining the origin of the film music, we also exclude work with *improvised original music*, in which the composer creates

background music during the filming of the shot without any prior preparation. Despite the dominance of original film music in the analysed work, *re-recorded incidental music* also plays an important, albeit less prominent, role – the composer adapts pre-existing compositions and adapts them to the specific requirements of the film frame. The relationship between the original composition and its updated version is represented by the notorious song from Bob Marley – *No Woman, No Cry*. In the analysed film it was sung by the Nigerian singer Tems and the background music was composed by the composer L. Göransson. Based on the above, it can be reasonably argued that there is an original use of the elements and principles of seriality in the creation of film music. It is worth mentioning the songs made with the help of sampling or remixing. In this context, it is the creation of film music using parts of other songs and combining them into a single whole, or combining an original song with new musical elements and tones. With regard to the work under analysis, sampling and remixing are identifiable primarily in the combination of African ‘talking drums’ and orchestral music. Considering the fact that the music in both Black Panther films was composed by the same composer, the presence of several “musical references” to the pilot episode is more than significant. In the title *Black Panther: Wakanda Forever*, for example, we find a number of reworked original songs, so-called *remakes*. Examples include the song *Welcome Home*, which is a remake of the first Black Panther superhero film, and the song *Who Did You See*, which is associated with the negative hero from the first film. In *Black Panther: Wakanda Forever*, however, the aforementioned songs are adapted to the specific scene (e.g., they are more somber and darker in nature compared to their original versions). Although the bulk of the film music present in the research material is produced by the composer L. Göransson, the exceptions are a few collaborations on the production of specific songs (e.g. the song *Jele*, composed by Gogo, Msolo, Mphela and Stunna, or *Limoncello* by the art group DTB). The variation of songs occurring in the research material refers to the multiple musical genres applied. In particular, we highlight the genre called rap, which is significantly represented in both Black Panther superhero films. An example is the African-American rapper Kendrick Lamar. He has received several nominations and prestigious awards for his film score for the first Black Panther film. To conclude, the soundtrack used in this audiovisual work is almost always in keeping with the corresponding image and complements the emotions taking place in the relevant scene. This means that the use of non-cooperative music occurs only very rarely (e.g. the celebratory dance of the Wakandans accompanied by cheerful music, which nevertheless accompanies the mournful moment of the funeral of the King of Wakanda).

A musical motif (a recurring musical pattern, the so-called leitmotif) and a musical theme: Many of the musical themes and leitmotifs present in the first Black Panther film are more or less modified within our research material (cf. the analytical category of “film music origin and musical genre” described above). In this way, there is a significant transtextual connection between the pilot episode and its sequel. Interestingly, musical cues related to a specific person, situation, place or concept (recurring musical patterns or leitmotifs) and specific melodies, songs or musical ideas related to the film (musical themes) are highly syncretized in the analyzed title of *Black Panther: Wakanda Forever*. This means that strictly distinguishing the musical themes from the corresponding musical motifs is extremely complicated in this case. Although musical themes should generally be identifiable in the opening and/or closing credits, and leitmotifs should recur throughout the duration of the film, this is not the case in the film under examination. As an example, the central musical theme *Wakanda Forever Theme* (composed by L. Göransson) is characterised by the sounds of drums typical of African culture. This theme is also a leitmotif and thus a repetitive musical pattern referring to the character of the Black Panther (we hear the song, for example, at the moment when Princess Shuri first introduces herself as the Black Panther, thus nostalgically reminding the audience of King T’Challa). In addition to the aforementioned composition, the film

analysed contains a number of other musical themes and leitmotifs linked to individual characters, peoples or countries (e.g. the underwater civilisation of Talocan and their king Namora are associated with the song *Namor's Throne*; the country of Wakanda is associated with the song *Welcome Home*; or the song *Yibambe*, announcing the arrival of the warrior Dora Milaj) – all of which are composed by L. Göransson.

Presentational-promotional aspects and transtextual references (relations) in film music: The promotion of the film under consideration in the context of film music is primarily provided by well-known composers or musical performers, while the aim of the creators is to use the publicity resulting from their renown for the purpose of popularising the film. The composer – L. Göransson – has worked with Marvel Studios in the past, for example *Venom* (Fleischer, 2018) or *Black Panther* (Coogler, 2018). He has also prepared music for episodic Disney productions titled *The Mandalorian* (Favreau, 2019) and *The Book of Boba Fett* (Rodriguez et al., 2021), as well as collaborated with several artists on their albums (e.g. rapper Childish Gambino). Two songs by the popular Barbadian singer Rihanna, who performs as a performer/artist, are also important presentation/promotional materials. One of them – *Lift Me Up* – appeared in the final, memorial scene for the late King T'Challa and, in its acoustic version, became part of the official soundtrack of the described film. The music video accompanying this critically acclaimed song of the same name features excerpts directly from the film, further emphasising the transtextual link between the music video (and thus the song itself) and the audiovisual work. The second song, entitled *Born Again*, was used for the media presentation of the analysed image through the aforementioned film soundtrack, but in this case without introducing the song directly into the narrative structure of the work.

Despite the apparent diversity in the use of music and sounds that contributed to a greater or lesser extent to the final version of the title *Black Panther: Wakanda Forever*, we have focused in this case study exclusively on the discursive analysis of the significant musical-sound elements present in the research material. Following the qualitative data obtained, we then provide answers to the research questions and comprehensively evaluate the issue of new trends in media production. We also point out the possibilities of applying the elements of seriality and transtextuality in film (music) production. For the purposes of qualitative discursive analysis, we refer to the official soundtrack of the film, titled *Black Panther: Wakanda Forever – Music from and Inspired By* (Göransson et al., 2022) and to the soundtrack titled *Black Panther: Wakanda Forever – Original Score* (Göransson, 2022).

RQ 1: *Is there a thoughtful handling of the sound and music component in the chosen research material? What source of sound/music is present in the audiovisual frame under study and what is its origin? What musical genres are included in it? Is it possible to identify specific musical themes and musical patterns in the research material?*

Black Panther: Wakanda Forever works with the sound and musical aspects of the work in accordance with the viewer's expectations – the film music contained in the title effectively links the scene to a particular emotion (e.g. a mournful scene is linked to negative tones and vice versa). Numerous diegetic and non-diegetic sounds are used for the purposes at hand, which interact with each other and are often intertwined in the research material. For this reason, we hardly find any music in the analysed work that does not cooperate (the exception is the funeral of King Wakanda, accompanied by a cheerful melody), while so-called metadiegetic sounds (e.g. the characters' inner monologues) are equally absent. The qualitative discursive analysis carried out has confirmed our assumption that a certain causality is evident when considering film music in relation to an audiovisual work. Indeed, in *Black Panther: Wakanda Forever*, several diegetic and non-diegetic soundtracks and musical cues are applied in order to highlight certain moments in the film and to evoke a characteristic emotion in the recipients.

By previewing the source and origin of the sound/music in the research material, we highlight the significant representation of pre-composed original (original) music composed (with a few exceptions – Gogo, P. Priime, DTB and others) by the popular composer L. Göransson. Improvised original music or archival takes are not present in the work, and re-recorded takes are also less represented (as an example, we mention the well-known *No Woman, No Cry* and its subsequent adaptation to the specific requirements of the film). In general, we conclude that it is the orchestral music that becomes the most important musical element of the analysed film. In particular, we are talking about the application of pre-composed sounds derived from historical instruments of indigenous African tribes (so-called “talking drums”) combined with original (indigenous) orchestral compositions. It is also important to mention a number of world-renowned performers (e.g. Rihanna, Baaba Maal, Quintana and others), who have also contributed significantly to the overall success of *Black Panther: Wakanda Forever* (e.g. by winning several nominations and prestigious awards for film music).

Black Panther: Wakanda Forever is a direct sequel to the first Black Panther film (a retake or sequel). The continuity with the title *Black Panther* film is therefore significant. This also applies to the film’s music, which in both cases was composed by the same composer, L. Göransson. The use of parts of other compositions and combining them into a single whole (sampling), the combination of an original song with new musical elements and tones (remix), or the reworking of original songs (remake) are all important in the film under review – for example, the combination of African ‘talking drums’ with orchestral music or the taking of songs from the Black Panther pilot and adapting them to the newly-found storyline. By thoughtfully working with specific principles or elements of seriality, there is thus a significant transtextual connection between the Black Panther superhero pilot and its sequel – whether we are talking about the film music or the analysed films as a whole.

Due to the variability of music and sounds present in *Black Panther: Wakanda Forever*, we do not assess musical themes or musical patterns (so-called leitmotifs) individually, but focus on a comprehensive evaluation of their position in the title. We emphasize that a strict distinction between musical themes and musical patterns is extremely complicated due to their syncretization in the title under discussion (e.g., a musical theme becomes a musical pattern at the same time). However, it is possible to identify a direct link to the first Black Panther film in the research material, precisely by referring to a specific character, nation or country (e.g. music associated with the country of Wakanda, the Talocan civilisation, the character of Killmonger, the warriors of Dora Milaj or the character of Black Panther himself). The central composer of almost all of these compositions – both musical themes and patterns – is once again the composer L. Göransson.

RQ 2: *What are the presentational-promotional elements and transtextual references (relations) of film music associated with the audiovisual work under analysis?*

High-resolution images, which include our research material, use various transmedia narratives to promote themselves. We specify the transmedia narrative as the cultural “spillover” of a media text, which speaks to the extent to which media texts contribute in the form of their production and distribution to the sphere of popular culture. It is essentially the interconnection of the media text with other areas of the media or entertainment industry.

A film about a country called Wakanda is characterised by the collaboration of the composer L. Göransson with other musical artists, and this collaboration is seen as an effective way of presenting the audiovisual work. The publicity associated with popular figures in the music industry, as well as the presence of numerous transtextual references to the previous work of the film’s composer, L. Göransson (collaboration with the production company Marvel Studios on several major audiovisual projects), predicts – but does not guarantee – the success

of a particular film. The creators of *Black Panther: Wakanda Forever* collaborated with the singer Rihanna, in addition to several renowned musicians (e.g. Gogo, P. Priime, DTB, Baaba Maal, Quintana). Her song, *Lift Me Up*, fulfilled the promotional potential of the analyzed film with an Academy Awards nomination for Best Original Song for the Film. This song, in its acoustic version, became part of the official soundtrack of the described film. The music video with the eponymous title also refers directly to the film in its content, which underlines the presence of a transtextual relationship between the film and the music video, or the song *Lift Me Up*. It is important to add that the aforementioned music video is the only presentation-promotional material of this type officially associated with *Black Panther: Wakanda Forever*.

In order to comprehensively summarize all the presentation and promotional elements and materials related to the film music contained in *Black Panther: Wakanda Forever*, we present the overview tables published below. These are lists of songs found on the albums (official soundtracks) for the film under analysis:

Table 1: Black Panther: Wakanda Forever Prologue (tracking list)

No.	Title	Artist(s)/Performer(s)	Producer(s)/Composer(s)
1.	<i>No Woman, No Cry</i>	Tems	Ludwig Göransson
2.	<i>A Body, A Coffin</i>	Amaarae	Ludwig Göransson, Steed, Kwei-Armah Jr., Ayodeji “Cracker Mallo” Olowu
3.	<i>Soy</i>	Santa Fe Klan	Ludwig Göransson

Source: own processing, 2023; According to Göransson et al. (2022).

Table 2: Black Panther: Wakanda Forever – Music from and Inspired By (tracking list)

No.	Title	Artist(s)/Performer(s)	Producer(s)/Composer(s)
1.	<i>Lift Me Up</i>	Rihanna	Ludwig Göransson
2.	<i>Love & Loyalty (Believe)</i>	Busiswa, DBN Gogo, Sino Msolo, Kamo Mphela, Young Stunna	Gogo, EltonK
3.	<i>Alone</i>	Burna Boy	P. Priime, Ludwig Göransson
4.	<i>No Woman, No Cry</i>	Tems	Ludwig Göransson
5.	<i>Árboles bajo el mar</i>	Mare Advertencia Lirika, Vivir Quintana	Ludwig Göransson
6.	<i>Con la brisa</i>	Foudeqush, Ludwig Göransson	Ludwig Göransson
7.	<i>La vida</i>	Snow Tha Product, E-40	Ludwig Göransson
8.	<i>Interlude</i>	Stormzy	Ludwig Göransson
9.	<i>Coming Back for You</i>	Fireboy DML	P. Priime, Ludwig Göransson
10.	<i>They Want It, But No</i>	Tobe Nwigwe, Fat Nwigwe	Ludwig Göransson, Ngawang Samphel
11.	<i>Laayli' kuxa'ano'one</i>	ADN Maya Colectivo, Pat Boy, Yaalen K'uj, All Mayan Winik	Ludwig Göransson
12.	<i>Limoncello</i>	OG DayV, Future	DTB
13.	<i>Anyan mmiri</i>	CKay, PinkPantheress	P. Priime, Ludwig Göransson
14.	<i>Wake Up</i>	Bloody Civilian, Rema	Civilian, Ludwig Göransson
15.	<i>Pantera</i>	Alemán, Rema	Ludwig Göransson
16.	<i>Jele</i>	Busiswa, Gogo, Msolo, Mphela, Stunna	Gogo, Unlimited Soul
17.	<i>Inframundo</i>	Blue Rojo	Ludwig Göransson
18.	<i>No digas mi nombre</i>	Calle x vida, Foudeqush	Ludwig Göransson
19.	<i>Mi pueblo</i>	Guadalupe de Jesús Chan Poot	Ludwig Göransson
20.	<i>Born Again</i>	Rihanna	Ludwig Göransson, The-Dream

Source: own processing, 2023; According to Göransson et al. (2022).

Table 3: Black Panther: Wakanda Forever – Original Score (tracking list)

No.	Title	Artist(s)/Performer(s)	Producer(s)/Composer(s)
1.	<i>Nyana Wam</i>	Baaba Maal, Massamba Diop	Ludwig Göransson
2.	<i>We Know What You Wisper</i>	Busiswa	Ludwig Göransson
3.	<i>Sirens</i>	Vivir Quintana, Mare Advertencia, Lirika	Ludwig Göransson
4.	<i>Welcome Home</i>	Maal	Ludwig Göransson
5.	<i>Lift Me Up (Score version)</i>	Joselyn Coogler	Ludwig Göransson
6.	<i>He Wasn't There</i>	Jorja Smith	Ludwig Göransson
7.	<i>Namor</i>	-	Ludwig Göransson
8.	<i>They Want It, But No (Film version)</i>	Tobe Nwigwe, fat Nwigwe	Ludwig Göransson
9.	<i>Árboles Bajo El Mar (Film version)</i>	Quintana, Lirika	Ludwig Göransson
10.	<i>Lost to the Depths</i>	-	Ludwig Göransson
11.	<i>Con La Barista (Film version)</i>	Foudequush, Ludwig Göransson	Ludwig Göransson
12.	<i>Yucatán</i>	-	Ludwig Göransson
13.	<i>Let Us Burn It Together</i>	-	Ludwig Göransson
14.	<i>This Will Mean War</i>	Magatte Sow	Ludwig Göransson
15.	<i>Namor's Throne</i>	-	Ludwig Göransson
16.	<i>Imperius Rex</i>	-	Ludwig Göransson
17.	<i>Mama</i>	-	Ludwig Göransson
18.	<i>Who Did You See</i>	-	Ludwig Göransson
19.	<i>Wakanda Forever</i>	-	Ludwig Göransson
20.	<i>Blood for Blood</i>	-	Ludwig Göransson
21.	<i>Yibambe</i>	-	Ludwig Göransson
22.	<i>Sink the Ship</i>	-	Ludwig Göransson
23.	<i>It Could Have Been Different</i>	-	Ludwig Göransson
24.	<i>Vengeance Has Consumed Us</i>	-	Ludwig Göransson
25.	<i>Alliance</i>	-	Ludwig Göransson
26.	<i>T'Challa</i>	-	Ludwig Göransson

Source: own processing, 2023; According to Göransson et al. (2022).

5 Conclusion

The issue of transtextuality and seriality in film music is a debated topic, especially when it comes to the reflection of new trends in media production. In this context, we perceive every media product or content as a text with a certain narrative value. We also consider the musical and sound component of an audiovisual work to be such a media text, which significantly completes the atmosphere and the very narrative structure of the film. This gives rise to a certain debate about the ways of working with the musical and sound aspect of the audiovisual work, or about the possibilities of applying film music for the purpose of promoting a particular work. In this context, we stress the particular popularity of feature-length superhero films – indeed, the film music of titles of this format (along with other production and narrative aspects) is often appreciated by both the professional and lay public alike. Based on the above, we have chosen the film *Black Panther: Wakanda Forever* as a suitable research material. In order to map the elements of seriality and transtextuality associated with the musical and sonic aspects of this research material, we conducted a case study. By summarizing the qualitative information gained through the identified analytical categories, we have answered the first two research questions, and in this part of the study we have the opportunity to relevantly answer the last, summarizing research question (RQ 3), which is: *Is it possible to comprehensively evaluate the work with the elements of seriality and transtextuality in the context of the film music used in the research material?*

The results of the qualitative discursive analysis pointed not only to the variability of the sources of sound and music, musical themes, patterns or genres present in the audiovisual title under study, but also to the numerous presentational-promotional elements and transtextual relations between the film and its musical-sound component. In the title *Black Panther: Wakanda Forever*, specific elements of seriality reflected in the context of film music were applied. Indeed, the plot continuity of the second Black Panther film, which is perceived as a direct continuation (sequel and retake) of the first superhero film, also influenced the work with sound and music. L. Göransson was the central composer of both films and the film's music was thus characterised by a single authorial handwriting. Although we defined the music used in the film under study as original, pre-composed music, we did not rule out working with re-recorded, taken music. In the case of taken tracks, we mentioned sampling, remix and remake, whose presence in the film underlined the creativity in working with seriality, in connection with the musical-sound component of the work (e.g. linking “talking drums” with orchestral music or reworking existing tracks and then adapting them to the new story).

The referencing of a media text to another text in the sense of a transtextual linking of two or more media contents to each other was evident, among other things, in the song *Lift Me Up* (e.g. the music video contained plot sequences directly from the film; this song developed the narrative structure of *Black Panther: Wakanda Forever* with its lyrics, it was a kind of a remembrance of the deceased king and at the same time it was the main musical theme of the analysed research material). In this context, we should also mention the use of the names of famous musicians to promote the film, as well as the creation of numerous presentation and promotional materials linked to the music and sound component of the work, which to a certain extent determined the economic success of the title (such as the official film soundtracks, music videos etc.).

The definitions of seriality and transtextuality helped us to understand the relationship between music and film. By clarifying their presence in the research material, we concluded that the film music contained in the title of *Black Panther: Wakanda Forever* effectively linked scenes to specific emotions in the consonance of numerous diegetic and nondiegetic soundtracks and musical cues. At the same time, non-cooperative music was almost entirely absent in the work under study, and we did not observe the use of metadiegetic sounds in the research material either. A comprehensive assessment of the work with the elements of seriality and transtextuality in the context of the film music used confirmed the assumption set out in the introduction of the study “we assume that there is some causality in the assessment of film music in relation to the audiovisual work, especially in terms of the use of seriality and transtextuality”. With the above methodological procedure (qualitative discursive analysis) we have also fulfilled the main aim of the study – to identify the elements of seriality and transtextuality in the selected research material, with an emphasis on the work with film music.

Acknowledgement: This study was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-21-0115, titled ‘Hypermodern Media Culture – Film and Television Production as Mirror of Sociocultural Phenomena of the 21st Century’.

Bibliography

- Bláha, I. (2006). *Zvuková dramaturgie audiovizuálneho diela* [Sound dramaturgy of an audiovisual work]. Academy of Performing Arts in Prague.
- Coogler, R. (Director). (2018). *Black Panther* [Film]. Marvel Studios.
- Coogler, R. (Director). (2022). *Black Panther: Wakanda forever* [Film]. Marvel Studios.

- Dukhovnaya, T. V. (2021). Transtextual study of cinematic discourse. *Интермедийность Художественного Текста [Intermediality of literary text]*, 81(42), 93-99. <https://doi.org/10.20339/PhS.4-21.093>
- Farkaš, T. (2021). *Predtým, ako nahráte svoj prvý zvuk [Before you record your first sound]*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Favreau, J. et al. (Producers). (2021, December 29). *The book of Boba Fett* [TV series]. Disney+.
- Favreau, J. et al. (Producers). (2019, November 12). *The Mandalorian* [TV series]. Disney+.
- Fleischer, R. (Director). (2018). *Venom* [Film]. Marvel Entertainment; Columbia Pictures.
- Göransson, L. (2022). *Black Panther: Wakanda forever original score* [Album]. Marvel Music; Hollywood Records.
- Göransson, L. et al. (2022). *Black Panther: Wakanda forever prologue* [Album]. Marvel Music; Hollywood Records.
- Göransson, L. et al. (2022). *Black Panther: Wakanda forever – music from and inspired by* [Album]. Marvel Music; Hollywood Records.
- Greguš, L., & Panasenka, N. (2022). *Media text in the mirror of linguistics*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- The Internet movie database. (n.d.). *Black Panther: Wakanda forever*. <https://www.imdb.com/title/tt9114286/>
- Kalinak, K. (2010). *Film music a very short introduction*. Ashford Colour Press.
- Mináriková, J., Radošinská, J., & Višňovský, J. (2023). *Východiská výskumu v mediálnych a komunikačných štúdiách [Background of research in media and communication studies]*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- The Numbers. (n.d.). *Black Panther: Wakanda forever (2022)*. [https://www.the-numbers.com/movie/Black-Panther-Wakanda-Forever-\(2022\)](https://www.the-numbers.com/movie/Black-Panther-Wakanda-Forever-(2022))
- Plencner, A. (2005). Masová kultúra a pop-kultúra ako systémy kultúry [Mass culture and pop-culture as systems of culture]. In V. Gažová, & Z. Slušná (Eds.), *Acta Culturologica. Kultúra a rôznorodosť kultúrneho [Acta Culturologica. Culture and cultural diversity]* (pp. 186-210). Comenius University.
- Radošinská, J. (2016). *Mediálna zábava v 21. storočí: Sociálno-kultúrne aspekty a trendy [Media entertainment in the 21st century: Socio-cultural aspects and trends]*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Radošinská, J., Kvetanová, Z., & Rusňáková, L. (2020). *Globalizovaný filmový priemysel [Globalized film industry]*. Wolters Kluwer.
- Trampota, T., & Vojtěchovská, M. (2010). *Metody výzkumu médií [Media research methods]*. Portál.

Contact Data:

Mgr. Zuzana Kvetanová, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 zuzana.kvetanova@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0001-5975-1691>

Mgr. Lenka Rusňáková, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
lenka.rusnakova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0003-1576-5770>

THE ORIGINS OF FORMAL DISTRIBUTION OF LOCAL DIGITAL GAMES IN THE 1990s IN SLOVAKIA

Adam Kysler – Andrej Trnka – Juraj Kovalčík

DOI: <https://doi.org/10.34135/mmidentity-2023-29>

Abstract:

In the 1990s, two digital-game distribution companies were established in Slovakia. These companies started to distribute local game titles formally. Although digital games were created and distributed in Czechoslovakia before 1989, they were distributed informally at that time, mainly through computer clubs. Copyright Act No. 35/1965 did not protect computer programs until 1990. With the advent of the market economy and the amendment of copyright Act No. 89/1990, some informal distributors in Czechoslovakia switched to legal and official distribution of digital games. However, even after the amendment, some did not stop their illegal business of selling pirated copies of games. Slovak gaming magazines attempted to protect the authors of Slovak games and started to sell their games officially. After the opening of the borders, games by mostly amateur Slovak creators could hardly compete on the local market, where foreign titles started to arrive in larger quantities and none of them managed to reach the foreign market until the second half of the 1990s.

Key words: Copyright Protection. Digital Games. Distribution. Gaming Magazines. Publishing. Slovak Gaming Market. Velvet Revolution.

1 Introduction

The aim of this paper is to characterise the first game publishing and distribution companies in Slovakia. Through a content analysis of contemporary gaming magazines, from 1990 to 1996 we analyse the first attempts to legally distribute local and international digital games. We also name individual Slovak game titles that were published and distributed with the help of local companies or magazines.

First we will discuss the basic characteristics of terms such as distribution and publishing of digital games and also explain the legislative changes pertaining to games in Czechoslovakia and (after 1993) in Slovakia. The copyright act of 1965 (*Zákon č. 35/1965 Zb. o literárnych, vedeckých a umeleckých dielach (autorský zákon)* [Act No. 35/1965 Coll. on literary, scientific and artistic works (Copyright Act)], 1965), which was in force until 1990, did not regulate and did not mention computer programs, which during the 1980s had been created and distributed unofficially on the illegal market or in computer clubs and the like. Digital games were not important to the socialist regime, which guaranteed them relative freedom in terms of content, but also in terms of distribution (Švelch, 2013).

Legislative changes in the area of copyright law had a major impact on the transformation of the market for local digital games, which until then had only been distributed informally. These first attempts at official and legal distribution determined the future direction of the local game market. However, the open market also brought foreign competition that exceeded the quantity but also the quality of game titles produced in Czechoslovakia. It was thus difficult for local game titles and their publishers to compete in the common market.

2 Distribution and Publishing

We consider it important to explain and describe the activities of distribution and publishing, as they are often intertwined in practice and their role and status have changed over time. They form an important part of the games industry that cannot be easily separated

from the activities responsible for the existence and success of the game. Particularly for indie game titles, the absence of one of these parts is problematic for its later success.

The games business is organised around four core activities. Development entails the design of a piece of game software; publishing involves the financing, manufacture, and promotion of a game; licensing enters the mix if a game integrates intellectual property owned by an external corporation; and distribution refers to the shipping of game hardware and software to retail stores. A single company can perform just one or a combination of these four activities. (Dyer-Witford & Peuter, 2007, p. 39)

A digital game reaches players through distribution, which is now usually provided by online platforms such as Steam, Epic Games Store, GOG, and others. Publishing and distributing a game digitally is relatively easy today, and even smaller teams or solo developers can market their games on these platforms. In the 1980s and 1990s, games were distributed mostly physically. Such distribution is still happening today, but the ratio has been declining rapidly in recent years. According to statistics provided by statista.com, in 2009, 80% of games were distributed through physical media and only 20% were distributed digitally. However, nine years later, in 2018, this dynamic has completely shifted, with 83% of games being sold digitally and only 17% in physical form (Clement, 2022).

In the 1990s, the most typical method of digital game distribution globally was through physical copies. These are more complex and costly to produce and distribute. Physical media such as a CD or cartridge had to be manufactured and their copies were packaged with instructions in a box or sleeve. Such copies were sold in specialty stores or through mail orders and later also in online stores (Toivonen & Sotamaa, 2010).

Publishing includes activities such as funding game development, production and marketing of the game itself. Nowadays, publishers, in addition to these activities, can help the team with playtesting, finding manpower, and providing other resources needed to complete and release the game (Mendez, 2017).

For most of the 1990s, there were only two small publishing companies in Slovakia that released multiple game titles and also published game magazines that promoted and distributed games. These companies are analysed in section 4.

3 Legislative Regulation of Copyright Law

The absence of a market for digital games prior to 1989 has caused unauthorised copying and distribution of computer programs and digital games. These were not protected by any law during this period.

Act No. 35/1965 on literary, scientific and artistic works of 25 March 1965 refers to literary, scientific and artistic works which are the result of the creative activity of the author, in particular verbal, theatrical, musical, visual works, including works of architectural art and works of applied art, cinematographic, photographic and cartographic works, as the subject matter of copyright (*Zákon č. 35/1965 Zb. o literárnych, vedeckých a umeleckých dielach (autorský zákon)* [Act No. 35/1965 Coll. on literary, scientific and artistic works (Copyright Act)], 1965).

This Act was amended just after the Velvet Revolution in March 1990. New political organisation and economical system began to take copyright and authorship seriously. Among other things the sentence was added: computer programs shall also be deemed to be the subject matter of protection insofar as they meet the conceptual characteristics of works under this Act. Act No. 89/1990 was in force from June 1990 until December 1997. The distribution of unofficial copies of domestic and foreign digital games has been illegal in our territory since 1 June 1990 (*Zákon č. 89/1990 Zb. o literárnych, vedeckých a umeleckých dielach*

(*autorský zákon*) [Act No. 89/1990 Coll. on literary, scientific and artistic works (*Copyright Act*)], 1990).

4 Local Game Distribution before the Velvet Revolution

In Czechoslovakia, before 1989, there was only a limited accessibility of digital technologies. Computers and other computing equipment were hard to come by, and so were digital games. Computer owners therefore often met in specialised computer clubs, organised by groups of computer enthusiasts or most often by Svazarm. The Union for Cooperation with the Army (Svazarm or the less used Slovak abbreviation Zvázarm) was a social organisation which, before 1989, was intended to prepare young people for the defence of their homeland.

Through these clubs, computer enthusiasts were able to get their hands on computers that were not so easily available in shops. Microcomputers were more popular here than games consoles, which were not sold in Czechoslovakia. The popularity of computer gaming has persisted in this region since the 1980s. In the 1980s, computer users had more new software available from abroad, as the non-rewritable cartridges for video game consoles were very difficult to copy. Also do-it-yourself hardware add-ons and repairs were more complicated to do on consoles and there was no domestic retail infrastructure for them (Švelch, 2013).

This also indicates a problem with game software, which at the time was virtually impossible to obtain through official channels in the stores. It was the computer clubs that were used for communication and exchange not only of knowledge, but also for copying software. Buček says that from the moment when the first uncontrolled exchange took place, we can speak of a basic form of market. These clubs thus fulfilled a number of socialisation and distribution tasks (Buček, 2016).

One of the creators of several digital games in the 1980s was František Fuka, who was also part of a computer club organised by Svazarm, where he met several people interested in computers and computer games. Within the computer clubs, members copied or even mailed games to each other. However, they were also expected to contribute if they had the opportunity. Fuka recalls how he distributed his games through Andrej Anastasov, who was earning extra money by selling stolen pirated copies of computer games. Fuka therefore gave anyone interested in his games the contact details of Anastasov in order to buy games from him. No one at the time addressed the legality of such copies (Altair Blog, 2013).

There were no other ways of getting the software at that time. As Švelch says: “There were no commercial publishers because private enterprise was effectively illegal, and state institutions did not publish software either” (Švelch, 2021, p. 242).

Svazarm activities often circumvented state ideology. The Czechoslovak authorities seemed to be unaware of and uninterested in what was going on in the clubs. Due to the fact that the authorities hardly understood the activities of these clubs, their members had relative autonomy and freedom. Švelch adds that it is paradoxical that it was people from the paramilitary organisation who openly distributed pirated copies of British or American software (Švelch, 2018).

Thus, there was no official games market in Czechoslovakia, which had a great influence on the formation of the games industry and gaming culture in our country. Young people in computer clubs and also at home, were trying to learn programming, so they could make games for their computers. This meant there were games created by local creators such as Fuka. Švelch (2013) describes Czechoslovak domestic production of games as one of the most productive in the region.

5 Publishing and Distribution after the Velvet Revolution

With the opening of borders, the spread of 16-bit computers and remote data communication services, the proportion of illegal copies of games and other software increased even more in the early 1990s. Original games were hard to get because dedicated stores were established slowly at the beginning and especially foreign titles were prohibitively expensive compared to the purchasing power of the population (Buček, 2016). The first record of a physical store selling digital games we were able to identify is from magazine Bit in October 1992. The ComputerLand store was founded by the Ultrasoft company in Bratislava, specialising in selling personal computers, digital games and accessories (Anonymous, 1992).

On the other hand, pirated versions were still (and even more) accessible. Ubiquitous ads in advertising newspapers and newfounded gaming magazines promoted lists of pirated games from which interested parties could choose (Švelch, 2012). The games continued to circulate freely after 1989 by copying them on tapes. As late as 1993, a mail-order club of Spectrum and Didaktik computer owners called POST SPECTRUM CLUB 1993 was still in operation. Members of this club were supposed to receive cartridges with illegal software for a fee. The December 1993 issue of Bit magazine reports on complaints about this club. The promised shipments were received irregularly and not in the quantities and on the dates promised by the club organiser (Slávik, 1993a).

With the advent of the Copyright Amendment Act in 1990, Fifo magazine in its issue No. 5 of November 1990 drew attention to a number of advertisements offering (probably) illegally reproduced software. This was not only foreign-produced software but also domestic programs. Fifo magazine planned to protect software offered by authors to this very magazine. The magazine even offered a reward for anyone who would report pirated versions of its copyrighted programs. However, the situation with pirate tapes was not so simple. Since there was no legal distribution until then, a large number of tapes that players owned were pirated. The editor-in-chief admits this himself: The amendment has brought confusion to our ranks, because there is not a single Fifo reader among us who does not have an illegally copied programme at home (Paučo, 1990a).

This issue advertised a cassette with four games by the Slovak designer Peter Machala, licensed and sold with his permission. It cost 79 Czechoslovak crowns (CZK) which was several times more than the sums for pirated games cited by the editor (between two to ten crowns per game) (Anonymous, 1990). The cassette included *Something Happened 1*, text adventure in the style of locally renowned *Podraz 3* made in 1986 by František Fuka, *May Day*, also a text adventure inspired by the 1979 thriller novel *Mayday* by the American author Thomas Block, an egg-catching game *No počkaj!* and *Logical Game*, based on the board game *Mastermind*. Although the main intention of the magazine was not distribution, according to Buček, it is likely that these are the first games legally distributed in Slovakia (Buček, 2016).

In February 1991, Fifo added into its portfolio games by the designer collective Sybilasoft (*Šatochin*, *Super Discus*, *Fuksoft*, *Tria* and *Sherlock Holmes* for 102 CZK in total) with exclusive distribution rights until the end of 1991. The magazine warned other sellers of these titles, clubs and individuals, to discard them from their offer (Anonymous, 1991). Notwithstanding cautioning against the legal ramifications of unauthorised replication and commercial distribution of software, the editor-in-chief J. Paučo also stated that the publication would persist to print advertisements for software whose sellers conspicuously lack licensing credentials (Paučo, 1990b).

The first distribution company that systematically published and sold computer games in Slovakia was Ultrasoft, founded by Ľudovít Wittek in 1990, which published Bit magazine between 1991 and 1994. The company started to distribute local titles like *Bukapao*, *Chrobák*

Truhlík, *Logic*, *Double Dash* and more since the beginning of the magazine in 1991. This offer persisted until the last issue in 1994 and was gradually supplemented with new local titles such as *Sherwood*, *Kliatba noci*, *Towdie* or *Quadrax* for ZX Spectrum (Anonymous, 1994a). In the issue from February 1993 Ultrasoft also announced a comprehensive offer of original international game programs from companies such as Ocean Entertainment, Domark and Gremlin (Slávik, 1993b). Buček adds that with the start of this cooperation it is possible for the first time to talk about official, legal and systematic distribution of foreign games in our country (Buček, 2016).

Many of the games offered by Ultrasoft, or by Fifo magazine in the early 1990s were created before 1990. For example, digital games such as *Bukapao* or *Chrobák Truhlík* are also referred to in a review in Bit magazine (12/1994) as the first attempts at home adventure complete with static colour graphics (Wittek, 1994).

For the authors, the possibility to promote and formally distribute digital games meant a potential income from their work, which they had previously done only for fun and their own pleasure. The prospect of financial gain acted as a motivation for designers to create more complex and extensive digital games, while still following the amateur tradition as described by Švelch (2018). Games for 8-bit computers experienced the best time on our market at the start of the 1990s, when the British as well as global 8-bit scene was already on the decline. The technological lagging behind the West created a parallel market where 8-bit hardware and dedicated games could thrive for a few more years (Švelch, 2021).

By 1995, it was drying up. Ultrasoft announced to its readers through the magazine Excalibur (03/1995) that it was discontinuing Bit magazine. As the editor-in-chief Wittek writes: The composition of its readership gradually changed from owners of 8-bit computers to owners of 16- and 32-bit machines, mainly PCs and Amigas (Wittek, 1995). In 1995 Ultrasoft also released its last known digital game, *Twilight: Krajina Tieňov* for ZX Spectrum and Didaktik computers.

Before the demise of Bit magazine, Riki magazine was founded in 1994 by publisher Richard Pintér. The magazine's, first ever, June 1994 issue featured a CD-ROM games *Inca*, *Kings Quest 6*, *Legend of Kyrandia*, *Gunship 2000*, *F15 Strike Eagle 3* and *Dune* for 1 750 Slovak crowns (SK), which readers could order via the so-called RIKISHOP (Anonymous, 1994b). Later, Richard Pintér started publishing and distributing Slovak game titles, promoting them through Riki, similarly to Ultrasoft's practice with Bit. Probably the first Slovak-produced game published by Riki Computer Games in 1995 was *Anatema*. However, Riki Computer Games also distributed Czech games and a Polish game *Agent Mličňák*, which was probably the first foreign game localised into Czech (Orosz, 2013).

This publisher distributed games for newer 16- and 32-bit platforms such as the PC and Amiga. Officially the first Slovak game for Amiga 500 was *Shadow of the Devil* which was published and distributed by Riki Computer Games in 1996.

In 1996, Riki Computer Games published *Mutation of J.B.*, the first Slovak digital game, which was distributed in Western Europe, namely in Austria, Germany. It was also the first voice-acted Slovak game. In addition to publishing, producing and distributing the CDs and their packaging, Riki Computer Games also cooperated with the Austrian game studio NEO Software that helped to finish the game (Kysler, 2023).

Riki Computer Games has released five known local digital games in its short history. They operated on the market as a digital games publisher and distributor from 1995 to 1998, when they transformed into a developers studio Mayhem Studios, which then developed a first game *Stratený ostrov* in 2000. Between 1995 and 1998, they also distributed Czech games, such as *Ramonovo kouzlo*, *Dračí historie*, *7 dní a 7 nocí*, in Slovakia for Vochozka Trading, Czech game distributor (Riki Computer Games, n.d.).

At least in the case of *Mutation of J.B.*, Riki Computer Games meets the criteria we described in the theoretical section. As a publisher, it has provided several activities necessary for the completion and release of the game, such as agreement on cooperation with Austrian game development studio Neo Software Produktions and provided dubbing of the game. Also, Riki Computer Games negotiated international distribution of the game (Kysler, 2023).

Currently, there is only one company in Slovakia dedicated to publishing digital games. Grindstone, founded by Peter Nagy, has been operating since 2017 and has already released more than 20 game titles from local creators (Grindstone, n.d.).

6 Conclusion

The aim of the paper was to characterise the first game publishing and distribution companies officially dedicated to domestic game development. Using contemporary gaming magazines associated with these companies, we analysed the first official attempts to legally distribute local digital games. We also named individual Slovak game titles that were published and distributed by the local companies and magazines.

In the theoretical part we focused on the basic characteristics and definitions of terms such as distribution and publishing, while we also explained the legislative changes. The Copyright Act of 1965, which was in force until 1990, did not regulate or mention computer programs, which had been created and distributed unofficially since early 1980s through copying in computer clubs and the like. Legislative changes to the copyright law had a major impact on the transformation of the local digital games market. The first efforts towards official and legal distribution subsequently influenced the further development of the local game market. Previously, these games were only distributed informally and/or illegally. After the change of the copyright law and the opening of the market, some Slovak game companies and magazines started to publish and/or distribute local game titles officially. Namely it was magazine *Fifo*, promoting and distributing local digital games on tapes until the last issue of the magazine in 1994. First companies that focused on publishing and distribution of local games were Ultrasoft and Riki Computer Games. Ultrasoft distributed more than 20 games by slovak authors, but some of them were small 8-bit games created a few years before. Riki Computer Games distributed 5 known game titles by slovak authors. They also published gaming magazines *Bit* (published by Ultrasoft from 1991 to 1994) and *Riki* (published by Richard Pintér from 1994 to 1999). The magazines served as promotional media for Ultrasoft and Riki portfolio through ads and reviews.

Our future research is focused on the local history of digital games, some of which we have described in this paper. We will also focus on the details of the production and distribution of these titles to better understand the Slovak video game industry and its roots. Our goal is to create a systematic database of informations about the local industry.

Acknowledgement: This research is a partial outcome of the research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0489/23, titled 'Innovative Model of Monetization of Digital Games in the Sphere of Creative Industries'.

Bibliography

Altair Blog. (2013, April 12). *30 let osobních počítačů v Československu (3/4): Počítače Sinclair a počátky počítačových her [30 years of personal computers in Czechoslovakia (3/4): the Sinclair computers and the beginnings of computer games]* [Video]. YouTube. https://www.youtube.com/watch?v=YiU4k_TpmUo

- Anonymous. (1990, November 30). Programová ponuka [The programme offer]. *Fifo*, p. 19.
- Anonymous. (1991, February 5). Ponuka programov [Offer of programmes]. *Fifo*, p. 25.
- Anonymous. (1992, October 1). Reklama: Ultrasoft, Sinclair – Didaktik, DataLog 2 [Advertise: Ultrasoft, Sinclair – Didaktik, DataLog 2]. *Bit*, p. 2.
- Anonymous. (1994a, December 1). ZX Spectrum – Didaktik. *Bit*, p. 45.
- Anonymous. (1994b, July 1). RIKISHOP. *Riki*, p. 31.
- Buček, S. (2016). Prvé herné komerčné subjekty na Slovensku [The first commercial gaming entities in Slovakia]. In V. Jurišová, M. Klementis, & J. Radošinská (Eds.), *Marketing Identity 2016 – Značky, ktoré milujeme* [Marketing Identity 2016 – Brands we love] (pp. 194-208). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Clement, J. (2022, May 17). *Distribution of computer and video game sales in the United States from 2009 to 2018, by delivery format*. <https://www.statista.com/statistics/190225/digital-and-physical-game-sales-in-the-us-since-2009/>
- Dyer-Witheford, N., & de Peuter, G. (2009). *Games of empire: Global capitalism and video games*. University of Minnesota Press.
- Grindstone. (n.d.). *About us*. <https://www.grindstone.sk/about-us/>
- Kysler, A. (2023). *Medzi amaterizmom a veľkým biznisom. Herný vývoj na Slovensku v 90. rokoch 20. storočia* [Between amateurism and big business. Gaming development in Slovakia in the 1990s] [Master thesis]. University of Ss. Cyril and Methodius in Trnava.
- Mendez, J. (2017, July 27). *Are distributors the new publishers?* <https://www.gamedeveloper.com/business/are-distributors-the-new-publishers->
- Orosz, L. (2013, December 20). Story of Riki: Rozhovor s Richardom Pintérom [Story of Riki: Interview with Richard Pintér]. *Bublina*, p. 6.
- Paučo, J. (1990a, November 30). SOFT&HARD. *Fifo*, p. 2.
- Paučo, J. (1990b, December 15). Z redakcie [From the editorial office]. *Fifo*, pp. 1-2.
- Riki Computer Games. (n.d.). *Popis studia* [Studio description]. <https://visiongame.cz/studio/riki-computer-games/>
- Slávik, I. (1993a, December 1). Zo softwarových kuchýň [From software kitchens]. *Bit*, p. 5.
- Slávik, I. (1993b, February 1). Zo softwarových kuchýň [From software kitchens]. *Bit*, p. 5.
- Švelch, J. (2012). Všetchny hry, po ktorých toužíte: Neformální systémy distribuce počítačových her v Československu v 80. a 90. letech 20. století [All the games you want: Informal computer game distribution systems in Czechoslovakia in the 1980s and 1990s]. In B. Suwara, & Z. Husárová (Eds.), *V sieti strednej Európy: nielen o elektronickej literatúre* [In the network of Central Europe: Not only about electronic literature] (pp. 143-156). SAP and Institute of World Literature of the Slovak Academy of Sciences.
- Švelch, J. (2013). *Osmibitové “poblouznění”*: Počátky kultury počítačových her v Československu [Eight-bit “infatuation”]: The beginnings of computer game culture in Czechoslovakia] [Master thesis]. Charles University in Prague.
- Švelch, J. (2018). *Gaming the iron curtain*. The MIT Press.
- Švelch, J. (2021). Promises of the periphery: Producing games in the communist and transformation-era Czechoslovakia. In O. Sotamaa, & J. Švelch (Eds.), *Game production studies* (pp. 237-256). Amsterdam University Press. https://doi.org/10.5117/9789463725439_ch12
- Toivonen, S., & Sotamaa, O. (2010). Digital distribution of games: The players’ perspective. In B. Kapralos, A. Hogue, & S. Xu (Eds.), *Futureplay’10: Proceedings of the international academic conference on the future of game design and technology* (pp.

199-206). Association for Computer Machinery.
<https://doi.org/10.1145/1920778.1920806>

Wittek, Ľ. (1994, December 1). Bleskové recenzie [Flash reviews]. *Bit*, p. 19.

Wittek, Ľ. (1995, March 1). Otvorený dopis šéfredaktora časopisu Bit svojim čitateľom [An open letter from the editor-in-chief of Bit magazine to his readers]. *Excalibur*, p. 36.

Zákon č. 35/1965 Zb. o literárnych, vedeckých a umeleckých dielach (autorský zákon) [Act No. 35/1965 Coll. on literary, scientific and artistic works (Copyright Act)] (1965).
https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/1965/35/vyhlasene_znenie.html

Zákon č. 89/1990 Zb. o literárnych, vedeckých a umeleckých dielach (autorský zákon) [Act No. 89/1990 Coll. on literary, scientific and artistic works (Copyright Act)] (1990).
<https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/1990/89/19900601.html>

Contact Data:

Mgr. Adam Kysler

University of Ss. Cyril and Methodius in Trnava

Faculty of Mass Media Communication

Nám. J. Herdu 2

917 01 Trnava

SLOVAK REPUBLIC

kysler1@ucm.sk

ORCID-ID: <https://orcid.org/0009-0009-4514-9021>

Assoc. Prof. Ing. Andrej Trnka, PhD.

University of Ss. Cyril and Methodius in Trnava

Faculty of Mass Media Communication

Nám. J. Herdu 2

917 01 Trnava

SLOVAK REPUBLIC

andrej.trnka@ucm.sk

ORCID-ID: <https://orcid.org/0000-0001-7940-0709>

Mgr. Juraj Kovalčík, PhD.

University of Ss. Cyril and Methodius in Trnava

Faculty of Mass Media Communication

Nám. J. Herdu 2

917 01 Trnava

SLOVAK REPUBLIC

juraj.kovalcik@ucm.sk

ORCID-ID: <https://orcid.org/0000-0002-5908-6780>

SOCIAL ACTIVISM OF BRANDS IN THE AGE OF ARTIFICIAL INTELLIGENCE (AI)

Tatiana Leporis – Lucia Spálová

DOI: <https://doi.org/10.34135/mmidentity-2023-30>

Abstract:

Individual perception is decisive in relation to the response to socio-political issues because perception influences attitudes and behavior, it leads to decision-making, affects its quality, and at the same time constructs our perception of reality as such. Two phenomena – the social activism of brands and artificial intelligence – have also become the subject of interest in numerous scientific studies in academic research for this reason. However, their mutual influence and effects on the consumer are still considered underresearched. This paper presents the essence of brand activism as a marketing strategy with the potential to influence consumer perceptions, attitudes and subsequent behavior. Using the examples from a study, it points out that perception and attitudes are also influenced by AI tools and social media, which we conceptually define as the intervening factors with an effect of the consequences of activism. Using specific examples, the paper points to the contemporary use of AI tools in the communication of social activism of brands and to the factors affecting the consequences of brand activism.

Key words: Artificial Intelligence. Brand Authenticity. ChatGPT. Corporate Social Responsibility. Midjourney. Social Activism of Brands.

Introduction

Our society faces many environmental, social and political challenges, such as global warming, racism and gender equality, which have also influenced brand communication since the beginning of the 21st century. Consumers expect the brands to engage in activism, i.e. take a public stance on the socio-political issues (Mukherjee & Althuisen, 2020). In response, many brands have taken a stance on controversial socio-political issues. They reflect on the shortcomings, create pressure on the competent authorities and activate consumers and employees. Brands are attracted by the opportunity to actively influence public opinion and differentiate themselves from the competition, but marketers must be aware of the possible negative feedback from consumers who do not agree with the brand's declared stance. Brand activism is considered a risky strategy (Bhagwat et al., 2020), but it has the potential to influence consumer perceptions, attitudes and behavior. Numerous research studies have revealed that AI-generated content is difficult to distinguish from human-generated content, and conclude that the perceptions, attitudes and behaviors of the consumers can also be influenced by artificial intelligence tools (such as the ChatGPT-3 language model) (Bai et al., 2023). Due to its high performance and expected increase in efficiency thanks to the automation of marketing, the marketers are increasingly inclined to use AI as an autonomous content creator. However, the understanding of the factors affecting consumer responses to AI as an author of brand activism content remains limited in the field of marketing. While marketing research has largely neglected the analysis of consumer reactions to AI, researchers in other fields (prognostics, medical diagnosis) have found that people tend to distrust AI even when it provides the same or even better services—a phenomenon known as algorithm aversion (Dietvorst et al., 2015, 2016; Longoni et al., 2019). Currently, emphasis in this context is also placed on examining the impact of aversion to content generated by artificial intelligence. The risk of negative consumer reactions is also closely related to AI transparency. Researchers have identified transparency as a predominant quality of ethical AI (Siau & Wang, 2020) and authenticity as a critical factor influencing consumer attitudes toward brand activism (Vredenburg et al., 2020). The combination of the above phenomena – social activism of brands

and artificial intelligence – is a new and hitherto unexplored area affecting consumer behavior. The aim of this paper is to discuss artificial intelligence tools and social media as intervention factors that can influence the consequences of brand activism.

1 History of Brand Activism

In the past, most companies “distanced themselves from comments on political or social issues for the fear of losing their customer base and polarizing the public” (Spálová & Leporis, 2023, p. 28). On the contrary, brands are nowadays actively involved in the fight for equality, protection of nature, and against racism and intolerance. *Brand activism* resonates as a current phenomenon, but its history dates back to the 1970s and 1980s, when the scholars first mentioned *corporate political activism* in relation to brand communication (Sethi, 1982). One of the first brands that prioritized the communication of social and political issues over the depiction of their own products was Benetton, which in the period from the 1980s to the beginning of the 21st century gradually introduced taboo topics, such as homosexuality, politics, religion and diseases.

Brand activism was most likely preceded by projects of *corporate social responsibility* (CSR), which paradoxically often appeared as a response to the activist groups and activities, which in fact played a decisive role in the transformation of corporate values. In a relatively short period of time, many companies have transformed themselves from trying to ignore and resist the attacks of activists to accepting the required social changes, creating CSR projects, or even to their own involvement in activism, in which they adopted activist communication precisely from the activist groups that confronted them in the past (Camarota et al., 2023). The CSR projects, which appeared to be insufficient, were one of the reasons behind this rapid change in the communication strategy of companies. Currently, the companies are aware that they must look “beyond the idea of CSR and business ethics because these only respond to the logic of” giving back “to the community, which seems insufficient” (Waddock & McIntosh, 2009, p. 298). Today, the consumers, employees and investors demand and expect a public attitude from brands (Maks-Solomon & Drewry, 2021). They even believe that brands can solve social problems better than governments (Radanielina Hita & Grégoire, 2023). This creates a new “relationship between the brand and the consumer where the consumers also evaluate and judge the companies according to their socio-political stance” (Bhagwat et al., 2020, p. 1). This phenomenon is dubbed brand activism in expert literature, but the construct itself is still unclear and fragmented because the scholars have only started exploring it in recent years.

2 Characteristics and Definition of Brand Activism

The early characterization of this construct was presented by Sarkar and Kotler and is defined as “an act that consists of a brand-oriented business effort aimed at promoting, defending or directing social, political, economic and/or environmental reform or stagnation with a desire for improvement in society” (2021, p. 20). Their definition is closely linked to the brand’s moral authority, i.e. the brand’s ability to feel that a situation or event is morally wrong and act, for example by taking a stance to influence the morals of others through the use of their power. Moral authority appears to be fundamental to brand activism. Mukherjee and Althuzien view brand activism as “the act of taking a stance on controversial social or political issues for which society has not yet reached a consensus” (2020, p. 775). Brand activism can also be a reaction to specific events, such as governmental decisions or legislative proposals regarding controversial social issues. Manfredi-Sánchez is of the opinion that the brands expand the range of values they convey even by responding to key political issues, and this

also includes issues that are controversial, however, the goal of this political involvement is not to increase sales, but “take a stance on political issues” (2019, p. 344). Bhagwat et al. defines “corporate socio-political activism as a company’s public demonstration (statements and/or actions) of support or opposition to a certain socio-political issue” (2020, p. 1). Bhagwat et al. sees brand activism as a risky marketing strategy that polarizes both society and investors. In summary, we can view brand activism as a reaction of brands to the events in society (usually in connection with societal issues), which is accompanied by the absence of activity on the part of societal institutions and/or increased distrust of the public towards the actions of institutions and the spread of unconfirmed information and misinformation, with the aim of effecting a change in the perception of social, ecological or political topics, which makes the brands contribute significantly to changing the attitudes and public behavior.

3 Examples of Brand Activism from Around the World and from Slovakia

Nike with its “For Once, Don’t Do It” campaign in Figure 1, which supports the Black Lives Matter movement, has become one of the most famous social activism campaigns of brands. Similarly, Airbnb stood up for the rights of immigrants, refugees and people who survived the war or natural disasters with their “We Accept” campaign in Figure 2. The Patagonia brand, which is well-known for a series of activities in the fight against climate change, has been active during the Trump administration. When former President Trump lifted the protection of some federal parks, Patagonia declared that “The President Stole Your Land” (Figure 3) on its website and social media.



Figure 1: Nike Official Video “For Once, Don’t Do It”
Source: Nike (2023)



Figure 2: Airbnb Official Video “We Accept”
Source: Airbnb (2023)

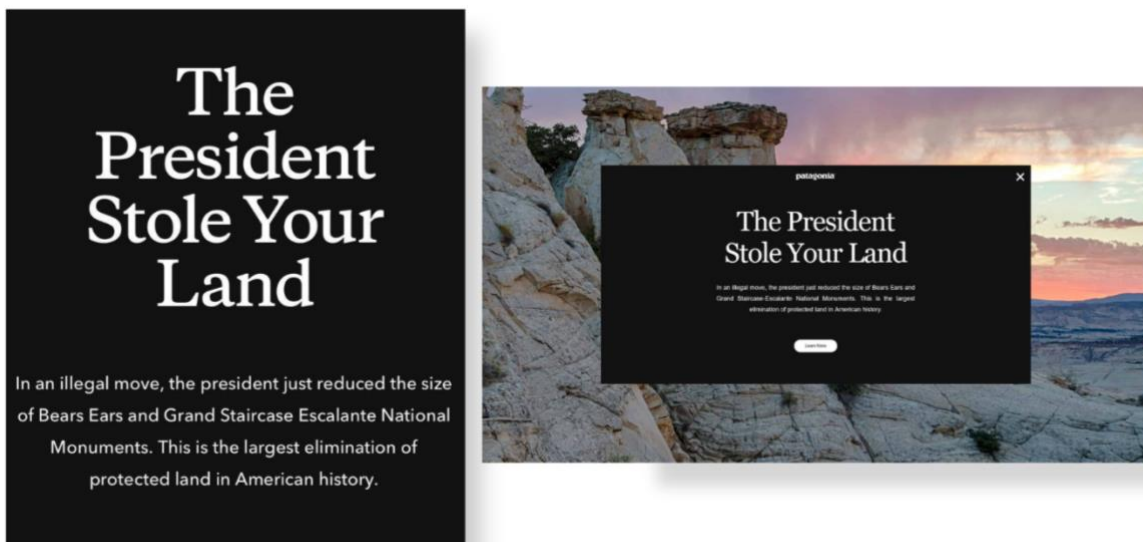


Figure 3: Patagonia campaign samples
Source: Patagonia (2023)

Even companies in Slovakia are involved in activism and/or CSR projects. They create projects for the protection of nature, promotion of tolerance (for example, the organization of the Slovenská Tepláreň festival), or are active in other ways, for example they financially support non-governmental organizations that strive for change in society. Visible changes in the development of social activism of brands in Slovakia were observed in recent years. In this context, we can point to the reactions of certain brands on social media (Figure 4) in the period after October 2022 (when a hate crime against the LGBT+ community was committed on Zámocká Street in Bratislava). These examples of communication are interconnected with the rainbow flag, which is a well-known symbol of tolerance and diversity, and also a symbol of the LGBT+ community, and it was even used by other brands to show their solidarity with this community (Figure 5). Slovak brands reacted in a similar way after the outbreak of the conflict

in Ukraine. The statements rejecting Russia’s position and support for Ukraine in their communication (mainly on social media) were visually supplemented with the colors of the Ukrainian flag. Some brands publicly express their position with minor adjustments, such as changing the background color of their logo or the logo itself.



Figure 4: Profile photos of VISIBILITY, Zaraguza, Ui42 and Forbes Slovakia
Source: Visibility (2022); Zaraguza (2022); Ui42 (2022); Forbes Slovensko (2022)



Figure 5: Examples of brand activism include IKEA, Forbes Slovakia, ESET
Source: Spálová & Leporis (2023)

4 A Conceptual Framework of Brand Activism: Stimuli and Driving Forces, Intervening Factors, and Consequences

Consumer culture, political beliefs of consumers, but especially certain severe societal situations (such as the war in Ukraine or murder of a journalist) and the related pressure of social movements (For a Decent Slovakia) boost public interest and can influence the creation and development of brand activism campaigns. Brands represent the stimuli in the conceptual framework of brand activism. The intervening factors affecting the consequences of brand activism include trustworthiness, legitimacy, credibility, authenticity, reputation and brand image, but also the factors such as the company’s communication and creative and media strategy. The consequences of brand activism must be seen from two angles – what impact brand activism has on society, and what consequences brand activism has for business. Brand activism can influence social norms and the perception of social and political issues and it can fuel the emergence of other social movements, but it also has an impact on the brand itself and the relationship with consumers and employees, and can also have financial consequences. We believe that artificial intelligence and social media can significantly influence the entire conceptual framework of brand activism, which is why we include them among the intervening factors.

4.1. Artificial Intelligence as an Intervening Factor

On the one hand, we have noted quite a frequent (and greatly simplified) claim that artificial intelligence tools can substantially improve work and make the content creation process more efficient. Many tools are capable of creating art, composing music, penning coherent texts at the level (or almost at the level) of human expression, and they even outperform humans in strategic games that require strategic thinking. Thanks to their ability to depict the harsh reality of violation of human rights and present sensitive topics such as gender-based violence in a more impactful and abstract way (Figure 6), the images generated by AI tools such as Midjourney are currently being used by media platforms (such as HumAngle) that aim for the visibility and media coverage of conflicts and humanitarian and third-country problems. Due to their ability to visually transform non-existent stimuli into reality, AI tools such as Midjourney encourage the public to individual (human) creativity. This led to the creation of José Hernández's project "AIdeal World" (Almond, 2023), which presents his perception of an ideal world where one can see things that do not exist in this world, for example sumo wrestlers or members of the LGBTQ community donating blood (Figure 7).



Figure 6: A photo of violence against a woman with a disability generated by AI Midjourney. Source: Chigozie (2023).



Figure 7: A photo of blood donations generated by AI Midjourney.
Source: Almond (2023)

On the other hand, it is obvious that artificial intelligence currently has its limits, and many studies are devoted to understanding the limitations and biases inherent to the deep learning systems and communicative AI language models such as ChatGPT. The results of the two such studies are presented below, and they prompted us to consider a deeper examination of the impact of artificial intelligence on the social activism of brands in the future, and even to write this paper.

The results of the study by Hui Bai et al. with the title “Artificial intelligence can convince people on political issues” suggest that the language model of ChatGPT-3 can also influence perception, attitudes and behavior (2023). Until recently, the ability to influence other people’s beliefs was considered to be an exclusively human competence. However, the authors of the study found that AI-generated news is equally as persuasive as human-generated news on a number of political issues (including banning assault weapons, the carbon tax and paid parental leave). The results of the study suggest that the current generation of AI language models can be convincing even in the topics that polarize society, i.e. in the topics that are also attractive for brand communications.

A large portion of society naturally interacts with new technology, which can be freely accessed. ChatGPT can thus be used not only to generate texts and campaign messages, but also as a decision-making instrument or a means of gathering information. When the ChatGPT communications model is used both on the brand end and user end, it is also possible to expect an impact on the effectiveness of social activism of brands under certain conditions.

Hartmann et al. contributed to the possibilities and limitations of language models such as ChatGPT with their study titled “Political Ideology of Conversational AI: Converging Evidence for ChatGPT’s Pro-Environmental, Left-Libertarian Orientation”, which challenged ChatGPT’s neutral stance (2023). The authors examined the answers of the ChatGPT language model, which answered questions from the German application Wahl-O-Mat, which identifies users with a political party based on their answers and serves as an advisory tool for users when voting in the general elections. The researchers found that unlike the Wahl-O-Mat application, which only presents factual data (e.g. the Greens support taxing flights), the ChatGPT language model also inserts its own “opinion” into the conversation with the user, which reflects its political ideology. The study shows that ChatGPT would most likely vote for the Green Party, closely followed by the SPD with the Left Party (specifically, it would legalize abortions, tax

air transport heavily or legislatively limit rent increases). The replication of the process with the Dutch application StemWjizer confirmed the environmental and left-libertarian leaning of the language model. We believe that by adding its “own opinion” into the content, ChatGPT can automatically attract users who share similar views. Likewise, the feedback solicited by OpenAI from the users to improve the tool can reinforce this ideological bias. Although automated chatbots have the potential to influence user behavior (as shown in the above study), according to Hartmann the user trust and acceptance depend critically on the quality of the model outputs, including unbiased and truthful results (2023).

4.2. Social Media as an Intervening Factor

Social media can significantly influence the consequences of social activism of relevant brands through the dynamic they employ in spreading the message. In social media studies, researchers have long recognized the importance of social influence on attitudes and behavior. Communication on social media is of the connected communication type (many-to-many) and the content created by the customers of a particular brand is also available to other customers (and also those of other brands). The author of the message does not know who the recipients are (high anonymity) and the recipients do not know who the author of the message is (i.e. who is behind the brand communication – low degree of identifiability). The “many-to-many communication enables mass individualization, a phenomenon that allows reaching a mass audience while maintaining an individual approach” (Pavlíček, 2010, p. 94). One of the consequences of this phenomenon is that consumers assume control over the communication process and become the creators of new content – new original messages, images and videos. New multimodal texts are gradually created, easily divulged and their popularity is constantly growing thanks to their entertaining nature, which is also the case of Internet memes. In the process of individual (human) creativity, various transformations (substitutions, implications, etc.) are used, the goal of which, according to Chudá, is a “deliberate alteration of the original expression with the aim of influencing the recipient in a certain way” (2022, p. 129). Within their social conviction and awareness of the possible consequences, many brands strive to influence digital social resilience, which Spálová and Mikuláš define as the ability of citizens to face disinformation and hoaxes in the turbulent era of the boom of mosaic-like reading/reception of digital texts/contents in the online space of digital media platforms (2023). An apt example is the Martinus brand, which was inspired by a memetic image with an altered title of L. N. Tolstoy’s novel “Special Military Operation and Peace”. Thus, by changing the title of the books (containing the word “war”) on its website, Martinus pointed to the fact that it is easy to twist words and deliberately change their meaning, relativize events, justify one’s actions, and change the reality (Figure 8).



Figure 8: An example of a memetic text using the substitution of the word “war” with the phrase “special operation”

Source: Literárne noviny (2023)

It can be stated that this short-term campaign of Martinus (it only lasted 24 hours) had a positive response despite several statements to the contrary. It is important to note in this context that it is extremely difficult to predict how the relevant stakeholders (not only consumers, but also employees, shareholders and the general public) will react to brand activism. The above factors affecting the perception of brand activism include legitimacy and trustworthiness. While credibility means that we perceive the brand through the optics of the brand having the expertise, legitimacy represents the attitude of the brand being allowed to do something that is desirable and appropriate within a certain context. Authenticity is a key factor with an influence on the consumer attitudes toward brand activism (Camarrota et al., 2023). Consumers reject the campaigns they don't perceive as authentic. Authenticity is a complex construct and it relies on the alignment of brand values with consumer beliefs, but above all on the alignment of the brand's purpose, values, message and actual corporate practice (Vredenburg et al., 2020). When the alignment of these four factors results in brand activism, the brand's position on a given social issue is perceived as relevant, true and reliable in the eyes of the consumer. But when the activist message conflicts with corporate practice, the authenticity of the brand's activism is compromised. For example, Nike hired Kaepernick as an ambassador of their campaign, but did not cut sponsorship to those NFL teams that rejected Colin Kaepernick's kneeling as a Black Lives Matter protester. Many brands engage in activism out of urgency and need, which, however, seems to be detached from their communications, i.e. from the purpose of the brand, its values or corporate practice. Thus, brands can mislead the consumers, and the consumers can view it as an exploitation of social issues to boost sales. We assume that the twenty-four-hour activist campaign by Martinus, in which they changed the names of the books, was positively accepted by the consumers who also noticed that the brand was involved in helping the refugees during the outbreak of the war in Ukraine. And had they not known already, the consumers could have read the message in the beginning of the post in which the brand informed about the 24-hour activist campaign on social media (Figure 9). It follows from the above that authenticity also depends on how activism is communicated (how the message is constructed), who the narrator of the brand's activism is (it can be the company director, spokesperson, celebrity, social network content manager), and what media the brand prefers.

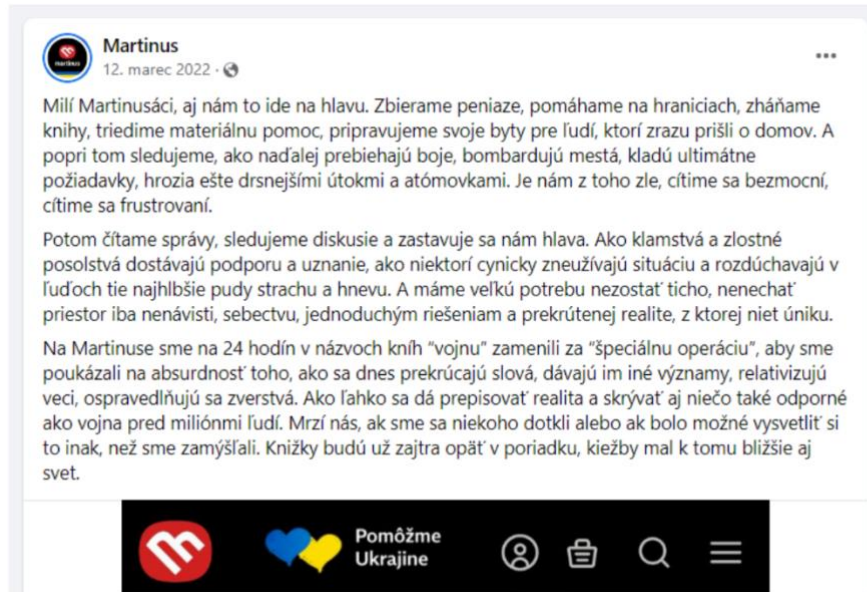


Figure 9: Post by Martinus on Facebook
 Source: Martinus (2023)

Discussion and Conclusion

Human behavior is not influenced by objective reality, but by its subjective interpretation. Consumers act and react based on their own perception of the situation, and not based on objective reality. Therefore, it is important to understand the phenomena such as social activism of brands and AI all the more when they interact with people’s perceptions. Perception is the process in which the individuals select, organize (process) and interpret the stimuli, it is highly individual, and derives from each person’s needs, values, past experiences and expectations. Based on the results presented in various research papers investigating the social activism of brands (Ahmad et al., 2022), it can be stated that the greatest emphasis in social activism of brands is currently placed on its authenticity. Utmost care must be taken to ensure the consumers perceive the company’s efforts as sincere and authentic (Le Vries & Duque, 2018). Otherwise, it runs into the risk of being perceived as opportunistic by the consumers (Vredenburg et al., 2020). The results of existing studies suggest that companies should carefully consider brand activism due to the asymmetric effects that lead to strong detractor (vs. supporter) reactions to the brand’s attitude, and/or to the presence of negative effects in the absence of positive effects (Bhagwat et al., 2020; Mukherjee & Althuizen, 2020). Moreover, the aim of this paper is to highlight how AI tools can influence the consequences of brand activism. Recent studies have shown the impressive capabilities of AI. For example, artificial intelligence can detect diseases more accurately than doctors, make very accurate predictions and convince people on highly polarized issues, such as a ban on assault weapons (Bruyn et al., 2020; Hui Bai et al., 2023). Given the equal or even better performance of many AI-powered applications in forecasting, advisory services or customer support, we might assume that AI can be relied on more than humans. However, scientists have found quote the opposite to be the case. Studies define this phenomenon as “algorithm aversion” and suggest that individuals generally prefer humans to AI (Castelo et al., 2019). Many consumers voiced their reservations about AI-generated services, which may weaken their attitudes and subsequent behavior towards the company (Davenport et al., 2020; Longoni et al., 2019). In addition to the aversive perceptions of AI, the reactions of users can also be influenced by

individual expectations. They form cognitive structures to understand and interpret the behavior of others and influence the mental processing of information. Expectations have an influence on consumer assessments. A violation of prior expectations can lead to positive or negative reactions. In addition, when expectations are violated, attention shifts from the content to the sender of the message and the violation becomes more pronounced (Burgoon & Hale, 1988). As far as content authorship is concerned, the advent of AI can result in two possible violations of expectations. Either the consumer expects a human author and receives an AI-generated text, or vice versa. These violations of expectations can lead to various positive or negative emotional reactions and they may have subsequent effects on the company as the sender of the message. The disclosure of AI authorship is an ethical dilemma. On the one hand, the disclosure of AI authorship is a transparent and ethical step on behalf of the company, on the other hand, it can lead to aversive emotions and negatively affect the image of the company (brand). Texts generated by AI are no longer distinguishable from humans and AI can even create sophisticated emotional texts. Moreover, once the consumers realize their inability to distinguish AI-generated content, they may develop a general distrust towards the relevant organizations, institutions and companies. In this paper, we also pointed out the limitations of using the ChatGPT language model and social media, i.e. tools that are not under the company's control, but have the potential to influence the consequences of social activism of brands. Individual perception is decisive in relation to the response to socio-political issues because perception influences attitudes and behavior, it leads to decision-making, affects its quality, and at the same time constructs our perception of reality as such. It is therefore important for us to understand the factors influencing perception. We are aware of the fact that social activism represents only a small fraction of the marketing communication of brands, but we consider its investigation to be justified because it not only affects the perception of the socio-political issues the brands point at, but also the perception of the brand and product itself, and it also influences consumer decisions.

Bibliography

- Ahmad, F., Guzmán, F., & Kidwell, B. (2022). Effective messaging strategies to increase brand love for sociopolitical activist brands. *Journal of Business Research*, 151(11), 609-622. <https://doi.org/10.1016/j.jbusres.2022.07.031>
- Airbnb. (2023, October 4). *We Accept | Airbnb* [Video]. YouTube. <https://www.youtube.com/watch?v=yetFk7QoSck>
- Almond, K. (2023, July 28). *How one artist is using AI to create his 'ideal world'*. <https://edition.cnn.com/interactive/2023/07/style/ai-artist-ideal-world-cnnphotos/>
- Bai, H., Voelkel, J. G., Eichstaedt, J. C., & Willer, R. (2023). *Artificial intelligence can persuade humans on political issues*. <https://doi.org/10.31219/osf.io/stakv>
- Bhagwat, Y., Warren, N. L., Beck, J. T., & Watson, G. F. (2020). Corporate sociopolitical activism and firm value. *Journal of Marketing*, 84(5), 1-21. <https://doi.org/10.1177/0022242920937000>
- Bruyn, A., Viswanathan, V., Beh, Y. S., Brock, J. K. U., & Von Wangenheim, F. (2020). Artificial intelligence and marketing: Pitfalls and opportunities. *Journal of Interactive Marketing*, 51(1), 91-105. <https://doi.org/10.1016/j.intmar.2020.04.007>
- Burgoon, J. K., & Hale, J. L. (1988). Nonverbal expectancy violations: Model elaboration and application to immediacy behaviors. *Communication Monographs*, 55(1), 58-79. <https://doi.org/10.1080/03637758809376158>
- Cammarota, A., D'Arco, M., Marino, V., & Resciniti, R. (2023). Brand activism: A literature review and future research agenda. *International Journal of Consumer Studies*, 47(5), 1669-1691. <https://doi.org/10.1111/ijcs.12967>

- Castelo, N., Bos, M. W., & Lehmann, D. R. (2019). Task-dependent algorithm aversion. *Journal of Marketing Research*, 56(5), 809-825. <https://doi.org/10.1177/0022243719851788>
- Chigozie, V. (2023, January 14). *Domestic violence against PwDs: When running away is impossible*. <https://humanglemedia.com/domestic-violence-against-pwd-when-running-away-is-impossible/>
- Chudá, L. (2022). Precedentné výrazy V. Putina v mémoch a ich funkcia v politickom diskurze [Precedent expressions V. Putin in memes and their function in political discourse]. In R. Štefančík, (ed.), *Jazyk a politika. Na pomedzí lingvistiky a politológie VII 2022 [Language and politics. At the interface of linguistics and political science VII 2022]* (pp. 129-136). Comenius University Bratislava.
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24-42. <https://doi.org/10.1007/s11747-019-00696-0>
- Dietvorst, B. J., Simmons, J. P., & Massey, C. (2015). Algorithm aversion: People erroneously avoid algorithms after seeing them err. *Journal of Experimental Psychology*, 144(1), 114-126. <https://doi.org/10.1037/xge0000033>
- Dietvorst, B. J., Simmons, J. P., & Massey, C. (2016). Overcoming algorithm aversion: People will use imperfect algorithms if they can (even slightly) modify them. *Management Science*, 64(3), 1155-1170. <https://doi.org/10.1287/mnsc.2016.2643>
- Forbes Slovensko [@ForbesSlovakia]. (2022, October 23). Tím Forbes Slovensko sa pridáva k vyjadreniam smútku, podpory a solidarity s komunitou LGBTI a pozostalými. Absolútne odsudzujeme páchanie násilia na členoch LGBTI komunity. Nenávisť a extrémizmus na Slovensko nepatria. Pridajte sa k nám na Pochod za odsúdenie nenávisťi voči LGBTI komunitu, ktorý sa začína dnes o 17:00 na Zámockej ulici a pokračuje na Námestie SNP. [The Forbes Slovakia team joins in expressing sadness, support and solidarity with the LGBTI community and the survivors. We absolutely condemn the perpetration of violence against members of the LGBTI community. Hate and extremism do not belong in Slovakia. Join us for the March to Condemn Hate against the LGBTI Community, which starts today at 17:00 on Zamocka Street and continues to the SNP Square.] [Facebook photographs]. Retrieved from <https://www.facebook.com/photo/?fbid=484506840366277&set=a.484506850366276>
- Hartmann, J., Schwenzow, J., & Witte, M. (2023). The political ideology of conversational AI: Converging evidence on ChatGPT's pro-environmental, left-libertarian orientation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4316084>
- Le Vries, E. de, & Duque, L. C. (2018). Small but sincere: How firm size and gratitude determine the effectiveness of cause marketing campaigns. *Journal of Retailing*, 94(4), 352-363. <https://doi.org/10.1016/j.jretai.2018.08.002>
- Longoni, C., Bonezzi, A., & Morewedge, C. K. (2019). Resistance to medical artificial intelligence. *Journal of Consumer Research*, 46(4), 629-650. <https://doi.org/10.1093/jcr/ucz013>
- Maks-Solomon, C., & Drewry, J. (2021). Why do corporations engage in LGBT rights activism? LGBT employee groups as internal pressure groups. *Business and Politics*, 23(1), 124-152. <https://doi.org/10.1017/bap.2020.5>
- Manfredi-Sánchez, J. (2019). Brand activism. *Communication & Society*, 32(10), 343-359. <https://doi.org/10.15581/003.32.4.343-359>
- Martinus [@Martinus.sk]. (2022, March 12). Milí Martinusáci, aj nám to ide na hlavu. Zbierame peniaze, pomáhame na hraniciach, zháňame knihy, triedime materiálnu pomoc, pripravujeme svoje byty pre ľudí, ktorí zrazu prišli o domov. A popri tom sledujeme, ako naďalej prebiehajú boje, bombardujú mestá, kladú ultimátne [Dear

- Martinus fans, it's getting on our heads too. We collect money, help at the border, find books, sort material aid, prepare our apartments for people who suddenly lost their homes. And besides, we watch how the fighting continues, cities are bombed, ultimatums are issued] [Facebook post]. Retrieved from https://www.facebook.com/Martinus.sk/posts/10158962850478111?ref=embed_post
- Literárne noviny. (2023, March 13). Správy a aktuálny [News and actualities]. *Literárne noviny*. <https://literarnenoviny.sk/servis/martinus-docasne-pozmenil-nazvy-vybranych-knih-zakaznici-to-prijali-s-rozpakmi/>
- Mukherjee, S., & Althuisen, N. (2020). Brand activism: Does courting controversy help or hurt a brand? *International Journal of Research in Marketing*, 37(4), 772-788. <https://doi.org/10.1016/j.ijresmar.2020.02.008>
- Nike. (2023, October 4). *For once, Don't Do It | Nike* [Video]. YouTube. <https://www.youtube.com/watch?v=drcO2V2m7lw>
- Patagonia [@PATAGONIA]. (2023, September 27). Americans have overwhelmingly spoken out against the Trump Administration's unprecedented attempt to shut down our national monuments. The Administration's unlawful actions betray our shared responsibility to protect iconic places for future generations and represent the largest elimination of protected land [Facebook photographs]. Retrieved from <https://www.facebook.com/PATAGONIA/photos/a.10150215477900457/10159854711605457/?type=3>
- Pavliček, A. (2010). *Nová média a sociální sítě* [New media and social networks]. Oeconomica.
- Radanielina Hita, M. L., & Grégoire, Y. (2023). Marketing to prevent radicalization: A first attempt at delimiting the field. *Journal of Public Policy & Marketing*, 42(1), 1-10. <https://doi.org/10.1177/07439156221136951>
- Sarkar, Ch., & Kotler, P. (2021). *Brand activism: From purpose to action*. Idea Bite Press.
- Sethi, P. S. (1982). Corporate political activism. *California Management Review*, 24(3), 32-42.
- Siau, K., & Wang, W. (2020). Artificial intelligence (AI) ethics. *Journal of Database Management*, 31(2), 74-87. <https://doi.org/10.4018/JDM.2020040105>
- Spálová, L., & Leporis, T. (2023). Brand aktivizmus – nová norma spoločenskej zodpovednosti [Brand activism – a new norm of social responsibility]. *Marketing & Komunikace*, 28(1), 28-29.
- Spálová, L., & Mikuláš, P. (2023). Digital resilience in the area of hybrid threats: Perception of concepts associated with the Ukrainian military conflict by generation Z in Slovakia. *Communication Today*, 14 (2), 76-89. <https://doi.org/10.34135/communicationtoday.2023.Vol.14.No.2.6>
- Ui42 [@ui42.agency]. (2022, October 21). Prosím, nerobme medzi sebou rozdiely. Stojíme pri vás, naši LGBTI+ kamaráti, kolegovia, klienti. [Please, let's not make distinctions between each other. We stand with you, our LGBTI+ friends, colleagues, clients.] [Facebook photographs]. Retrieved from <https://www.facebook.com/photo/?fbid=503884908420404&set=a.361509982657898>
- Visibility [@VISI]. (2022, October 14). Profile picture [Facebook photographs]. Retrieved from <https://www.facebook.com/photo/?fbid=10159218504843922&set=a.643985157768799>
- Vredenburg, J., Kapitan, S., Spry, A., & Kemper, J. A. (2020). Brands taking a stand: Authentic brand activism or woke washing? *Journal of Public Policy & Marketing*, 39(4), 444-460. <https://doi.org/10.1177/0743915620947359>
- Waddock, S., & McIntosh, M. (2009). Beyond corporate responsibility: Implications for management development. *Business and Society Review*, 114(3), 295-325. <https://doi.org/10.1111/j.1467-8594.2009.00344.x>

Zaraguza [@zaraguza]. (2022, October 15). Profile picture [Facebook photographs]. Retrieved from <https://www.facebook.com/photo/?fbid=488340739992774&set=a.488340729992775>

Contact Data:

Ing. Tatiana Leporis
Constantine the Philosopher University in Nitra
Faculty of Arts
Dražovská 4
949 01 Nitra
SLOVAK REPUBLIC
tatiana.leporis@gmail.com

Prof. Mgr. Lucia Spálová, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
lucia.spalova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-2854-2069>

IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE IN THE INNOVATION PROCESS AS A TOOL FOR THE FUTURE OF TODAY

Erika Loučanová

DOI: <https://doi.org/10.34135/mmidentity-2023-31>

Abstract:

The article focuses on the implementation of artificial intelligence in the innovation process. Artificial intelligence is the future of today in business from the point of view of the latest information and communication technologies. It is assumed that artificial intelligence will fundamentally change in the companies, the markets and the management of the innovation process. Therefore, the aim of this article is to characterize the potential of artificial intelligence implementation in the innovation process. The primary method is the analytical-synthetic method. Its priority is to combine knowledge about the innovation process and the potential of using artificial intelligence in its implementation in the business environment. The results of the investigation point to a new paradigm in innovation management using artificial intelligence in the innovation process. The implementation of artificial intelligence in the innovation process brings many solutions, such as speeding up the implementation of tasks, using more effective human capacities, providing higher efficiency, etc. However, artificial intelligence also presents disadvantages, because its implementation from the point of view of the innovation process is still only in the initial, experimental phase.

Key words: Artificial Intelligence. Implementation of Innovations. Innovation. Innovation Process. Phases of the Innovation Process.

1 Introduction

Innovation management is connected with the practice and theory of general management of every enterprise. Therefore, it is also connected by logistics, marketing or production, financial or strategic management. Innovation management must manage the *innovation process*, which can be characterized by the word irregularity. The irregularity is caused by the need to generate specific tools for managing the innovation process due to the emerging resistance to change. Resistance to change, i.e. innovation is a natural reaction and is part of the process of adaptation to change – innovation. The innovation process is therefore influenced by the 3C – competition, customers and change itself (Loučanová, 2016a; Slávik, 1999).

Considering the factors influencing the management of the innovation process, it is necessary to map and analyse the innovation process. The innovation process represents the transformation of an invention into an innovation opportunity and subsequently into an innovation. The innovation process is the process of creating and spreading innovations. We understand innovation processes in business activities as the implementation of individual innovations or their sets, which ensure a quantitative and qualitative change in products, services and in the structure of the production-technical base with all economic and social contexts. The preparation and chronological implementation of innovative changes is therefore professionally called the innovation process. The result of this process is innovation. The task of analysing and mapping innovation processes is to systematically influence business reproduction in accordance with the growing needs and demands of the consumer and the market as a whole, taking into account the 3C (Tureková & Mičieta, 2003; Čimo & Mariáš, 2006).

From the analyses of innovation processes, it follows that the first model of the innovation process used to implement innovations is that organizations use a linear sequence

of certain functional activities. We speak of “technology-pushed” innovations representing opportunities that resulted from research and development within the innovation process, or “demand-driven” innovations, i.e. the market signalled the need for something new, which subsequently led to an innovation process, the output of which is innovation.

The linear model of the innovation process represents a complex system divided into three basic parts:

- **creation of an invention** – an impulse, an idea, a proposal for a possible solution, which, after assessment, turns into an innovation opportunity and, after processing, results in an innovation.
- **creation of innovation** – scientific, research and development, organizational or experimental activity, the aim of which is to start the innovation process or to maintain it at the required pace.
- **penetration of innovation, or diffusion of innovation to the market** – spreading of a new or already adopted and used innovation in new conditions, in new markets, or in new places of application (Zaušková & Loučanová, 2008; Loučanová, 2016a).

The parts of which the innovation process consists are further divided into individual phases of the innovation process, where, within the framework of internal differentiation, they can be described as follows:

- **The creation of an invention** part consists of:
 - The idea generation phase includes:
 - knowledge of basic and applied research,
 - stimuli from the production process,
 - knowledge from marketing analyses of needs research, market, competition, scientific and technical development,
 - knowledge from other professional and non-professional sources.
 - Exploration phase:
 - theoretical research,
 - innovation forecasting,
 - creation of variants of the innovation concept.
 - Business analysis phase:
 - analysis of variants of the concept from the point of view of business intentions,
 - selection of the optimal variant of the innovation concept.
- **The creation of innovation** part consists of:
 - The phase of preparation of the innovation program:
 - selection of innovative tasks,
 - creation of an innovation program.
 - Research and development phase:
 - theoretical and experimental research, its verification,
 - development of a conceptual prototype,
 - construction documentation of the prototype,
 - technological and material preparation of the prototype,
 - prototype production and testing,
 - documentation processing for the verification series.
 - Production phase:
 - taking over the technical and organizational project,
 - introduction and start of production,
 - management of acquired production.

- Part **Penetration of innovations, or the diffusion of innovations to the market** is divided into:
 - Commercialization phase:
 - sales, shipping, ensuring customer service,
 - promotion,
 - active license shops.
 - The stage of using the innovation:
 - use of tangible implementation outputs,
 - maintaining and improving material implementation outputs,
 - liquidation of obsolete production,
 - evaluation of the implementation of innovative actions (Zaušková & Loučanová, 2008; Loučanová, 2016a).

The mentioned parts, activities and phases express a comprehensive view of the innovation process, which in the case of partial innovation changes is purposefully minimized to only those parts, phases and activities that are necessary to ensure the given innovation.

Also, the specific conditions in which the innovation process takes place can affect the participation or non-participation of that phase, or they can lead to the reduction or, on the contrary, to the expansion of the content of one of them. From the point of view of time sequence, it is practically unbearable today to consistently place and follow individual phases one after the other. The necessity to speed up the innovation process, for example by using the possibilities of current information technology and techniques, leads to the fact that not only ways of shortening each phase, but also ways of organizational security of this process, which allow maximum overlap of individual phases in time, are being sought more and more urgently (Loučanová, 2016b).

From the point of view of the latest information and communication technologies, *artificial intelligence* (AI) is perceived as a tool of the future of today in the business environment. The prospects for artificial intelligence in business, not only in domestic markets but throughout the global economy, are exciting. Artificial intelligence has the potential to exceed human performance, take over work tasks, fundamentally transform operational management procedures in business (Füller et al., 2022; Iansiti & Lakhani, 2020). In general, artificial intelligence is expected to accelerate performance, improve human capacities, provide greater efficiency, etc. (Füller et al., 2022; Agrawal et al., 2019). Therefore, artificial intelligence is currently considered the most important technology for general use in the future. The artificial intelligence will not only represent new products and services, but more importantly, it will represent the transformation of processes, i.e. and the innovation process.

It is assumed that artificial intelligence will fundamentally change the way not only the innovation process but the entire functioning of companies and thus also the market and competitive environment. Artificial intelligence questions the basic axioms and assumptions of the innovation process and its management as well as the entire management (Haefner et al., 2021; Keding, 2021). The transformation of the innovation process through artificial intelligence has the potential to streamline the management of the entire innovation process. However, this issue is still in the initial phase of introducing artificial intelligence into practice, i.e. also in the management of the innovation process and therefore there are few research studies in this area and they represent a significant research gap (Füller et al., 2022; Tidd & Bessant, 2020). Therefore, the goal of this paper is to characterize the innovation process based on artificial intelligence – its principles, procedures, and implementation within a simple innovation process.

2 Methodology

The principled methodical approach to processing the issue of the innovation process and artificial intelligence is the analytical-synthetic method. Its priority is to combine knowledge about the innovation process and the potential of using artificial intelligence in its implementation in the business environment. The solution methodology at the theoretical level is specific in the different conditions of individual branches of the economy. The analysis discusses the affected areas of the innovation process from the point of view of the possibility of using artificial intelligence in its individual parts. Descriptive method analyses mutual relations and connections of individual parts. Using the basic rules of the descriptive method, the implementation of artificial intelligence procedures in the innovation process is described as a simple procedure for making positive changes in the business environment through the analysis of the investigated phenomena and processes. The result of the research is generalized theoretical knowledge and conclusions, which are combined into a unified whole of the analysed issue through synthesis.

3 Results

The innovation process takes place in three basic parts, as stated at the beginning of the article. Artificial intelligence as an information and communication technology can therefore influence every part of the innovation process during its management, see Figure 1.

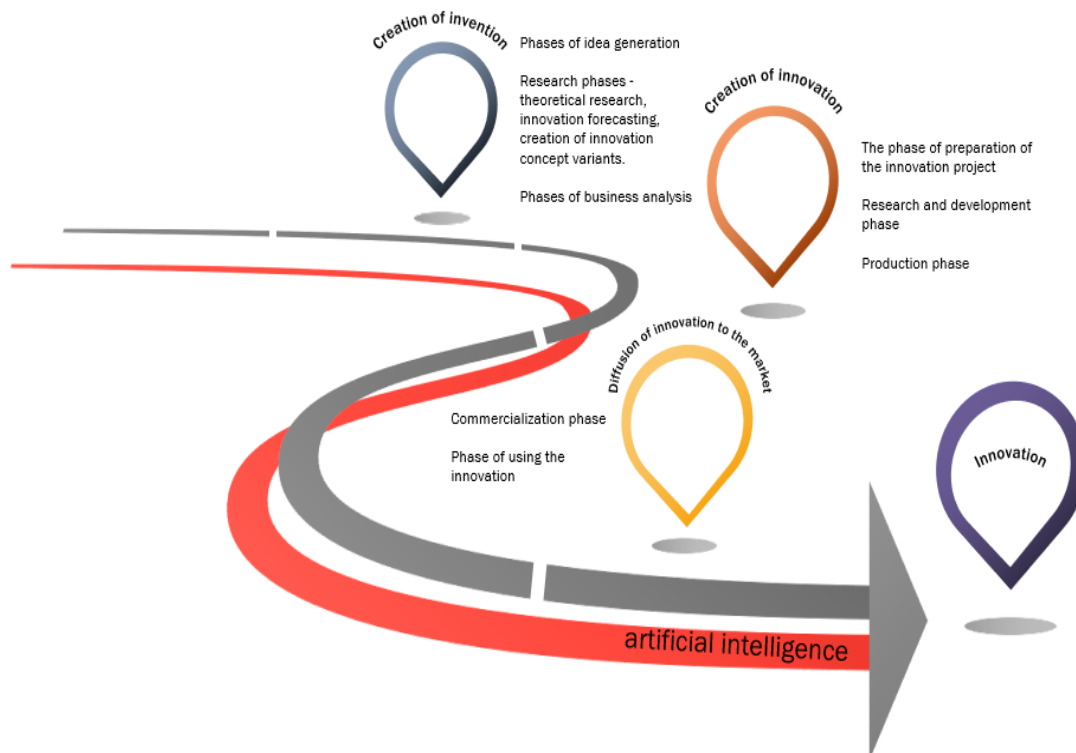


Figure 1: Innovation process implementing artificial intelligence
Source: own processing, 2023

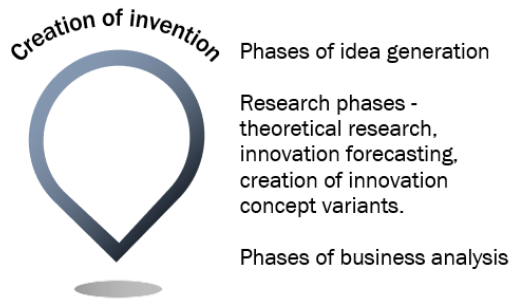


Figure 2: Creation of invention
Source: own processing, 2023

Implementation of artificial intelligence in the first part of the innovation process – creation of invention: Artificial intelligence in this part of the innovation process can help to overcome companies’ limitations in information processing. As artificial intelligence uses machine learning algorithms using and processing large amounts of data to identify opportunities and generate inventions (Brynjolfsson & McAfee, 2017). Artificial intelligence can recognize problems, opportunities and threats of potential ideas and thus generate new ones that eliminate these threats. Data analysis for generating inventions uses different domains, discussion forums, customer contributions, problems, etc. (Haefner et al., 2021; Kakatkar et al., 2020). As part of the generation of inventions, artificial intelligence offers methods mainly for identifying relevant needs and problems of consumers. This method of identifying inventions is based on “structured” areas through a “machine learning algorithm”. In addition to machine learning, artificial intelligence uses neural networks to create new inventions to complete more creative tasks. To generate new ideas through neural networks, it is necessary to train on a set of data supplemented by the use of additional algorithms that scale, smooth and simplify or generate different alternatives. However, we still face limitations and disadvantages because the generation of new ideas is based on the decomposition of existing solutions rather than the generation of completely new ideas. Generating ideas based on of artificial intelligence is still very dependent on the context and available data (Haefner et al., 2021). Exploration phase (theoretical research, innovation forecasting, creation of variants of the innovation concept) and business analysis phase are connected with the selection and evaluation of inventions. In a simple innovation process, this process is based at least on limited or partial information, knowledge, and experience of the members of the innovation team. The process of evaluating and selecting innovation opportunities is based on the selection of appropriate criteria and the cognitive functions of the individuals of the innovation process team (Hofstetter et al., 2018). Artificial intelligence has the potential to substantially improve the selection of inventions by providing more information that could create its next competitive advantage (Loučanová, 2016b; Haefner et al., 2021). When evaluating inventions, artificial intelligence uses not only machine learning but also other models, such as the thematic model RD – random projection for dimensioning the vectors by which the information in the corpora is represented; LDA for textual descriptions of solutions; Hierarchical Dirichlet Process (HDP) for partitioning topics with different proportions (Jelodar et al., 2019).

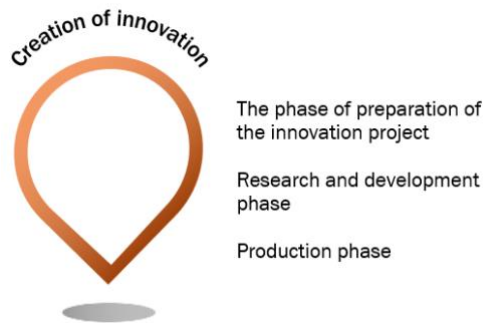


Figure 3: Creation of innovation
Source: own processing, 2023

Implementation of artificial intelligence in the second part of the innovation process – creation of innovation: This part of the innovation process aims to develop and build such innovative solutions that will be ready for use and subsequently marketed. In this part of the innovation process, we mainly focus on the implementation of the innovation project. Prototypes, verification series are produced and their feasibility, suitability and viability are evaluated. Here, artificial intelligence mainly uses Build-Measure-Learning loops. This is used to develop, test and get feedback when introducing new products (Ries, 2011). But artificial intelligence also provides several other possibilities for faster machine learning and improvement of these experimental activities within the innovation process, such as the application of generative design. The application of generative design is based on machine learning algorithms, on the basis of which it generates a more complex range of design options to optimize research materials, costs or production methods (Füller et al., 2022; Krish, 2011).



Figure 4: Diffusion of innovation to the market
Source: own processing, 2023

Implementation of artificial intelligence in the third part of the innovation process – diffusion of innovation to the market: Part of the market penetration or diffusion of an innovation includes marketing, distribution, logistics and customer activities. AI can help organizations gain insight from vast amounts of customer and transactional data – including numeric, text, voice, image or facial expression data – to predict what customers are likely to buy and deploy targeted digital advertising in real-time (Davenport et al., 2020).

4 Discussion

Based on the analysis of the implementation of artificial intelligence in the innovation process, we can clearly state that it influences it in all parts. However, the innovation process does not take place in a vacuum, and research indicates a range of contextual factors that can

influence organizations’ decisions to implement artificial intelligence in the innovation process, see Table 1.

The implementation of artificial intelligence in the innovation process and innovation management has real potential and represents its representation in every part of the innovation process. As stated by some authors (Füller et al., 2022; Tidd & Bessant, 2020; Ahmed & Shepherd, 2010), artificial intelligence within the management of the innovation process represents innovation by paradigms, i.e. changes in thinking. This innovative paradigm based on the implementation of artificial intelligence in the processes of managing the innovation process is characterized by the analysis of a large amount of different available data in real time, which allows more informed and better decisions to be made.

However, the implementation of artificial intelligence in the management of the innovation process is still in an initial and experimental state. Currently, AI complements the innovation process, but over the next few years, AI may become the technology that implements innovation. Artificial intelligence in the innovation process is not a plug-and-play technology that can be easily applied to all kinds of innovation tasks. In its current form and in the near future, artificial intelligence within the innovation process will be used mainly for analytical and repetitive administrative tasks such as searching, structuring, grouping, visualizing, representing and highlighting available information and knowledge, as well as evaluating, comparing and optimization – especially on the mechanical learning algorithm. Despite the potential of the implementation of artificial intelligence in the management of the innovation process, this implementation may fail to realize the expected benefits due to inadequate or weak implementation. Although the implementation of artificial intelligence in the innovation process appears to be very positive, the problem can be particularly challenging due to the novelty and complexity of its implementation in the management of innovation processes from the point of view of technical, organizational, knowledge barriers, etc. However, for the time being, the tasks of creation and composition of innovations will still be dominated by people who, with their intuition, creativity, empathy and sense of aesthetics, create a unique innovation process and not based only on analytical thinking (Füller et al., 2022; Brynjolfsson & McAfee, 2017; Rhyn & Blohm, 2017; Jabbouri et al., 2019).

Table 1: Implementation of artificial intelligence in the first part of the innovation process

Innovation process	Implementation of artificial intelligence in the first part of the innovation process
<i>The Creation of an Invention:</i>	Machine learning algorithm, neural networks and thematic model RD – random projection for dimensioning the vectors by which the information in the corpora is represented; LDA for textual descriptions
The idea generation phase includes	
Exploration and Business analysis phase	
<i>The Creation of Innovation:</i>	Machine learning algorithm, Build-Measure-Learning loops, Generative design method
The phase of preparation of the innovation project	
Research and development phase	

Production phase

Diffusion of innovation to the market:

Commercialization phase

The stage of using the innovation

Algorithmic analysis of numeric, text, voice, image or expression data – to predict what customers are likely to buy and deploy targeted digital advertising in real time.

Source: own processing, 2023; According to Loučanová (2016a) and Füller et al. (2022)

5 Conclusion

From the point of view of the latest information and communication technologies, artificial intelligence is perceived as a tool of the future of today in the business environment. It is assumed that artificial intelligence will fundamentally change the way the innovation management. The transformation of the innovation process through artificial intelligence has the potential to streamline the management of the entire innovation process. Different studies point to the fact to a new paradigm in innovation management using artificial intelligence in the innovation process. The implementation of artificial intelligence in the innovation process brings many solutions, such as speeding up the implementation of tasks, using more effective human capacities, providing higher efficiency, etc. However, artificial intelligence also presents disadvantages, because its implementation from the point of view of the innovation process is still only in the initial, experimental phase. Therefore, the tasks of creating innovations will still be dominated by people who create a unique innovation process with their intuition, creativity and empathy.

Acknowledgement: The author would like to thank the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences, grant number 1/0475/22 “Environmental Consumer and Environmental Citizen”.

Bibliography

- Agrawal, A., Gans, J. S., & Goldfarb, A. (2019). Exploring the impact of artificial intelligence: Prediction versus judgment. *Information Economics and Policy*, 47, 1-6. <https://doi.org/10.1016/j.infoecopol.2019.05.001>
- Ahmed, P. K., & Shepherd, C. D. (2010). *Innovation management: Context, strategies, systems, and processes*. Pearson.
- Brynjolfsson, E., & McAfee, A. (2017). The business of artificial intelligence: What it can – and cannot – do for your organization. *Harvard Business Review Digital Articles*. <https://hbr.org/2017/07/the-business-of-artificial-intelligence>
- Čimo, J., & Mariáš, M. (2006). *Riadenie marketingových aktivít [Management of marketing activities]*. GeoPARNAS.
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24-42. <https://doi.org/10.1007/s11747-019-00696-0>
- Füller, J., Hutter, K., Wahl, J., Bilgram, V., & Tekic, Z. (2022). How AI revolutionizes innovation management – perceptions and implementation preferences of AI-based innovators. *Technological Forecasting and Social Change*, 178, 121598. <https://doi.org/10.1016/j.techfore.2022.121598>
- Haefner, N., Wincent, J., Parida, V., & Gassmann, O. (2021). Artificial intelligence and innovation management: A review, framework, and research agenda. *Technological*

- Forecasting and Social Change*, 162, 120392.
<https://doi.org/10.1016/j.techfore.2020.120392>
- Hofstetter, R., Aryobsei, S., & Herrmann, A. (2018). Should you really produce what consumers like online? Empirical evidence for reciprocal voting in open innovation contests. *Journal of Product Innovation Management*, 35(2), 209-229.
<https://doi.org/10.1111/jpim.12382>
- Iansiti, M., & Lakhani, K. R. (2020). *Competing in the age of AI: Strategy and leadership when algorithms and networks run the world*. Harvard Business Press.
- Jabbouri, R., Truong, Y., Schneckenberg, D., & Palmer, M. (2019). Institutional means-ends decoupling work in industrial R&D project implementation. *Industrial Marketing Management*, 80, 296-311. <https://doi.org/10.1016/j.indmarman.2019.01.012>
- Jelodar, H., Wang, Y., Yuan, C., Feng, X., Jiang, X., Li, Y., & Zhao, L. (2019). Latent Dirichlet allocation (LDA) and topic modeling: Models, applications, a survey. *Multimedia Tools and Applications*, 78(11), 15169-15211.
<https://doi.org/10.1007/s11042-018-6894-4>
- Kakatkar, C., Bilgram, V., & Fuller, J. (2020). Innovation analytics: Leveraging artificial intelligence in the innovation process. *Business Horizons*, 63(2), 171-181.
<https://doi.org/10.1016/j.bushor.2019.10.006>
- Keding, C. (2021). Understanding the interplay of artificial intelligence and strategic management: Four decades of research in review. *Management Review Quarterly*, 71(1), 91-134. <https://doi.org/10.1007/s11301-020-00181-x>
- Krish, S. (2011). A practical generative design method. *Computer-Aided Design*, 43(1), 88-100. <https://doi.org/10.1016/j.cad.2010.09.009>
- Loučanová, E. (2016a). *Inovačné analýzy a stratégie [Innovation analysis and strategies]*. Technical University in Zvolen.
- Loučanová, E. (2016b). *Produktové inovácie [Product innovations]*. Aprint.
- Rhyn, M., & Blohm, I. (2017). Combining collective and artificial intelligence: Towards a design theory for decision support in crowdsourcing. In I. Ramos, V. Tuunainen, & H. Krcmar (Eds.), *European conference on information systems* (pp. 2656-2666). University of Minho.
- Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*. Crown Business.
- Slávik, Š. (1999). *Strategické riadenie podniku [Strategic business management]*. Sprint.
- Tidd, J., & Bessant, J. R. (2020). *Managing innovation: Integrating technological, market and organizational change*. John Wiley & Sons.
- Tureková, H., & Mičieta, B. (2003). *Inovačný manažment – východiská, overené postupy a odporúčania [Innovation management – starting points, best practices and recommendations]*. University of Žilina.
- Zaušková, A., & Loučanová, E. (2008). *Inovačný manažment [Innovation management]*. Technical University in Zvolen.

Contact Data:

Assoc. Prof. Ing. Erika Loučanová, PhD.
 Technical University in Zvolen
 Faculty of Wood, Sciences and Technology
 T. G. Masaryka 2117/24
 960 01 Zvolen
 SLOVAK REPUBLIC
 loucanova@tuzvo.com
 ORCID-ID: <https://orcid.org/0000-0003-0505-3251>

NOMOPHOBIA – HOW SMARTPHONE ADDICTION CAN AFFECT SOCIAL MEDIA BEHAVIOUR AND IMPLEMENTED COMMUNICATION STRATEGY

Adam Madleňák – Vladimíra Hladíková

DOI: <https://doi.org/10.34135/mmidentity-2023-32>

Abstract:

The scientific contribution addresses the issue of addiction to smartphones and examines how modern technologies change the possibilities and forms of interpersonal communication and behaviour. The main aim of the scientific contribution is to identify the ways in which rapidly developing technological devices, especially smartphones, transform mutual interactions and communication methods of their users in the digital era. Special attention is paid to the role of mobile devices in everyday life, considering their versatility, portability, and ability to integrate with other digital platforms. The focus of the contribution is the second chapter dedicated to the phenomenon of technological interference, which is also associated to the concept of nomophobia, denoting a state of psychological dependence or irrational fear of being separated from a mobile device. The term nomophobia is a defined set of symptoms and manifestations characterized by an excessive and often uncontrolled urge to be constantly connected to a mobile phone, accompanied by anxiety or panic in the event of its loss, unavailability, or discharged battery, which can result in the deterioration of social relationships and a negative impact on the psychological health of individuals, especially the Generation Alpha. In conclusion, the authors appeal to the importance of digital resilience and the necessity of a balanced approach to the use of digital technologies, emphasizing the importance of media literacy and the development of effective strategies to minimize the negative consequences of digital media. The aim of the scientific contribution is to provide a more comprehensive view of the dynamics of the relationship between information and communication technologies and innovations, which unequivocally includes smartphones, and their social implications, and thereby contribute to understanding and solving the issue of technologically determined metamorphoses in the social behaviour and communication of their users.

Key words: Addiction. Communication. Digital Technology. Nomophobia. Smartphone. Technofence.

1 Introduction

The current era, characterized by an exponential increase in technological innovations and the rapid development of information and communication technologies, leads us to reevaluate traditional communication tools and information sources. As a result of the requirement established by society related to the provision of fast and unlimited communication between people, which would be connected in parallel with the possibility of actively searching for additional or completely new digital information, it can be highlighted the importance and irreplaceability of mobile devices in the process of acquiring individual knowledge, skills and habits shaping applied behaviour models. It is no longer true that the mobile phone is used exclusively for conducting telephone conversations and sending or receiving short text or multimedia messages. Although it was originally the primary purpose of owning such a device, we are currently observing the growing popularity of various software communication applications that expand the functionality of mobile devices in a suitable way, especially in relation with an Internet connection. Through them, users regularly create and edit photos, videos, listen to music, follow content online, chat and participate in discussions on social media or store personal documents in them.

Following on from the above, it is possible to define mobile devices as small portable electronic wireless devices with their own power supply, which usually dispose of software applications that increase the benefit for the user. By default, we can hold and control them with one hand, while using a touch screen or a miniature button keyboard (Rieber, 2017).

Under this definition, we can imagine not only a mobile phone, but also a notebook, tablet, PDA, reader of electronic text files, smart watches and bracelets, GPS navigation, MP3 and MP4 players or game consoles.

2 Specifics of Mobile Devices and Smartphones

An extensive overview of the common characteristics of mobile devices is based on the so-called portability, which is based on their relatively simple transferability in space (Rowles, 2017). Since the current trend is to minimize the size and weight of all electronics, it is not a problem to take it with you practically anywhere. This implies the need to consider the range of functions useful for any mobile device owner. It should therefore be natural to provide variability in the form of individual adaptation of the programmed system to specific conditions in its surroundings. Individuality, on the other hand, emphasizes specific features typical of activities carried out by a given mobile phone user. Their pace or fluency can be taken into account. Modern mobile devices can also communicate with other devices via an integrated Bluetooth and Wi-Fi interface. It is possible to establish a connection with, for example, other smartphones, computers, on-board computers of cars, speakers, etc. Thanks to the connectivity, it is possible to connect several devices and then monitor the speed of the data flow in the network. Through various software applications installed in mobile devices, their users cooperate to exchange information necessary for their own education, personal development, but also to improve the quality of the services consumed. We can also assume the emergence of social interaction in connection with proving the existence of contextual sensitivity when working with mobile devices. It considers the variability of performance and mainly takes into account the sensitivity to current spatial and temporal parameters when acquiring information.

By generalizing the essential properties of mobile communication, the acronym MAGIC can be created, which simply names its main attributes and tendencies applied in the context of digitization of mediated content:

- mobile (use of portable electronic devices),
- anytime (exchange of information between subjects allowed at any time),
- globally (application of a globally widespread standardized type of communication),
- integrated (synergy of the latest technological procedures in order to continuously increase the qualitative level of data transmission and commercialization of multifunctional devices),
- customised (adaptability of the electronic device to the needs of its user) (Hua, 2019).

In recent years, we have noticed an upward trend in the use of smartphones at the expense of other types of mobile devices. The reason is their decreasing price, easy operation, elegant design, relatively strong battery performance and especially support for fast internet connection. Simply put, a smartphone is a pocket computer integrated into a mobile phone (Rowles, 2017).

Over time, the first smartphone is considered to be a product from IBM called the Simon Personal Communicator, which was sold on the market since 1994. This revolutionary product integrated the functions of a mobile phone and a PDA, while being the first to support some advanced functions previously only known from computers. It had a monochrome LCD screen, which was controlled by a touch pen (stylus). The phone was able to work with e-mail, fax, display events stored in the calendar or record notes in writing. However, the term “smartphone” did not become popular until 1995. It was related to the description of AT&T’s PhoneWriter Communicator device in the press. The mass use of smartphones, which would come close to today’s phones thanks to an intuitive user interface, quick responses, and useful functions, was contributed by the launch of the oldest iPhone model from Apple in 2007. It

was the first device in which the control of the system was dominated by the touch of a finger instead of stylus or keyboard. Since then, the popularity of smartphones has grown exponentially (Holland, 2016).

An interesting finding related to mobile devices can be acknowledged by examining the level of penetration of various product categories across American households during the 20th century. While it took decades for at least half of American households to own a phone, it took less than 15 years for mobile phones to reach the same market penetration figures (McGrath, 2023). The graphic overview below indicates that the rate of adoption of new products by the general public is still accelerating under the influence of the popularization of attractive innovations ensured through modern information and communication technologies, as well as increasing demands for convenience in the context of the expanding character of the consumer lifestyle.

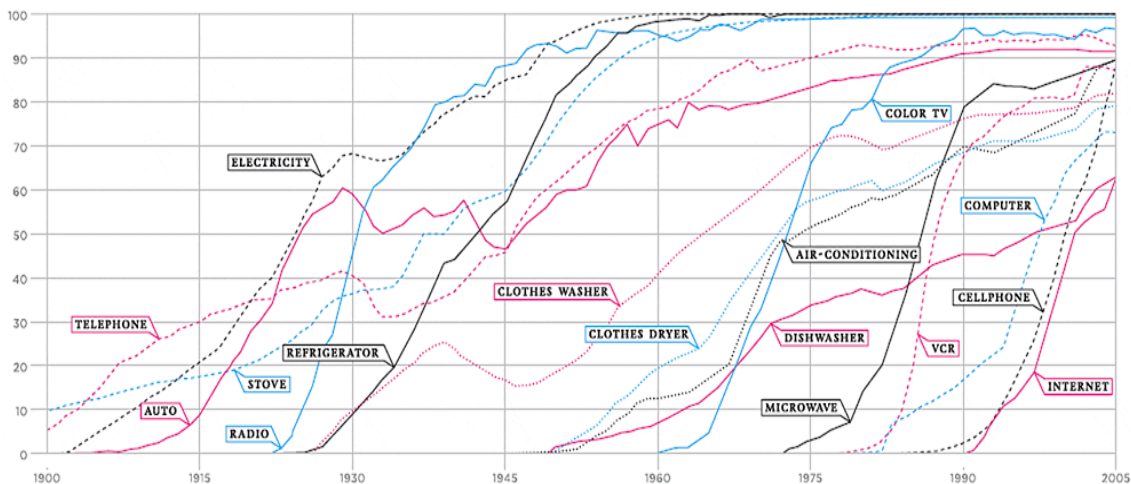


Figure 1: Percentage of households in the US market using different categories of innovative products during the 20th century
Source: McGrath (2023)

Currently, 68% of the world’s population owns a smartphone. This indicates that on average two out of three people randomly approached should use such a mobile device regularly. At the same time, however, it should be emphasized that there are large regional differences regarding the penetration of smartphones in the general population. While the share of unique smartphone users rises above 80% in the developed countries of the European Union and in the USA, in less developed countries, which include many African countries, Brazil or India, this value is significantly lower, sometimes even by more than 20%. At the same time, the development in the Slovak Republic copies the global trend of growth in the number of smartphone users, when from the beginning of the COVID-19 pandemic in 2020 until today, we observe an almost 10% increase in the share of their users. A more modest rise is expected in the coming period. Currently, 77.15% of the domestic population actively uses at least one smartphone at least once a month (Laricchia, 2023).

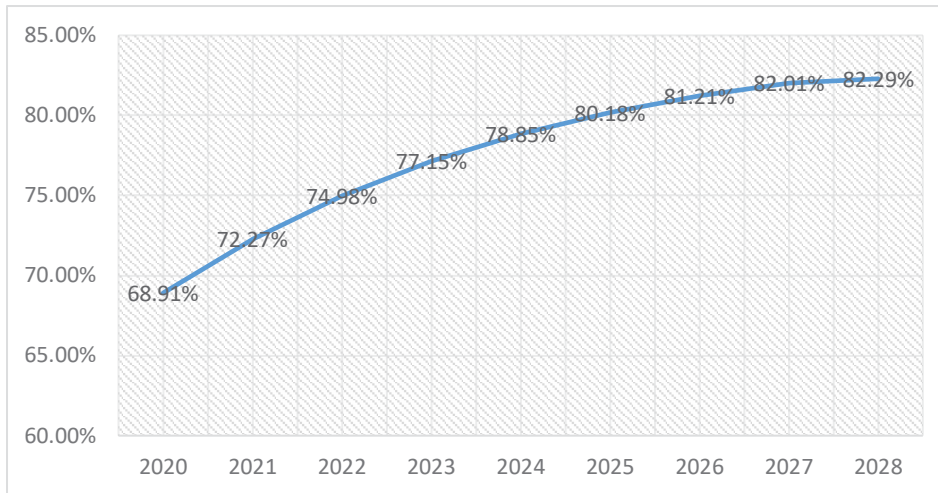


Figure 2: Estimated share of smartphone users in the Slovak Republic by 2028
Source: Taylor (2023)

Finally, we would like to refer to a paradox that began to appear more frequently in the results of various scientific studies (Moura & Faria, 2019; Bhattacharya et al., 2019) approximating trends in the mobile communication market. Despite the growing number of mobile phones that people actively use, while their total number in most cases exceeds all the inhabitants of given country, we can observe a decrease in the number of phone calls made in absolute terms.

3 Nomophobia as a Manifestation of Smartphone Addiction, Its Expressions, and Socio-Psychological Consequences

It can be stated that mobile devices radically influence social behaviour among people. They retain us in cyberspace, thus personal contact recedes. Electronic communication and its various forms are becoming favoured. Spending only minimal resources to ensure an unlimited connection with the surrounding world is often a motivating factor leading to compulsive or uncontrolled use of mobile devices. The resulting addiction can have a disruptive effect not only in interpersonal relationships, when we do not pay enough attention to physical subjects in our immediate vicinity, but also in situations that demand precision, accuracy, and increased concentration.¹ Psychologists have already started discussing the phenomenon of technofence. They address it as the daily repeated interruption of personal communication due to various electronic devices (Blinka et al., 2015). Symptoms include, for example, the effort to constantly control the content of incoming notifications even when we have not received any. Ultimately, this leads to disputes arising primarily from frustration and greatly weakened expressions of empathy. The seriousness of technological interference today underlines the ubiquitous determination to protect one's mental health and to emphasize the importance of psychohygiene. In addition, in professional publications we also encounter the so-called nomophobia², which psychologists interpret as the fear of being separated from a mobile device (King et al., 2013). In addition to the fear of losing the device or the signal of the mobile network, the possible discharge of its battery also causes due anxiety. Unexpectedly being without a mobile phone often results in stressful situations, a feeling of panic and loneliness. It may be accompanied by disturbances in concentration or

¹ Authors' note: For example, working with kitchen electrical appliances, with garden motor machines, driving a car and others.

² Authors' note: A neologism that was created by merging the terms *no – mobile – phobia*.

disorientation of the person for a certain period. Excessive sweating may occur, and the outlined discomfort of the mobile device user is liable to develop into depression.

Scientific studies (Sagar, 2019; Rosenberger, 2015) that have so far addressed the influence of mobile phones on the behaviour of users point to several quite specific situations that could make a person affected by nomophobia feel uneasy. It mainly represents the tense feelings caused by the illusion that the person's phone is ringing at a time when no one is actually contacting them. The existence of the condition denoted by the term *ringxiety*³ is conditioned by the user's strong personal relationship with the mobile device, through which he or she develops ties with family, friends, and acquaintances. A similar interpretation is associated with the concept of phantom vibration when the user of an electronic device mistakenly gets the feeling of an incoming notification on his or her mobile phone. The need to constantly check the display is therefore based on the individual's false assumption that he or she has just received a new notification on a topic of explicit interest to him or her.

The term nomophobia as a negative social phenomenon related to the increase in the availability of smartphones for the masses was first defined at the end of the 20th century. It stands for a psychological condition caused by the manifestations of a person's addictive behaviour in relation to a mobile device (Yildirim & Correia, 2015). Many consider it a civilizational disease, which is intertwined largely with people's dependence on the Internet (so-called *netholism*), because most of the communicated messages mediated by smartphones take the form of online content. On the contrary, others hold the opinion that these two phenomena cannot be equated and must be approached separately (King et al., 2010; Holdoš, 2022). The physical character of the mobile device, which is in the centre of attention in an attempt to approximate the essence of nomophobia, is meant to serve as a distinction, while in *netholism* the emphasis is rather on the immaterial nature of the virtual environment. Nomophobia is characterized by various typical movements of the fingers, hand, or the whole body, which depend on the shape of the mobile device, its control system or depend on the location of the mobile near the user. Since the behaviour belonging to the manifestations of nomophobia can be perceived as limiting and problematic regarding the normal functioning of the individual and interference with the quality of interpersonal relationships, we classify it among technological addictions. At the same time, it is a mental and non-substance (behavioural) addiction (Grant et al., 2010), which has adverse effects on the physical as well as mental health and social skills of the person concerned, while financial consequences are also not rare. It is also important to note that it is characterized by a strong desire or senseless compulsion that precedes the very performance of a certain activity. It should bring a feeling of relief, remove anxiety and fear, bring pleasure, which, however, loses its intensity over time. Again, this will therefore result in the need to repeat a certain mental act to achieve a state of mental well-being. Although the mentioned pattern of behaviour is harmful to the person, the person himself or herself is aware of the unwanted effect and is interested in solving this problem, but in the meantime he or she continues with the criticized behaviour.

Like other addictions, in the case of nomophobia, we can observe several characteristic manifestations in a person (Blinka et al., 2015), thanks to which it is possible to determine the degree of his disability. If the person in question deliberately postpones all activities that are not directly related to work on a mobile device, while it is the only one that is always the most important for him or her, it is possible to begin to deal responsibly with the existence of this negative social phenomenon. "Saliency" represents such behaviour that is deeply integrated into a person's daily routine until it gradually becomes necessary for his or her normal functioning in society. The need to perform certain actions dominates the thoughts of the mobile device user, influencing his or her reactions and expression of emotions towards

³ Authors' note: A neologism that was created by merging the terms *ring* and *anxiety*.

the environment. Sudden mood swings appear repeatedly in the person involved, based on the subjective experience of the activity carried out with his or her mobile phone, while he or she can immediately reach feelings of excitement, joy or, on the contrary, disappointment and great frustration, which he or she immediately tries to eliminate by starting over. When the object of addiction is available, the mood tends to improve significantly, sometimes to euphoric states. The disadvantage is also the unconsciously shifting boundary of acceptance of what can be considered standard behaviour when working with a mobile device. The increasing tolerance of addictive behaviour on the part of the performer also means that for the favourite activity to bring him or her sufficient benefit and pleasure in the long term, it is necessary to gradually increase its intensity, frequency, or scope. We call the set of symptoms that appear when the planned information exchange process via mobile phone cannot be ensured at the required level “withdrawal syndrome”. An individual affected by this syndrome then has a significantly worse mood, is irritable and nervous. He or she often cannot concentrate properly on anything. His or her aggressiveness may also increase regarding any comments on his or her person from others. We can even compare the listed symptoms to withdrawal symptoms in various forms of substance addiction. Consequently, the result of the described is a conflict taking place not only on the interpersonal level, but also on the intrapsychic level. Good relationships in private life and work are usually disrupted. At the same time, the individual feels a loss of control over his or her life due to the absence of a strong will to stop the reprehensible behaviour. If he or she succeeds in overcoming these obstacles, then, considering the need to regularly use smartphones to connect with the outside world, we can never speak of a state of complete permanent abstinence, as is the case with other addictions. So-called relapse as a return to problematic behaviour is therefore possible in the future and highly probable without the adoption of adequate measures designed to prevent risky activities or compliance with pre-agreed rules of coexistence.

So far, several experts (Bianchi & Phillips, 2005; Sagar, 2019) have tried to identify the probable causes of the emerging addiction to digital technologies and related technology. They agreed that one of the main reasons why a person wants to have a mobile device near him or her and the opportunity to use it anytime and anywhere is the natural desire to learn, independently acquire new knowledge necessary for life and maintain contact with others. Even though the quality of such established and long-term maintained relationships is relatively low, as there is an absence of real (unmediated) personal contact linked to the non-verbal expression of the communicator, as well as physical evidence consisting of the conditions under which the process of information exchange takes place, for many it is often preferred type of social interaction. In addition, a quality mobile device can, under certain circumstances, fulfil the role of a representative of a social class and at the same time be a symbol of a certain social or economic status of the person concerned. The brand, phone model and associated functions can be evaluated more closely, which will tell about the owner’s capabilities, respectively his or her available resources. Ultimately, from the point of view of others, a sign of the importance and popularity of an individual can also be the very busyness of the device at the time when they are interested in interaction. Indubitably, it also has an informative value for the smartphone user because he or she feels desirable, attractive, and valuable to society at that moment. Disappointment thus occurs if there is subsequently a longer pause, which could trigger a series of unwanted reactions classified as a manifestation of one of the mentioned forms of dependence on digital technologies and techniques.

4 Conclusion

In the current age of digital transformation and continuous technological advancement, mobile devices have become an integral part of human life, and their importance and impact

on society is undergoing a continuous process of evolution. While the original functions of mobile devices were limited to basic communication in the form of phone calls and text messages, the current generation of these devices penetrates through various applications into numerous aspects of a person's daily functioning, leading to significant changes in the interactions between people as well as in their individual behaviour, perception, and evaluation of the world. Smartphones imply an ambivalent character, with the opportunities and risks associated with them being directly linked to the ways in which they are used. Their advantages in terms of communication, instant availability of information and social connectivity are indisputable, but they are accompanied by potential negative consequences in various contexts (social, educational, axiological, cultural-ethical and others).

The range of scientific problems addressed in this contribution tends to emphasize the need for a more balanced and conscious approach to mobile technologies. In the context of the issue of nomophobia, it is possible to mention the necessity of more intensively dealing with the issues of digital resilience at the individual and societal level, within which we can appeal in particular to the strengthening of media literacy, the ethical and responsible use of technologies and the development of strategies to mitigate the undesirable effects of digital media in order to maximize their benefits and minimize their negative consequences. While mobile devices greatly enrich our lives and provide countless opportunities for personal development and entertainment, it is important to maintain a balanced relationship with them, in which the emphasis is placed on the conscious and controlled use of digital media and to be aware of the potential risks that they immanently bring with them.

Acknowledgement: This paper was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-22-0469, titled 'Traveling Map of a Digital Platform Providing AI (Artificial Intelligence) Automatization of Management Processes in the Area of Communication Strategy'.

This paper was elaborated within a national project supported by the Cultural and Educational Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (KEGA) No. 025UCM-4/2023, titled 'Risks and Opportunities of (Online) Education in the Times of Technological Interference'.

Bibliography

- Bhattacharya, S., Bashar, M. A., Srivastava, A., & Singh, A. (2019). Nomophobia: No mobile phone phobia. *Journal of Family Medicine and Primary Care*, 8(4), 1297-1300. https://doi.org/10.4103/jfmipc.jfmipc_71_19
- Bianchi, A., & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *CyberPsychology & Behavior*, 8(1), 39-51. <https://doi.org/10.1089/cpb.2005.8.39>
- Blinka, L., Škařupová, K., Ševčíková, A., Licehammerová, Š., & Vondráčková, P. (2015). *Online závislosti [Online addictions]*. Grada Publishing.
- Grant, J. E., Marc, N., Potenza, M. N., Weinstein, A., & Gorelick, A. D. (2010). Introduction to behavioral addictions. *The American Journal of Drug and Alcohol Abuse*, 36(5), 233-241. <https://doi.org/10.3109/00952990.2010.491884>
- Holdoš, J. (2022). *Vybrané diagnostické postupy pri zisťovaní závislosti od internetu [Selected diagnostic procedures for detecting Internet addiction]*. Verbum.
- Holland, H. (2016). *Dialogmarketing: Offline- und online-marketing, mobile- und social media-marketing [Dialogue marketing: Offline and online marketing, mobile and social media marketing]*. Verlag Franz Vahlen.

- Hua, H. (2019). *Mobile marketing management: Case studies from successful practices*. Routledge. <https://doi.org/10.4324/9780429030871>
- King, A. L. S., Valença, A. M., & Nardi, A. E. (2010). Nomophobia: The mobile phone in panic disorder with agoraphobia: Reducing phobias or worsening of dependence? *Cognitive and Behavioral Neurology*, 23(1), 52-54. <https://doi.org/10.1097/WNN.0b013e3181b7eabc>
- King, A. L. S., Valença, A. M., Silva, A. C. O., Baczynski, T., Carvalho, M. R., & Nardi, A. E. (2013). Nomophobia: Dependency on virtual environments or social phobia? *Computers in Human Behavior*, 29(1), 140-144. <https://doi.org/10.1016/j.chb.2012.07.025>
- Laricchia, F. (2023, October 15). *Global smartphone penetration rate as share of population from 2016 to 2022*. <https://www.statista.com/statistics/203734/global-smartphone-penetration-per-capita-since-2005/>
- McGrath, R. (2023, September 23). The Pace of technology adoption is speeding up. *Harvard Business Review*. <https://hbr.org/2013/11/the-pace-of-technology-adoption-is-speeding-up>
- Moura, M. A., & Faria, A. F. (2019). Production, search and information sharing in the context of mobile commerce. *Em Questao*, 25(1), 414-441. <https://doi.org/10.19132/1808-5245251.414-441>
- Rieber, D. (2017). *Mobile marketing: Grundlagen, strategien, instrumente [Mobile marketing: Basics, strategies, tools]*. Springer Gabler. <https://doi.org/10.1007/978-3-658-14777-8>
- Rosenberger, R. (2015). An experiential account of phantom vibration syndrome. *Computers in Human Behavior*, 52, 124-131. <https://doi.org/10.1016/j.chb.2015.04.065>
- Rowles, D. (2017). *Mobile marketing – how mobile technology is revolutionizing marketing, communications and advertising*. Kogan Page.
- Sagar, K. (2019). Smartphone addiction: Nomophobia. *Asian Journal of Nursing Education and Research*, 9(4), 583-587. <https://doi.org/10.5958/2349-2996.2019.00128.9>
- Taylor, P. (2023, October 15). *Smartphone penetration rate in Slovakia 2019 – 2028*. <https://www.statista.com/statistics/568262/predicted-smartphone-user-penetration-rate-in-slovakia/>
- Yildirim, C., & Correia, A. P. (2015). Exploring the dimensions of nomophobia: Development and validation of a self-reported questionnaire. *Computers in Human Behavior*, 49, 130-137. <https://doi.org/10.1016/j.chb.2015.02.059>

Contact Data:

PhDr. Adam Madleňák, PhD., MBA
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 adam.madlenak@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0001-5634-7263>

PhDr. Vladimíra Hladíková, PhD., MBA
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
vladimira.hladikova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0001-6676-5450>

MEDIA CONSUMPTION PATTERNS AND ATTITUDES OF YOUNG PEOPLE TOWARDS PUBLIC SERVICE MEDIA

Dóra Mierková

DOI: <https://doi.org/10.34135/mmidentity-2023-33>

Abstract:

The topic of this paper is based on a broader understanding of media environment and the role of public service media. The paper focuses on public service media and its role in the public service for youth and provides insight into the media outlets' current position, definition and audience reach, their roles and values, especially with regards to the public service. This paper presents the results of a survey comparing the media usage habits of young people in Slovakia and Hungary. The main goal of the paper is to contribute to the understanding of emerging trends in the production and distribution of media content and the practical use of the educational function of public service media for young audiences. As the research was conducted at the Faculty of Central European Studies, the results also provide a more expanded view of the regional status of media consumption and the relationship to public service media among youth.

Key words: Internet. Media. Public Service. Public Service Media. Social Media. Teens. Youth.

1 Introduction

Media consumption patterns of the young audiences have been strongly influenced by accelerated technological development in recent years. While television used to be the most popular media type, it has now been losing its stable position among young people for some time. Today's generation of young people was already born into a multimedia information environment. For younger generations, the boundary between the material and virtual worlds is getting increasingly blurred, and many aspects of the public arena are following this ambivalent pattern. It should be noted that despite spending more than three hours a day on the Internet, young people know little about the functioning of online media and even less about the function and role of public service media. The question is whether or not young people are even familiar with the concept of public service media and are able to interpret it correctly. Undoubtedly, media education of young people alone is an important factor. As shown in the results of our survey, its level varies regionally. Despite the fact that teenagers use various social media and online platforms on a daily basis, little space is devoted to media education. In her paper, Nováková (2013) compares media education in schools in neighbouring countries. In the Czech Republic, a project called *Media Smart* has been running since 2002. Its aim is to increase media literacy of pupils aged 6 to 11. In Slovakia, media education is still a cross-cutting subject, introduced at schools as an optional and elective subject. However, as early as in 1994, the first methodological manual in the field of media education was published in Slovakia. Still, there is a lack of qualified teachers and this subject is insufficiently incorporated in the concept of educational standards. Media education in Hungary is taught as a separate subject or as an integrated part of other subjects, e.g. civic education, visual culture and information technology. All activities in this field are covered by the Regional Media Education Centres.

The present paper provides up-to-date information on media types used by young people in our region, usage frequency, and whether or not there are differences, for example, in the perception of public service media among young people in Slovakia and Hungary. The topic is also being intensively addressed in various surveys abroad. A new Pew Research Center survey of American teens aged 13 to 17 finds that TikTok has skyrocketed in popularity since its debut in North America a few years ago. The research data presented in

this paper present some very similar results about Slovak and Hungarian teens (Vogels et al., 2022).

2 Public Service Media in the Online Environment

The starting point for the present paper is the hypothesis that in the era of global techno-culture, the role of public service media is changing, or rather expanding. This means that although television and radio were the main platforms through which the public service media fulfilled their role, these channels are no longer sufficient.

Rumphorst, former legal analyst at the EBU (European Broadcasting Union), explains the importance of public service media in his communication *Public Service Broadcasting – with introductory note and explanatory notes* (2007). According to Rumphorst, the public or audience is the entire population of the country (or region) that the public service broadcaster is intended to serve.

“Entire population” has a double meaning by Rumphorst (2007):

Firstly, in terms of technical coverage, it means that ideally every household in the service area should be in a position to receive the programme service. This is akin to the universal service concept which is familiar in other – result-oriented – public services such as water, gas, electricity supply as well as telephony and public transport. Secondly, it means all groups and sections of society: rich and poor, old and young (and in between), educated and less well educated, people with special interests (whether these are cultural, religious, scientific, sporting, social, economic or related to anything else), but also society as a whole. The entire population, in this sense, must be served by public service programming (even though it is impossible to please everybody all the time). (Rumphorst, 2007, p. 2)

According to Gibbons (1998), the two characteristics of public service media are universal nature and cultural responsibility. The former ensures that public service media reach as many people as possible, the latter provides that the content is of the right quality and serves the citizens.

The phenomenon of the Internet and social media has changed the perception of the target group reach, as the young generation already uses online media to a larger extent compared to television or radio. Media content may respond to the needs of an individual, a group or even the public at large or, conversely, it may facilitate the emergence of new needs (Jiráková & Köpplová, 2015). McQuail (2000) adds that a new audience may also be generated through technological innovation, or a completely new channel may emerge. Jakubowicz, in his book *The New Ecology of Media: Between Convergence and Metamorphosis* (2013), intensively addresses the vision of convergence claiming that convergence requires the media to adapt to the new environment. According to Moravec, technological progress has made the creation and distribution of audiovisual content through new media a key issue. Moravec further emphasizes that public service media should adapt to the new digital environment, which will enable the promotion of social cohesion at local, regional, national and international levels (Moravec, 2016). For several reasons mentioned above, this idea will undoubtedly become a burning issue in the near future for the functioning of public service media. On a global scale, we are already witnessing the continuous generation and distribution of content across various media platforms, while even in neighbouring countries, such as Hungary, public service media are already preparing their content also exclusively for social media.

Table 1: Internet users by percentage of the population aged 16-74

Year	Slovakia	Hungary	EU27 2020
2005	50.00%	37.00%	-
2010	76.00%	61.00%	67.00%
2015	78.00%	73.00%	78.00%
2020	90.00%	85.00%	88.00%
2021	89.00%	89.00%	89.00%

Source: Központi Statisztikai Hivatal (2023)

At the end of 2021, the Statistical Office of the Slovak Republic reported the results of a survey on the use of information and communication technology in Slovak households for 2020. The report shows that over 90 percent of young people are active social media users (Yar, 2021). The media have a significant socializing influence felt especially by children and youth. However, this age group does not have enough experience to cope with the media influence and acquire sufficient knowledge and understanding of how the media function and what background they have. To gain better understanding of the current challenges posed by online media, the pitfalls of social media and new technologies such as artificial intelligence (AI), public service media should play a pivotal role. A new survey by Ofcom has shown that an increasing number of teenagers are turning away from traditional media and consume news content from social media. Yih-Choung Teh, Ofcom Director of Strategy and Research, said in a statement that it is now increasingly unlikely that teenagers will pick up newspapers or tune into TV news and instead prefer to inform themselves by scrolling through their social channels. And although young people find messages on social media less reliable, they rate these services better because they provide different views on the latest daily events (Silloto, 2022).

Available surveys also regularly report which topics are currently the most frequent subjects of search among young people. One of the key roles of the public service media is the education of children and youth, however, it is currently not performed via regular broadcast but through online content. Still, it is necessary to take into account the need for both technological and communication development of these media. As public service media, they should be innovators on the topic. The concept of media identity is also increasingly understood as a strong determinant leading to self-reflecting perception and performance of the given entity. In the case of the media, we can also talk about an identity which is assumed to contain a certain self-expression and response to the role assigned to these media entities by the society at large (Fukuyama, 2019). In his analysis of new media, Manovich (2018) sets these media in the broader context of modern media culture. And it is exactly in this cultural context where the virtual world and virtual reality are shaping, which changes the perception of the media and media content in general and the media at large. In many countries, public service media strive to reach out to the young generation and create separate projects for this audience. Supporting education and learning, for example, is very important in the UK and also for the BBC, which is also mentioned several times in the BBC Annual Report 2021/2022 (2022), which specifies that one of the objectives of the BBC is to promote education for people of all ages: the BBC should help everyone learn about different topics in a way that is accessible, engaging, inspiring, interesting and stimulating for them. The BBC should provide dedicated educational content to support education for children and young people across the UK. Showcase the most creative, high-quality and distinctive outputs and services: The BBC should deliver high-quality outputs across many different genres, services and platforms that set the standard in the UK and internationally (BBC, 2022).

The BBC education service titled *Bitesize* is used by 64% of primary school pupils as well as 75% of secondary school pupils. Moreover, 82% of students under the age of 16 who use *Bitesize* claim it helps them better understand their studies, while 65% of secondary

school users say it helps them achieve better grades. During the COVID-19 pandemic, the BBC launched “Lockdown Learning” programme and prepared more than 80 hours of youth-targeting content. The aim of the BBC’s *Bitesize* is to help students fully develop their full potential through educational content, services and participatory experience from the BBC. Among other things, the *Bitesize* website also features content aimed at education the audience about AI, such as the quizzes titled “Have you fallen for Artificial Intelligence? Have a go at this quiz and see if you can spot the real from the AI!”(BBC, n.d.).

3 Methods

This paper presents a comparative analysis of media consumption among Slovak and Hungarian youth in terms of media habits and respondents’ attitude to leisure time. The main method applied to compare these phenomena was a questionnaire survey. In 2022 and 2023, a questionnaire-based survey titled “Quantitative research: A survey on the consumption of Hungarian and Slovak media by young people aged 14-19” was conducted by the author of this paper at the Faculty of Central European Studies of the Constantine the Philosopher University in Nitra within the framework of doctoral studies. The questionnaire was aimed to explore the young people’s awareness of the public service media function and the intensity of social media consumption was also surveyed. The survey was conducted at primary schools¹ and secondary grammar schools. A total of 305 students aged 14 to 19 took part in this survey. The answers from three groups of respondents are compared against each other: Slovak youth, youth of Hungarian ethnicity in Slovakia and Hungarian youth in Hungary. By comparing the answers to the questions provided by the respective respondent subgroups, we obtained a picture of the differences in the use of individual media outlets as well as better understanding of the respondents’ media literacy. The results of the thematic analysis show that the functioning and routines of public service media in Slovakia and Hungary are very diverse and also differ compared to European trends. The aim was to find out how these public service media define their function in the current social context, what types of products and content they disseminate and with what response from the selected target group. The analysis presents the results of a survey to determine whether the content and form reflect the basic rules of successful communication to the public, especially in relation to the younger generation and minorities. We consistently strive for a quantitative approach, drawing on foreign literature (Anderson &Arsenault, 1998; Strauss & Corbinová, 1999), because we want the numbers to be meaningful and to reflect an aspect of the reality under study. At the same time, we are aware that some aspects of the media environment are so complex that it is difficult to verify them quantitatively and to draw objectively given results from them. Nevertheless, we believe that despite the complexity of the problem, this difficulty does not detract from the fact that we do not address these issues.

4 Results

The third chapter of this paper interprets the results of the questionnaire through descriptive analysis. All 305 completed questionnaires were proved to be valid (100%).

¹ Author’s note: Primary school age in Slovak educational system is 6 to 14.

Table 2: Spending time on YouTube

	Slovak teenagers	Teenagers from Hungarian minority in Slovakia	Hungarian teenagers (Hungary)
More than 3 hours a day	18.48%	18.67%	9.52%
1 to 3 hours a day	43.48%	38.67%	39.68%
Several times a week	28.26%	30.00%	39.68%
Several times a month/ at least once a month	4.35%	6.67%	9.52%
Almost never or very rarely	5.43%	6.00%	1.59%

Source: own processing, 2022 – 2023

Most public service media already have their own YouTube channel, however, the quality of content, and its distribution and active conscious interaction with the audience on these channels is still missing in many cases. If we consider public service media as a media accessible to everyone, whose goal is to serve the public at large and optimize its audience reach, we cannot overlook the fact that the young generation can be most effectively reached exactly through social media and streaming channels. It is not uncommon for public service media to use this platform to reach audiences. BBC has 13.4 million subscribers on its YouTube channel while having registered its sub-channels such as BBC Sport, BBC World Service, BBC Reel, BBC Ideas, BBC Three, BBC Select, BBC Radio 1, BBC Radio 1Xtra, BBC Learning English and BBC Earth. BBC Ideas, as the channel itself declares, attempts to encourage curiosity with its content, open the mind to new perspectives and make the viewer a little more educated thanks to animations and content focused on science, philosophy and psychology. The above channel also works closely with many external partners, including The Open University. BBC Earth is another popular channel with 11.9 million subscribers. BBC Learning English has 5.02 million subscribers and a total of 257,899,339 views. For comparison, the RTVS YouTube channel has 46,800 subscribers, MTVA in Hungary has 96,800 subscribers, the Czech TV has 40,900 subscribers and 29,275,122 views.

Table 3: Reading online news

	Slovak teenagers	Teenagers from Hungarian minority in Slovakia	Hungarian teenagers (Hungary)
More than 3 hours a day	17.39%	7.33%	0.00%
1 to 3 hours a day	20.65%	14.00%	22.22%
Several times a week	28.26%	42.67%	46.03%
Several times a month/ at least once a month	19.57%	23.33%	23.81%
Almost never or very rarely	14.13%	12.67%	7.94%

Source: own processing, 2021

While videos and video sharing sites are extremely popular with young people, young audiences often find reading news on online platforms unappealing.

The next part of the questionnaire focused on social media and how often the young generation uses them. In the survey, we also wanted to identify any potential difference in the social media consumption patterns between young audiences in Slovakia and Hungary. Facebook is perhaps the best-known social network in the region. This platform enjoys the greatest popularity among the respondents, especially among Hungarian youth.

Table 4: Spending time on Facebook

	Slovak teenagers	Teenagers from Hungarian minority in Slovakia	Hungarian teenagers in Hungary
More than 3 hours a day	1.09%	3.33%	0.00%
1 to 3 hours a day	8.70%	21.33%	33.33%
Several times a week	22.83%	28.67%	38.10%
Several times a month/ at least once a month	20.65%	17.33%	15.87%
Almost never or very rarely	49.74%	29.33%	12.70%

Source: own processing, 2021

The next question focused on Instagram. All three respondent subgroups expressed much stronger interest in this social network compared to Facebook.

Table 5: Spending time in Instagram

	Slovak teenagers	Teenagers from Hungarian minority in Slovakia	Hungarian teenagers in Hungary
More than 3 hours a day	30.43%	25.33%	4.76%
1 to 3 hours a day	42.39%	46.00%	63.49%
Several times a week	9.78%	14.00%	15.87%
Several times a month/ at least once a month	7.61%	3.33%	4.76%
Almost never or very rarely	9.78%	11.00%	11.11%

Source: own processing, 2021

Another question in this section aimed to explore how much time respondents spend using TikTok. TikTok is a relatively young newcomer among other social media platforms. However, for a certain some time in 2022, TikTok was in fact the website with the highest traffic (HVG, 2022). We can also see its popularity reflected in the answers by survey respondents. Higher traffic on TikTok is also shown in the responses of young people in Hungary, of whom 20.63% indicated that they spend more than three hours a day using this app. Compared to Facebook and Instagram, this represents a significant shift in the survey results. There are also notable geographical differences in teenagers' social media preference.

Table 6: Spending time on TikTok

	Slovak teenagers	Teenagers from Hungarian minority in Slovakia	Hungarian teenagers in Hungary
More than 3 hours a day	30.43%	31.33%	20.63%
1 to 3 hours a day	31.52%	30.67%	39.68%
Several times a week	9.78%	7.33%	7.94%
Several times a month/ at least once a month	5.43%	3.33%	1.59%
Almost never or very rarely	22.83%	27.33%	30.16%

Source: own processing, 2021

Ofcom's 2020 and 2022 survey (Sillito, 2022) showed that an increasing number of teenagers are turning away from traditional media and consumer media content from social

networks. The number of people consuming news content on TikTok increased from 800,000 in 2020 to 3.9 million in 2022. In our survey, it was found that television is still an attractive source for leisure and entertainment, but several respondents added that they use TV as a mere channel mainly because of streaming services or for playing videos, e.g. via YouTube. Up to 27.00% of Slovak teenagers surveyed watch or use TV as a medium on a daily basis. Further responses later revealed that television is not a negligible source for leisure activities, but the media consumption patterns and content that this generation chooses and will probably choose to watch on this particular medium are changing. For movies, TV series and sports, television will continue to be an attractive media channel. However it will also have to compete for the viewer’s interest with other attractive content that the viewer is/will be able to select at a time of his or her own choosing.

Table 7: Consuming TV content

	Slovak teenagers	Teenagers from Hungarian minority in Slovakia	Hungarian teenagers in Hungary
More than 3 hours a day	7.61%	4.67%	0.00%
1 to 3 hours a day	20.65%	12.00%	12.70%
Several times a week	27.17%	34.67%	38.10%
Several times a month/ at least once a month	29.35%	32.00%	33.33%
Almost never or very rarely	15.22%	16.7%	15.87%

Source: own processing, 2022-2023

In the next question, we set out to examine how respondents perceive public service media in the country of their residence and whether or not they know exactly which media these are. Several differences were noted in the survey results and there are notable geographical differences in relation to these media among teenagers. The graph indicates the respondents’ answers to the question whether or not they know what public service media are as a concept. Regarding media literacy concerning the public service media and the definition of basic concepts and terminology in the media sector, we could observe that media literacy is lower among respondents in Slovakia compared to their peers in Hungary.

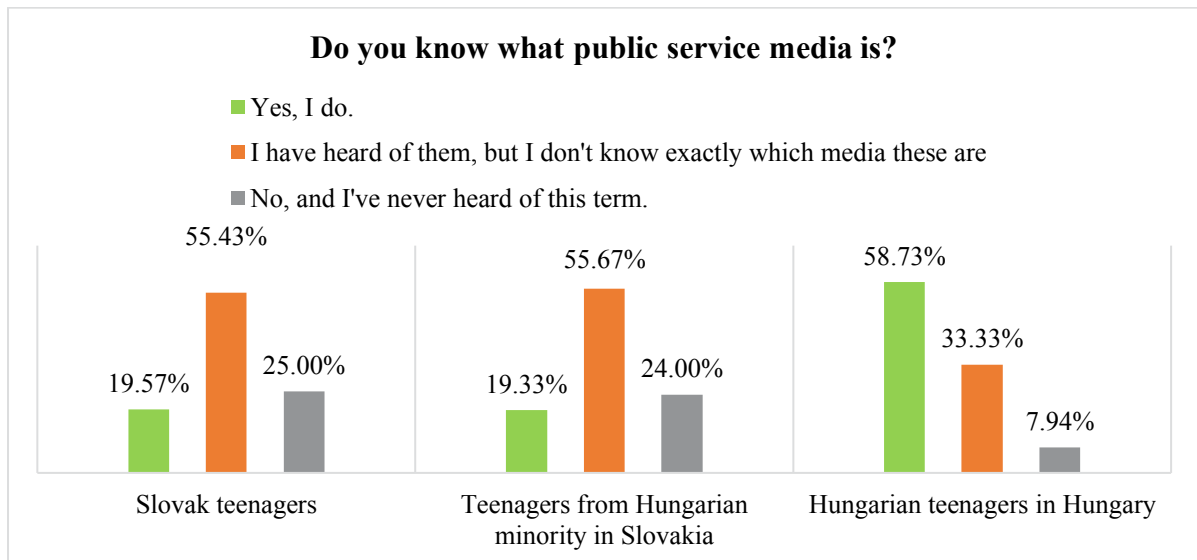


Figure 1: Awareness of public service media

Source: own processing, 2022-2023

The survey also examined the perception of public media by teenagers in Slovakia and Hungary. In this particular question, respondents were allowed to select from nine options. Mere 6% of Slovak teenagers rate public service media as very good media outlets with interesting content. Looking at their Hungarian peers, only 2% of respondents and only 0.64% of teenagers of Hungarian ethnicity in Slovakia chose the same answer. The dominant answer option indicated they rarely find content they like in these particular media. This answer was selected by approximately 20% of respondents in Hungary, 12% of Slovak respondents and 15% of respondents in Slovakia with Hungarian ethnicity. On average, Hungarian public service media received worse ratings than Slovak public service media. According to respondents in Hungary, their Hungarian public service media are outdated, and the respondents do not consider them reliable. However, despite the above criticism, some respondents indicated having favourable perception of some specific projects, in contrast to the overall negative attitude to the media as a whole. For example, content is also actively produced exclusively for social networks concerning sports or domestic musicians, domestic creative art and talents, which the Hungarian public media intensively support and strive to distribute across various platforms for the young audience. It should be noted that there exists the “Petőfi” project, which in addition to the radio and television station bearing the same name also extends as an acoustic concert event for young people on a boat on the banks of the Danube in Budapest.

In the next question, we aimed to examine whether or not the respondents were satisfied with the program offer of public service media for their particular age group. Less than 12% of Slovak students indicated they were satisfied with this content.

Table 8: Evaluation of public service media content

Answers	Slovak young people
a. Yes, very good content.	0.00%
b. Yes, fairly good content.	11.96%
c. No, not so good content.	26.09%
d. Not good at all.	5.43%
e. Don't know.	56.52%

Source: own processing, 2022-2023

The next question followed up on the previous one as we asked the respondents what program or content they would suggest public service media should broadcast for their particular age group. The largest number of respondents of Slovak and Hungarian ethnicity in Slovakia answered with “I don't know”, namely 26.72% of Slovaks and 32% of Hungarians. Respondents from Hungary most often chose the answer “educational and foreign-language content”, while only 12% of the respondents with Hungarian ethnicity in Slovakia selected this answer and so did the respondents of Slovak ethnicity. Next, equal proportion of Hungarian youth living in Hungary selected the option “educational videos on YouTube” as well as the option “I do not know”. According to the survey results, Hungarian teenagers in Slovakia show least interest in this topic. However, this group of respondents have the tendency to rather suggest sports, music, and dance-related online content. From the answers obtained, we can conclude that respondents would rather appreciate and positively perceive online content dedicated to their age group. This content could also come in the form of videos about literature, educational videos or a YouTube channel, tailored to the needs and interests of the younger generation.

Table 9: Suggestions for improving the content of public service media

	Slovaks in Slovakia	Hungarian minority in Slovakia	Hungarians in Hungary
a. I am satisfied.	6.11%	2.08%	0.97%
b. Less conventional literature lessons, videos about literature.	8.40%	2.60%	5.83%
c. Film adaptations of literary works on screen and online.	11.45%	7.29%	6.80%
d. Educational and foreign language content.	12.98%	12.50%	26.21%
e. Educational videos on YouTube.	12.21%	8.85%	17.48%
f. Sports, music and dance-related online content.	9.16%	19.79%	13.59%
g. It is mainly important to me that this content is available online.	12.98%	14.06%	11.65%
h. I don't know.	26.72%	32.81%	17.48%

Source: own processing, 2022-2023

5 Conclusion

The main hypothesis: Pupils and students participating in the survey will confirm limited interest in the current content offered by the public service media in Slovakia and Hungary. Public service media in Hungary are able to reach young audience in the 14-19 age group to a greater extent with their content. The survey has confirmed that young people show limited interest in the current offer of public service media content. Survey results obtained via questionnaires confirmed that some public service radio stations in Hungary are able to reach youth in the 14-19 age group to a greater extent compared to the radio stations of the public service broadcast in Slovakia. The factor of online availability of the content and its mutual linking across various social media has been proven to be crucial. The results of the survey has shown that the interest of young people in the existing offer of public service media content in the country of their residence is rather low. From the answers obtained, we can conclude that respondents would rather appreciate and positively perceive online content dedicated to their age group. The survey has also shown that interactivity and especially content shared via social media should be a strategic priority for public service media in their efforts to reach the young audience in the future. The goal of the presented paper is to contribute to the understanding of new trends in the production and distribution of media content and the practical use of the educational function of public service media for young people. The results of the research show that the youth in Slovakia and Hungary perceive their relationship to the public service media differently, but the trends reported by them are consistent on many issues.

Bibliography

- Anderson, G., & Arsenault, N. (1999). *Fundamentals of educational research*. Falmer Press.
- BBC. (2022). *100 years of our BBC. BBC group annual report and accounts 2021/22*. British Broadcasting Corporation.
<https://downloads.bbc.co.uk/aboutthebbc/reports/annualreport/ara-2021-22.pdf>
- BBC. (n.d.) *Bitesize*. <https://www.bbc.co.uk/bitesize/articles/zqnwxg8>
- Fukuyama, F. (2019). *Identita [Identity]*. Premedia.
- Gibbons, T. (1998). *Regulating in media*. Sweet & Maxwell.

- HVG. (2022, December 30). *Vége lehet a TikTok aranykorának, már nem a legnépszerűbb közösségi platform* [The golden age of TikTok may be over, it is no longer the most popular social platform]. https://hvg.hu/tudomany/20221230_tiktok_facebook_google_legnepszerubb_kozosseg_i_oldal_legnepszerubb_weboldal_cloudflare
- Jakubowicz, K. (2013). *Nové ekologie médií. Konvergence a mediamorfóza* [The new ecology of media: Between convergence and metamorphosis]. VeRBuM.
- Jirák, J., & Köpplová, B. (2015). *Masová média* [Mass Media] (2nd ed.). Portál.
- Központi Statisztikai Hivatal. (2023, September 26). *12.1.3.4. Internethasználók aránya (a 16-74 éves népesség százalékában)* [12.1.3.4. Share of Internet users (as a percentage of the population aged 16-74)]. https://www.ksh.hu/stadat_files/ikt/hu/ikt0029.html
- Manovich, L. (2018). *Jazyk nových médií* [The language of new media]. Karolinum.
- McQuail, D. (2000). *Mass communication theory. An introduction*. Sage Publications.
- Moravec, V. (2016). *Média v tekutých časoch. Konvergence audiovizuálných médií v ČR* [Media in fluid times. Convergence of audiovisual media in the Czech Republic]. Academia.
- Nováková, S. (2013). *Mediálna výchova ako integrálna súčasť vyučovania* [Media education as an integral part of teaching]. In J. Kancír (Ed.), *Aktuálne otázky prírodovedno-technických predmetov a prierezových tém v primárnej edukácii* [Current issues of science and technology subjects and cross-cutting themes in primary education] (pp. 239-248). Faculty of Education, University of Prešov.
- Rumphorst, W. (2007, February 21). *Public service broadcasting – model law – with an introductory note and explanatory comment*. <https://aemcg.org/wp-content/uploads/2018/06/Public-Service-Broadcasting-Model-Law.pdf>
- Silloto, D. (2022, July 21). *Teens shun traditional news channels for TikTok and Instagram*. <https://www.bbc.com/news/entertainment-arts-62238307>
- Strauss, A., & Corbinová, J. (1999). *Základy kvalitativního výzkumu: postupy a techniky metody zakotvené teorie* [Foundations of qualitative research: Procedures and techniques of grounded theory methods]. Albert.
- Vogels, E., Gelles-Watnick R., & Massart, N. (2022, August 10). *Teens, social media and technology 2022*. <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>
- Yar, L. (2021, January 11). *Vyššie 90 percent mladých Slovákov a Sloveniek je na sociálnych sieťach, viac ale zaujímajú dievčatá* [More than 90 percent of young Slovak men and Slovak women are on social media, but girls are more interested]. <https://euractiv.sk/section/digitalizacia/news/vyse-90-percent-mladych-slovakov-a-sloveniek-je-na-socialnych-sietach-viac-ale-zaujimaju-dievcata/>

Contact Data:

PhDr. Dóra Mierková, M.A.
 Constantine the Philosopher University
 Faculty of Central European Studies
 Dražovská 4
 949 74 Nitra
 SLOVAK REPUBLIC
 dora.mierkova@ukf.sk
 ORCID-ID: <https://orcid.org/0000-0002-6164-6230>

THE EFFECT OF BEER LABEL DESIGN ON CUSTOMER PURCHASE BEHAVIOR

František Milichovský – Pavel Mráček

DOI: <https://doi.org/10.34135/mmidentity-2023-34>

Abstract:

The brewing industry and its products represent an important economic indicator in the Czech Republic through which the health of the economy can be assessed. A significant problem can be seen in the regulation of marketing communication on the products of breweries by legislation. For this reason, there is a big boom in the creativity of beer labels and their impact on potential customers. The level and creativity of the label design reflect the perceived tradition of the brand, and vice-versa the influence of tradition on the design can be assumed – therefore a two-way link can be considered. The main objective of the paper is to find out potential factors, which influence customers' purchase decision-making process in retail. The beer labels are considered a key marketing communication element, on which base target customers usually choose and buy beer. The research was realized by repertory grid (RG), on which participated young people, during September 2023. The RG concept was employed in 24 mini-focus groups (MFG) where respondents identified possible influencing factors of three beers' labels on their potential purchase behavior. In realized 24 MFGs, there participated 3-6 members (a total of 119 persons). According to answers in the RG we defined seven influencing groups of factors with defined poles.

Key words: Beer Labels. Customer's Perception. Czech Republic. Repertory Grid.

1 Introduction

The Czech beer area has increased during the last decade due to the establishment of microbreweries. At present time there are a total of 569 companies, of which are only 45 at the industrial level. Microbreweries cannot compete with industrial breweries by the price level of beers or quantity. Their market positions are given by the offer of special kinds of beers. Therefore, they have to focus on creative marketing communication tools with an impact on quite small regions – local markets. That is also one of the reasons, why are some microbreweries unknown to a wide audience.

Marketing communication is an integral part of the marketing mix. In principle, marketing communication can be described as a means through which companies inform and persuade customers and remind them of the products and brands they offer (Kotler & Keller, 2012; Narula, 2006). The main goal of marketing communication can be considered as persuasion of the customer and the general public. This persuasion consists of influencing the customer's opinions, attitudes, and behavior and creating a positive motivation to buy the product (Březinová, 2023; Přikrylová & Jahodová, 2010; Narula, 2006). From a general point of view, all micro-breweries are micro-companies from the perspective of employees, turnover, or production amount. Therefore, the importance of marketing communication in its creative way is also an area of microbreweries very high, because almost all of them have low free budgets for marketing and communication activities (Březinová et al., 2019).

The future potential for establishing new breweries is given by various factors, such e.g. restrictions during Covid-19, the bad taste of industrial beers (homogenous beers), or geographic availability (Wojtyra et al., 2020; Donadini & Porretta, 2017) – these factors lead to large standardization of production and open “niche” for others. The key area, in which microbreweries should be excellent and competitive, is applying new technologies, catching new taste trends in the brewing industry, and differing from the other large companies. This differentiation should be mainly through graphical label design (Jaeger et al., 2021; De Paula et al., 2021; Orth & Malkewitz, 2008; Taylor & DiPietro, 2020).

The label or tag that accompanies a product can have a significant impact on customer perception and decision-making. Several key factors can influence this perception (Sester et al., 2013; Henley et al., 2011; Chang & Mak, 2018):

- Quality and value: the label can influence how customers perceive the quality and value of the product. For example, a product labeled as “premium” or “luxury” may be perceived as high quality and value, which may lead customers to pay a higher price.
- Health and safety: Products have usually labels such as “organic”, “non-genetically modified organism” or “vegan” which may be perceived as healthier and safer alternatives.
- Environmental sustainability: The label can also signal to customers whether the product is environmentally sustainable. Products labeled “eco-friendly” or “recyclable” may appeal to environmentally conscious customers.
- Origin and authenticity: The label can convey information about the origin of the product, which can be important for customers who prefer local or traditional products. The label can also signal authenticity and tradition.
- Customer experience: A well-designed and aesthetically pleasing label can make the customer process more enjoyable and the product more appealing.
- Psychological effects: Customers may prefer products that help them express their values, interests, or social status.
- Trust and loyalty: If labels are truthful and trustworthy, they can help build trust with customers. Customers who have a positive experience with a product based on the label may be more inclined to make repeat purchases.

It is important that labels are truthful and do not deceive customers, as false or misleading information can damage a company’s reputation and lead to a loss of credibility. Labels should also comply with industry regulations and standards. Perception and influence are key aspects of human behavior and decision-making on the way to buying an unknown beer and trying it (Lee et al., 2006; Osman & Jenkins, 2021). One of the phenomena that researchers are increasingly focusing on is the role of labels and tags in perception and influence processes (Dumitru et al., 2021; Kumar & Kapoor, 2017; Shukla et al., 2022; Ma et al., 2020):

- Perception through labels: Perception is the process by which people interpret and understand information from the external world. Labels and labels play a key role in how products, people, and situations are perceived. Studies show that labels can influence our expectations and preferences. For example, a product labelled as “organic” may be perceived as healthier and of higher quality, which influences consumer decision-making.
- Labels and decision-making: Labels can have a significant impact on our decision-making processes. Studies investigating this topic suggest that labels can influence what products people choose and what decisions they make. This is often linked to psychological mechanisms such as cognitive dissonance and conformational behavior.
- Labels and social influence: labels and labels are not only influencers of individual decision-making but also instruments of social influence. The media, advertising, and politicians often use labels to influence public opinion and behavior.

2 Methodology

The importance of marketing communication has increased during last decade because the marketing communication environment is full of vary messages and all customers are strongly resistant. This is relevant for any kind of products. Therefore, producers started to change their communication activities in extraordinary ways. The specific situation of

marketing communication approaches are in brewer industry as one of the long-term traditional Czech industry (Březinová, 2023; Chang & Mak, 2018).

The main aim of the paper is to find out potential factors, which influence customers' purchase decision-making process in retail. The beer labels are considered a key marketing communication element, on which base target customers usually choose and buy beer. According to the defined objective of the paper, research questions were stated:

RQ1: *What factors influence customer's purchase behaviour?*

RQ2: *What constructs and contrasts are in the influencing factors?*

To answer these research questions, the repertory grid (RG) was employed as interesting qualitative research method. The RG is qualitative research method, which allows description open parameters instead of close ones.

2.1 Sample Description

The research was realized by RG, on which participated young people, during September 2023. The research was carried out to identify possible factors influencing customer perception and behavior when choosing beers based on the label itself as a communication element. 24 MFGs were used to identify possible influencing factors, where a modified RG approach was used and adapted to the groups (3-6 members) on a sheet (total 119 persons). This was designed to identify possible factors that may be perceived quite individually by each recipient of the message.

The researcher begins by asking the participant about different situations or objects in a particular context (e.g. products, brands, life events). He then asks the participant to generate a list of constructs that he will use to describe these situations or objects. The constructs are often antithetical and express what is important to the participant. Next, the participant is asked to rate how each of these constructs relates to the situations or objects. This can be done using a scale where the constructs can be rated (Chang & Mak, 2018; Moon et al., 2017). Finally, mathematical analyses (often factor analysis) are used to process the data collected from different participants and identify patterns and dimensions that reflect the attitudes and preferences of the research sample (Berghoefer & Vollrath, 2022; Pauwels et al., 2016).

2.2 Chosen Method for the Data Processing

The RG method allows for deeper insight into people's subjective perceptions and evaluations, which has wide application in various research fields and professional contexts. It is a useful tool for exploring complex human attitudes and preferences. The RG is based on George Kelly's construct theory, which posits that people perceive the world around them through abstract constructs that form personal frameworks for understanding reality. These constructs can be words, concepts, or properties that people use to describe and evaluate different situations, things, or even people (Kelly, 2020; Huber & Kleinaltenkamp, 2020; Fransell et al., 2004; Klapper, 2014). In the case of using, for example, a conventional questionnaire survey, there could be bias based on the response options presented. For this reason, the use of a RG approach was evaluated as the most appropriate.

During the investigation we used a modified and adapted RG approach. This was designed to identify possible factors that may be perceived quite individually by each message recipient. We modified this basic approach into a form that uses three poles instead of two. We deliberately chose this number to establish preferences for three types – "standard beer", "special beer", and "non-alcoholic beer". Graphically, this set-up was prepared in the form of a triangle, with respondents describing on the side of each vertex for each edge why they

would choose that particular product. These repertoires were then written up and the factors were scored according to the frequencies from all respondents.

Respondents then justified their individual views in small groups and wrote them down on the modified RG card provided. The group was then presented with A5 cards containing the labels of the individual beers. The use of only the labels from the bottled beers was deliberately chosen to avoid influencing the overall perception elicited from the whole package – the beer bottle. The testing then used beer labels exclusively from Czech producers. These were then presented to each group of respondents in the form of all parts of the labels, i.e., main (belly), back, and neck. For a clearer presentation, these label parts were glued on cards (each product separately, see Figure 1). In case any of the products did not have any of the labels, only those present on the product were used.

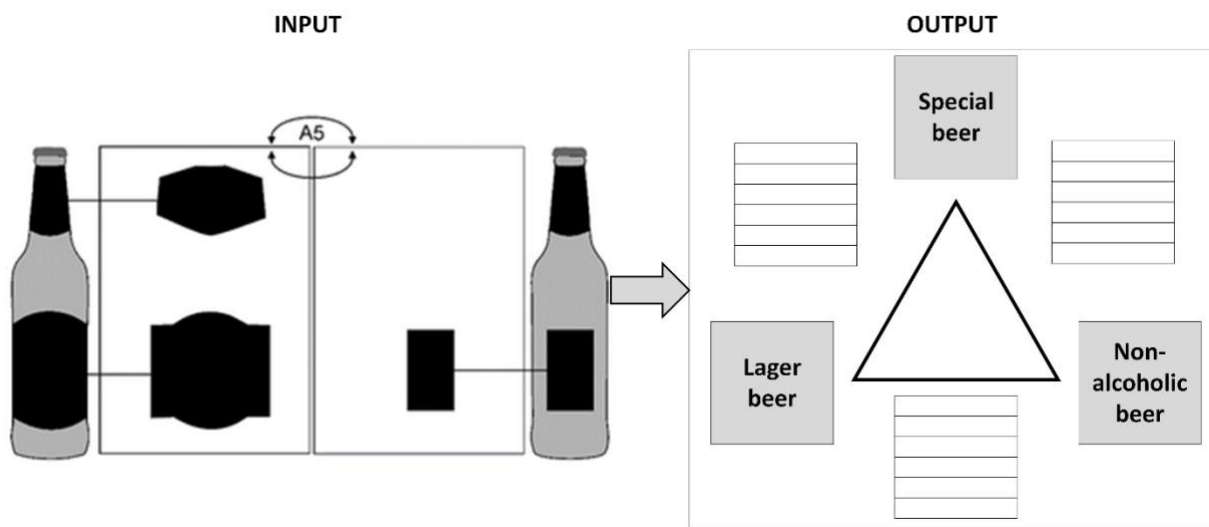


Figure 1: Description of repertory grid application
Source: own processing, 2023

3 Results

After evaluating all the focus groups completed and the RG cards written, the most frequently occurring factors that influenced respondents in choosing beer by label were identified. As expected, the overall design of labels plays a significant role in the purchase decision. Regarding the labels themselves, respondents also indicated that familiarity with the brand or product itself was an important factor. Here, the label plays an identifying role, which can strongly benefit from the familiarity itself. This is also closely related to the tradition or history of the producer itself, which can be indicative of the presumed quality of the products themselves.

Besides these most noted factors, e.g. origin (regional product) or willingness to experiment were identified as influencing factors. In a few cases, respondents also mentioned the clear indication of nutritional and exact composition data as an influencing factor. Some of the groups also associated the visuals of the beer label as expressing the anticipated taste of the product itself and thus inducing a possible need to taste (enjoy) the product. In terms of “negative” influence, it was also noted that the label looks ‘cheap’ and the product may be perceived as inferior.

Figure 2 shows the identified differences within each RG as well as the poles that respondents identified. The poles also clearly show the main differences in the various influencing factors that customers may perceive in their decision-making. From the perspective of the influence of the label in the purchase process, one of the poles can then be

perceived as a positive influencing factor and the other as a “non-influencing” and possibly even negative influencing factor. In our case, the poles that are cheap, cluttered, and boring can be identified as negatively influencing in terms of overall label design. Positively influencing here are in a particular distinctive design, modern, interesting, bright, appealing, or valuable. For the identified factor “familiarity”, the main factor is brand or product awareness. As a result, this may not be a negative influence, especially if the products are local or limited. Similarly, another factor in the form of history (tradition) does not negatively affect the perception of the respondents themselves. For the factors associated with taste association, poles such as delicious vs. bitter, and harsh were identified. Other poles for this factor are “willingness to experiment” and “no need to try”. This can have a great influence on customer behavior, especially when they encounter a product with which they have no (even vicarious) experience.

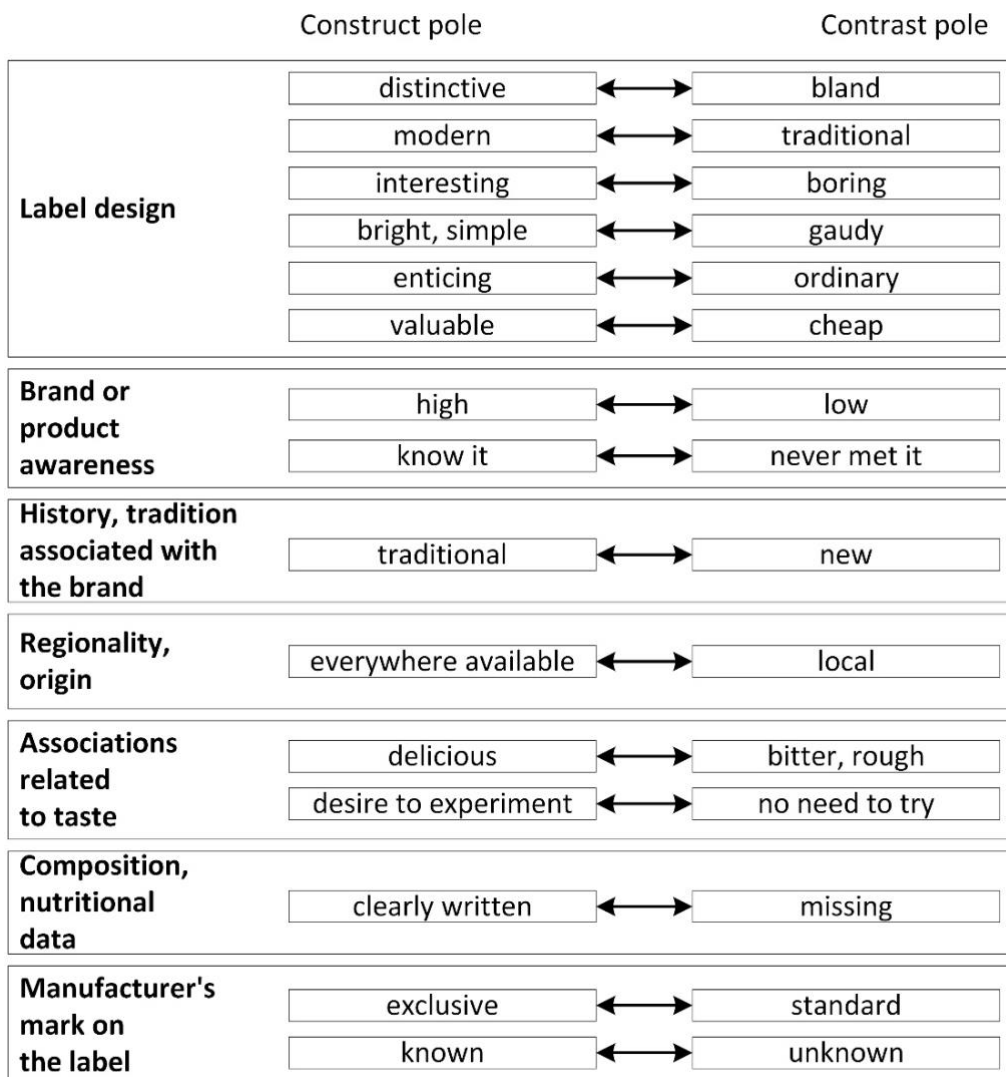


Figure 2: Identification of poles due to repertory grid of beer labels
 Source: own processing, 2023

The identified factor of the brand name on the label helped some respondents to make their choice, especially with the comment that if they did not know the brand name, they would choose a product where they could assume a certain quality or character of the product based on the familiarity of the brand name. This was then particularly true concerning the poles of exclusive and standard.

According to gained results, we can consider that beer customers and consumers in the Czech Republic want for beers at superior qualitative level, which should be illustrated at beer bottle labels. From the label design, they usually expressed modern production with high value added. From marketing communication point of view, the design of the label has to be in the context of AIDA concept to catch the awareness of the potential customers. The answers from RG also include desire to try new and modern (non-traditional) kinds of beers. However, the respondents defined small problem within unknown beer brand. From the beer labels, which were put into RG, respondents highlighted locality of the breweries by which they could choose the beer. If the beer label provides creative design (typically connected to micro and mini breweries), than the respondent considered the beer as delicious with correct nutritional description as close connection to healthy life. In the Czech Republic, there operates over 500 breweries from which only about 50 are industrial companies; the rest are mini- and micro-breweries. Therefore, the results of RG should be used by various micro- and mini-breweries as potential support modification of beer bottle labels to catch target customer's awareness.

5 Conclusion

The Czech Republic is usually considered a beer country, where consumers drink a lot of beers and many breweries successfully produce their products. The majority of these breweries are in the microbreweries group, which is focused on special beer kinds instead of the production of traditional types such as pilsen or lager. From the perspective of marketing communication, these microbreweries can distinguish their presentation in cheap ways such as social sites, simple websites, or beer labels, which could be the usual subject of collections.

According to the results of the RG, we can denote a few groups of parameters, which respondents marked as important for the purchase decision-making process. The most important is the defined group Label design, in which respondents mentioned the most specific parameters. Secondly, the participants stated the perceived value of the beer brand, which influences their awareness and should "catch" it. For a few people in MFG, some chosen labels were unknown because of the brewery's locality. Many microbreweries operate only at small locations or regions without large distribution around the whole country. Thirdly, the labels evoked relevant associations with good taste, and at the same time, several participants in MFGs indicated their desire to experiment with unknown beers. For several participants is also important to find out the producer's mark on the label as a significant symbol of reached quality level.

Bibliography

- Berghoef, F. L., & Vollrath, M. (2022). Cyclists' perception of cycling infrastructure – A repertory grid approach. *Transportation Research Part F: Psychology and Behaviour*, 87, 249-263. <https://doi.org/10.1016/j.trf.2022.04.012>
- Březinová, M. (2023). Nástroje marketingové komunikace podporující konkurenceschopnost českých minipivovarů [Marketing communication tools supporting the competitiveness of Czech microbreweries]. *Mladá věda – Young science*, 11(1), 81-88.
- Březinová, M., Havelka, Z., & Bartoš, P. (2019). Marketing communication in beer industry in the Czech Republic with respect to minibreweries. *Kvasný průmysl*, 65(1), 6-12. <https://doi.org/10.18832/kp2019.65.6>
- Chang, R. C. Y., & Mak, A. H. N. (2018). Understanding gastronomic image from tourists' perspective: A repertory grid approach. *Tourism Management*, 68, 89-100. <https://doi.org/10.1016/j.tourman.2018.03.004>

- De Paula, S. C. S. E., Zuim, L., De Paula, M. C., Mota, M. F., Filho, T. L., & Della Lucia, S. M. (2021). The influence of musical song and package labeling on the acceptance and purchase intention of craft and industrial beers: A case study. *Food Quality and Preference*, 89, 1-10. <https://doi.org/10.1016/j.foodqual.2020.104139>
- Donadini, G., & Porretta, S. (2017). Uncovering patterns of consumers' interest for beer: A case study with the craft beers. *Food Research International*, 91, 183-198. <https://doi.org/10.1016/j.foodres.2016.11.043>
- Dumitru, I., Gârdan, D. A., Paștiu, C. A., Muntean, A. C., & Gârdan, I. P. (2021). On the mechanism of the label perception: How does labeling change food products customer behavior? *Economic Computation and Economic Cybernetics Studies and Research*, 55(2), 193-210. <https://doi.org/10.24818/18423264/55.2.21.12>
- Fransell, F., Bell, R., & Bannister, D. (2004). *A manual for repertory grid technique* (2nd ed.). John Wiley & Sons.
- Henley, C. D., Fowler, D. C., Yuan, J., Stout, B. L., & Goh, B. K. (2011). Label design: Impact on millennials' perceptions of wine. *International Journal of Wine Business Research*, 23(1), 7-20. <https://doi.org/10.1108/17511061111121371>
- Huber, M., & Kleinaltenkamp, M. (2020). A typology of business usage center members. *Industrial Marketing Management*, 85, 21-31. <https://doi.org/10.1016/j.indmarman.2018.08.014>
- Jaeger, S. R., Worch, T., Phelps, T., Jin, D., & Cardello, A. V. (2021). Effects of "craft" vs. "traditional" labels to beer consumers with different flavor preferences: A comprehensive multi-response approach. *Food Quality and Preference*, 87, 104043. <https://doi.org/10.1016/j.foodqual.2020.104043>
- Kelly, G. A. (2020). *The psychology of personal constructs*. Routledge. <https://doi.org/10.4324/9780203359037>
- Klapper, R. G. (2014). A role for George Kelly's repertory grids in entrepreneurship education? Evidence from the French and Polish context. *The International Journal of Management Education*, 12(3), 407-421. <https://doi.org/10.1016/j.ijme.2014.06.002>
- Kotler, P., & Keller, K. L. (2012). *Marketing management* (14th ed.). Pearson Education.
- Kumar, N. & Kapoor, S. (2017). Do labels influence purchase decisions of food products? Study of young consumers of an emerging market. *British Food Journal*, 119(2), 218-229. <http://dx.doi.org/10.1108/BFJ-06-2016-0249>
- Lee, L., Frederick, S., & Ariely, D. (2006). Try it, you'll like it: The influence of expectation, consumption, and revelation on preferences for beer. *Psychological Science*, 17(12), 1054-1058. <https://doi.org/10.1111/j.1467-9280.2006.01829.x>
- Ma, X., Zhuang, X., & Ma, G. (2020). Transparent windows on food packaging do not always capture attention and increase purchase intention. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.593690>
- Moon, K., Blackman, D. A., Adams, V. M., & Kool, J. (2017). Perception matrices: An adaptation of repertory grid technique. *Land Use Policy*, 64, 451-460. <https://doi.org/10.1016/j.landusepol.2017.03.023>
- Narula, U. (2006). *Handbook of communication models, perspectives, strategies*. Atlantic Publishers & Distributors.
- Orth, U. R., & Malkewitz, K. (2008). Holistic package design and consumer brand impressions. *Journal of Marketing*, 72(3), 64-81. <https://doi.org/10.1509/JMKG.72.3.064>
- Osman, M., & Jenkins, S. (2021). *Consumer responses to food labelling: A rapid evidence review*. Food Standards Agency. <https://doi.org/10.46756/sci.fsa.snt199>

- Pauwels, C., Clarysse, B., Wright, M., & Van Hove, J. (2016). Understanding a new generation incubation model: The accelerator. *Technovation*, 50-51, 13-24. <https://doi.org/10.1016/j.technovation.2015.09.003>
- Přikrylová, J., & Jahodová, H. (2010). *Moderní marketingová komunikace [Modern marketing communication]*. Grada Publishing.
- Sester, C., Dacremont, C., Deroy, O., & Valentin, D. (2013). Investigating consumers' representations of beers through a free association task: A comparison between packaging and blind conditions. *Food Quality and Preference*, 28(2), 475-483. <https://doi.org/10.1016/j.foodqual.2012.11.005>
- Shukla, P., Singh, J., & Wang, W. (2022). The influence of creative packaging design on customer motivation to process and purchase decisions. *Journal of Business Research*, 147, 338-347. <https://doi.org/10.1016/j.jbusres.2022.04.026>
- Taylor, S., & DiPietro, R. B. (2020). Assessing consumer perceptions of neolocalism: Making a case for microbreweries as place-based brands. *Cornell Hospitality Quarterly*, 61(2), 183-198. <https://doi.org/10.1177/1938965519889292>
- Wojtyra, B., Kossowski, T. M., Březinová, M., Savov, R., & Lančarič, D. (2020). Geography of craft breweries in Central Europe: Location factors and the spatial dependence effect. *Applied Geography*, 124, 102325. <https://doi.org/10.1016/j.apgeog.2020.102325>

Contact Data:

Ing. František Milichovský, Ph.D., MBA, DiS. et DiS.
Brno University of Technology
Faculty of Business and Management
Kolejní 2906/4
61200 Brno
CZECH REPUBLIC
frantisek.milichovsky@vut.cz
ORCID-ID: <https://orcid.org/0000-0003-3845-4633>

Ing. Pavel Mráček, Ph.D., DiS.
Brno University of Technology
Faculty of Business and Management
Kolejní 2906/4
61200 Brno
CZECH REPUBLIC
pavel.mracek@vut.cz
ORCID-ID: <https://orcid.org/0000-0002-4219-0987>

BRIDGING PERSONALISED MARKETING WITH ARTIFICIAL INTELLIGENCE: AN ANALYSIS OF EVOLUTION AND FUTURE TRENDS

Peter Murár

DOI: <https://doi.org/10.34135/mmidentity-2023-35>

Abstract:

This paper examines the evolution and current state of personalised marketing, with a focus on the integration of artificial intelligence (AI) in this area. Personalised marketing is a prevalent trend in contemporary commercial environments, where AI's significant contribution is evident in enhancing products, targeted advertising, and identifying customer behaviour. The analysis explores the development of customised marketing, examining its progression from early instances in the 1980s and 1990s, through to advances in the era of big data and the emergence of social media, culminating in the current age of AI. It details how AI permits firms to gather and scrutinize extensive datasets, enhancing comprehension and reaction to consumer demands. The text explores personalised marketing, including the process of gathering and analysing data, creating customised content, delivering it to the target audience, and evaluating its effectiveness. It examines the various forms that personalised marketing can take, such as product suggestions, email communications, and loyalty programmes, while also underlining the importance of safeguarding customer privacy. Ethical concerns linked to this practice are also highlighted. The text adheres to the principles of objectivity and clarity. It concludes that the future of marketing communications is strongly connected to personalisation, which is closely tied to the ongoing progress of AI.

Key words: Artificial Intelligence. Customer Privacy. Data Collection and Analysis. Personalised Marketing. Targeted Communication.

1 Introduction

Personalised marketing is a major trend in contemporary business landscapes. With the advancements in technology and the extensive gathering of consumer data, coupled with the change in overall purchasing behaviours, its significance is ever-increasing. Today, in a consumer market beset by a high level of saturation and competitiveness, personalisation is not just a tool for differentiation, but an indispensable requirement, particularly in the e-commerce industry (Dangi & Malik, 2017). The ultimate objective of assuring the maximum feasible relevance of content, assortment, and advertising has long been a tacit expectation of customers. In recent years, achieving a competitive edge, as evidenced by Google's dominance, has become an essential prerequisite to effective marketing communication.

Artificial intelligence (AI) has become a ubiquitous feature of everyday life over the past decade, even though many individuals might not be aware of its pervasive reach. It drives the everyday services we take for granted: navigation systems, product suggestions on online shops, facial recognition technology in photographic archives, aids in disease diagnosis, optimises trading in the finance sector, participates in risk management and fraud detection, and so on. It is no surprise that it finds extensive use in marketing as well. For instance, its uses include the improvement of product quality, targeted delivery of advertisements, and identification of audience behaviour patterns (Priyanga, 2023). Moreover, it can facilitate personalisation.

2 Personalisation and Its Role in Marketing

There are multiple definitions of personalisation. In this paper, we will adopt the definition provided by Sunikka and Bragge, who describe personalisation as “the act of offering appropriate products and services to the right customers, at the right time and in the right place” (Sunikka & Bragge, 2012, p. 10050). Personalised marketing has been shown to be a highly effective approach in creating value and building relationships with specific target audiences. The process involves disseminating customised messages to consumers, which capture their attention effectively and have potential to boost sales outcomes. An effective method to enhance customer loyalty and increase sales is personalised marketing tactics using customer relationship management (CRM) techniques. Personalised marketing strategies, such as banner campaigns employing dynamic remarketing that displays ads based on customers’ previous activity on the advertiser’s website, typically generate excellent outcomes. Moreover, categorising clientele into segments using lead management techniques and recommending suitable products to each individual using machine learning algorithms assists companies in developing bespoke marketing strategies. The overarching objective of customized marketing is to competently address particular customer needs and preferences, enhance customer contentment, and stimulate potential sales expansion.

3 A Brief History of Personalised Marketing

The development of personalised marketing closely aligns with the evolution of information technology in the 1990s, spurred on by the emergence of the internet. Prior to this, personalisation based on previous customer behaviour was not viable.

3.1 Marketing before 1990

Marketing largely consisted of mass marketing, with the same advertisement being presented to a wide audience. The level of personalisation was extremely restricted. Personalisation was predominantly featured in marketing communication through direct marketing, for instance, in the form of personalised letters. Although such letters first emerged as early as the conclusion of the 19th century (Dangi & Malik, 2017), the subsequent century did not witness any notable innovations. It was Surprenant and Solomon in the late 1980s who first used the term “personalisation”. They defined it as “any behaviours occurring in the interaction intended to contribute to the individuation of customer” (Surprenant & Solomon, 1987, p. 87) in the service domain.

3.2 90s: The Expansion of the Internet

The emergence of the internet in the 1990s opened new avenues for personalised marketing. The rise of office software and database systems enabled the creation of customised emails. In this era, it was believed that advertising messages could be adjusted to suit various recipient groups. Concurrently, the internet banner format was established, leading to the development of the first banner advertising management systems. At the end of the decade, DoubleClick, the company behind the banner campaign management system bearing its name, initiated trials to monitor internet users’ activity and supply the resultant data to advertisers. Additionally, DoubleClick introduced Boomerang – a facility enabling marketers to arrange their website visitors into various lists according to their behaviour patterns and subsequently engage with them beyond the confines of the site (Encyclopedia, 2023).

3.3 00s: Big Data Era

Banner advertising experienced growth in popularity during the early 2000s, leading to the creation of new banner formats and rules that governed their usage. Concurrently, there was an increase in demand for the evaluation of website visitor activity, which led to the rapid development of web analytics. Within a short period of time, the focus shifted from simply counting page visits to collecting comprehensive data on user behaviour on specific websites. In the latter half of the decade, the first social networks emerged. Suddenly, a considerable volume of data on individuals' online behavioural patterns materialised. Personalised online campaigns began to be experimented with as we know them today. In approximately 2007, the concept of remarketing emerged and was experimented with (Isoraite, 2019). The principle involves displaying targeted ads to users who visited a particular webpage but did not take a designated action, such as making a purchase. At the same time, Apple introduced its first iPhone, which revolutionised people's perception of mobile devices and ignited the emergence of the mobile web.

3.4 10s: The Social Media and the Mobile Revolution

In 2010, Google introduced the Google Ads platform, which included remarketing capabilities. Internet users began to receive targeted advertisements featuring products they had viewed in online stores. However, personalisation was primarily impacted by the rapid growth of the mobile web and the proliferation of smartphones during this period. The internet is now pervasive and omnipresent. Mobile phones now function as a mechanism that collects data on individuals' behaviours and preferences, and this has combined with the widespread use of social media to enable businesses to target their customers more effectively. Mobile phones now function as a mechanism that collects data on individuals' behaviours and preferences, and this has combined with the widespread use of social media to enable businesses to target their customers more effectively. Personalised advertising campaigns are created based on customers' profiles and previous activity.

The advancement of individualised marketing demonstrates how technological and analytical innovations are altering corporate-customer interactions and prioritising consumers in marketing approaches.

4 A Personalisation in AI Era

During the period of 2010-2019, online and physical worlds converged, and social media became the norm for virtual communication. However, in the post-2020 era, more advanced tools are available which enhance the already extensive opportunities for personalisation. Two particular themes evoke interest in the field of personalisation: 1) the AI's potential to evaluate the tremendous amount of data which we can access about users and 2) the plausible designing, managing and continuously optimising advertising campaigns. By harnessing data patterns, AI can improve tailored advertising and comprehend audience interactions better. AI can collect consumer behaviour data from social media, browsing, and online shopping to identify patterns and preferences (Bansal & Gupta, 2023). According to Kumar et al. (2019), marketers can generate, communicate, and provide individualized offers to customers by combining AI with personalized marketing. AI algorithms can analyse large amounts of generated data and provide customised experiences at scale, treating customers as individuals (Ramnarayan, 2021). By utilizing AI, firms are able to instantly gather customer

preferences and offer tailored experiences to enhance the digital customer journey. Overall, the primary advantages of customized marketing include:

- Increased customer engagement: targeted content increases customer engagement and loyalty, leading to repeat business.
- Improved conversion rates: personalised marketing increases the likelihood of purchase by better matching customer needs and interests.
- Higher customer lifetime value: Stronger customer relationships lead to higher value and revenue.
- Deep understanding of the customer: Analysing customer data provides information to improve products, services and marketing strategies.
- Increased brand loyalty: Personalised marketing builds stronger relationships and loyalty, which has a positive impact on brand recommendation and future growth.

5 The Personalised Marketing Process

The personalized marketing process, which is based on the provided data, can be outlined as follows:

1. Data Collection

Objective: To gather comprehensive customer data.

Methods:

- Collect demographic information including age, gender, location, etc.
- Gather historical data on purchases to comprehend past buying behaviours.
- Track online behaviour, such as website visits, social media interactions, and online preferences.

2. Data Analysis

Objective: Extract substantial insights from the collected data.

Methods:

- Employ customer segmentation techniques to categorise customers into clearly defined groups based on their common characteristics.
- Deploy predictive analytics tools to forecast future consumer behaviours and preferences.
- Recognise patterns and trends that can effectively inform marketing strategies.

3. Targeted Content Creation

Objective: To create compelling marketing content that resonates with individual customers or segments.

Methods:

- Develop content that addresses the unique needs, interests, and preferences of different customer segments.
- Personalise messages and offers based on the customer's previous interactions and predicted future behaviour.
- Ensure that content is interesting, pertinent and adds value to the overall customer experience.

4. Delivery

Objective: Disseminate personalised content effectively.

Methods:

- Implement email marketing for targeted, individualized correspondence.

- Utilise social media channels for customer interaction and distribution of customized content.
- Employ digital advertising channels to expand your audience with bespoke adverts.

5. Assessment:

Objective: Assess the efficacy of the marketing endeavours and enhance approaches.

Methods:

- Monitoring conversion rates, click-through rates, and ROI as essential metrics.
- Additionally, evaluate client feedback and engagement levels to gauge content significance.
- Consistently enhance the marketing strategy with insights based on data, adapting it to changing trends in customer behaviour and the market.

A simplified illustration of this process is shown in Figure 1:

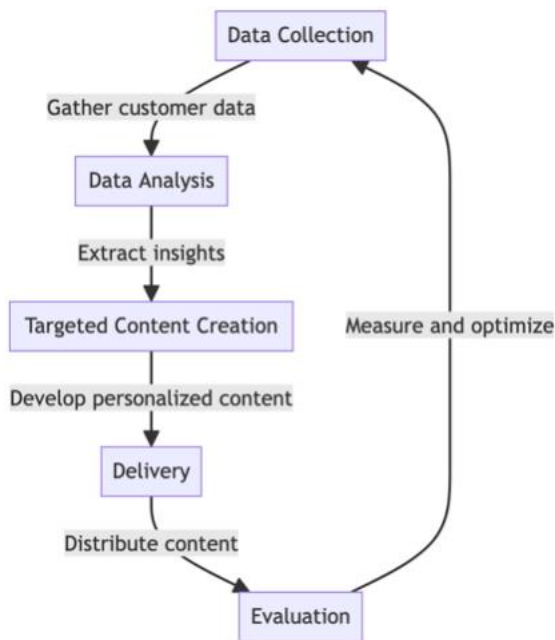


Figure 1: The personalised marketing process
Source: own processing, 2023

6 The Most Common Forms

Product Recommendations

Major e-tailers such as Amazon have utilized Artificial Intelligence (AI) to provide product recommendations for a substantial period. The use of AI better the customer experience (CX), anticipates demand, organizes inventory, and streamlines customer service. Additionally, it facilitates the efficient analysis of customer behaviour, which improves marketing strategies and heightens visitor conversion rates. A thorough comprehension of customer requirements, skilful product recommendations based on this comprehension, and constant nurturing of client relationships are key components in fostering customer loyalty and repeat business. AI-enabled intelligent systems possess the capacity to continually scrutinize and interpret abundant customer data, thus generating highly pertinent marketing tactics. These tactics rely on forecasting the desires and inclinations of customers, allowing corporations to react efficiently to shifting market demands and enhance their ties with their clientele.

Email Communication

The utilization of AI in email marketing reveals novel prospects for efficient segmentation and customer communication. Corresponding to e-commerce management systems, individualized emails utilize explicit and implicit data while appraising the pertinacity of content. Explicit data entails particulars that the customer has willingly provided, like filling out a profile, subscribing to a newsletter, and indulging in other direct interactions with the company. Personal information, such as name, age, gender, and specific interests and preferences, may be included in this data. Implicit data, in contrast, is collected by companies through a user's activity on websites or apps. It encompasses purchase history, search history, lists of viewed products, frequently visited categories, and other clues that indicate the visitor's preferences. In addition to producing custom email content, machine learning algorithms have the capability to analyse customer behaviour within the emails. AI enhances a company's ability to evaluate email rates of both opens and content interactions, leading to the development of targeted email campaigns. AI enhances a company's ability to evaluate email rates of both opens and content interactions, leading to the development of targeted email campaigns. These campaigns consider each customer's distinct interests and requirements and are timed for the optimum response rate.

Retention Programs

Another aspect where AI is significantly enhancing the business is in customer retention. As illustrated above, AI possesses a vast amount of data about individual customers, including their interests, preferred products, or product categories, visit frequency, and purchase history. This valuable insight provides the company with an overview of the customer's buying habits and preferences. However, analysing implicit data also allows for evaluating the stage of the customer lifecycle for an individual customer. Artificial intelligence (AI) is significantly more effective than humans in these analyses, identifying at-risk customers who may leave a brand much faster, while also predicting their future needs and behaviours. These analyses provide inputs for retention marketing communications, which might offer special discounts or recommendations for more appropriate products or services. Furthermore, artificial intelligence allows organisations to continually scrutinise and assess the efficacy of their methods for retaining customers, encouraging them to make ongoing adjustments and modifications to meet the evolving demands and requirements of their clientele.

Online Advertising Campaigns

Finally, a prime illustration of AI's capability to customise marketing communications is advertising campaigns on the digital landscape. Distinguished from ecommerce and email marketing, these campaigns primarily hinge on implicit data, that is to say, actual behavioural analysis. The aforementioned information was gathered through the use of tracking scripts and advanced models capable of intricate mapping of individual behaviour. The data collected includes the number and frequency of visits, the time spent on each page, an analysis of the visited pages, data concerning the user's location and devices used, as well as other similar data. Utilising AI algorithms, behavioural patterns among users can be identified to those who become customers, adapting adverts to more accurately target groups with a higher probability of conversion. This approach includes both temporal and contextual relevancy of advertisements, thus enhancing their accuracy and effectiveness. Artificial Intelligence can display campaigns to specific individuals who are interested in products at the precise moment. As the algorithms and AI continue to improve, the efficiency of ad campaigns strengthens, resulting in higher conversion rates and a better return on investment.

7 Conclusion

The accumulation of vast amounts of data on internet users has now reached a stage where we are beginning to employ this data in a purposeful manner with the aid of artificial intelligence. AI algorithms can scrutinize and assess this data far more efficiently than humans can. Whilst it could be argued that it is more precise to state that, as a result of AI, we now possess a tool capable of manoeuvring through this vast amount of data. In the age of artificial intelligence, marketing strategies are advancing to use sophisticated algorithms for analysing and predicting customer behaviour. This has led to marketing adapting to the level of the individual, surpassing general communication or, at best, communication with segments. Today, personalized marketing comprises not only targeted advertising campaigns but also high-quality product recommendations, automated and highly targeted email communications, and has significant potential in customer retention. These advances enable companies to offer personalised products and services, which lead to increased customer engagement, improved conversion rates, and higher customer lifetime value. In this context, it is important to address the ethical concerns that are increasingly emerging. For instance, Rekettye and Rekettye Jr. have observed a growing controversy: while customers desire individualised treatment from companies, they are also hesitant to compromise their privacy. Customers are unwilling to approve the use of their personal information unless they perceive a direct advantage (Rekettye & Rekettye, 2019). However, this is a matter for separate and in-depth research. It is certain that the future of marketing communications is significantly linked to personalisation, which is, in turn, closely associated with further advancement in AI. The major challenge is to achieve a balance between effective personalisation and safeguarding customer privacy. Personalised marketing using AI presents significant potential for businesses to enhance customer experience, cultivate brand loyalty and gain a competitive edge in a dynamic and evolving market environment, despite its challenges.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0458/21, titled 'Management of the "Groundswell" Concept by Business Entities in the Promotion of Environmentally Friendly Products at the Time of Technological Interference'.

Bibliography

- Bansal, S., & Gupta, M. (2023). Towards using artificial intelligence in neuromarketing. In M. Gupta, P. Jindal, & S. Bansal (Eds.), *Promoting consumer engagement through emotional branding and sensory marketing* (pp. 16-23). IGI Global. <https://doi.org/10.4018/978-1-6684-5897-6.ch002>
- Dangi, H., & Malik, A. (2017). Personalisation in marketing: An exploratory study. *International Journal of Internet Marketing and Advertising*, 11(2), 124-136. <https://doi.org/10.1504/IJIMA.2017.084079>
- Encyclopedia. (2023, November 16). *DoubleClick Inc.* <https://www.encyclopedia.com/economics/encyclopedias-almanacs-transcripts-and-maps/doubleclick-inc>
- Isoraite, M. (2019). Remarketing features. *International Journal of Trend in Scientific Research and Development*, 3(6), 48-51.
- Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, J. (2019). Understanding the role of artificial intelligence in personalized engagement marketing. *California Management Review*, 61(4), 135-155. <https://doi.org/10.1177/0008125619859317>

- Priyanga, G. (2023). The effects of artificial intelligence on digital marketing. *ShodhKosh: Journal of Visual and Performing Arts*, 4(1SE), 158-167. <https://doi.org/10.29121/shodhkosh.v4.i1SE.2023.431>
- Ramnarayan, S. (2021). Marketing and artificial intelligence: Personalization at scale. In B. Christiansen, & T. Škrinjarić (Eds.), *Handbook of research on applied AI for international business and marketing applications* (pp. 75-95). ICI Global.
- Rekettey, G., & Rekettey, G. (2019). The effects of digitalization on customer experience. *Proceedings of the ENTRENOVA – ENTERprise REsearch inNOVAtion conference, Rovinj, Croatia, 12-14 September 2019* (pp. 414-420). IRENET – Society for Advancing Innovation and Research in Economy. <https://www.econstor.eu/handle/10419/207702>
- Sunikka, A., & Bragge, J. (2012). Applying text-mining to personalization and customization research literature – Who, what and where? *Expert Systems with Applications*, 39(11), 10049-10058. <https://doi.org/10.1016/j.eswa.2012.02.042>
- Surprenant, C. F., & Solomon, M. R. (1987). Predictability and personalization in the service encounter. *Journal of Marketing*, 51(2), 86-96. <https://doi.org/10.1177/002224298705100207>

Contact Data:

PhDr. Peter Murár, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
peter.murar@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-9496-4374>

ARTIFICIAL INTELLIGENCE AS A CREATOR OF JOURNALISTIC CONTENT

Patricia Nagyová – Zora Hudíková

DOI: <https://doi.org/10.34135/mmidentity-2023-36>

Abstract:

The advent of Artificial Intelligence (AI) is gradually reshaping society and impacting more and more areas, not excluding media. However, if we want to exploit the potential of this new technological phenomenon as effectively as possible, and in order to maintain established norms of media production, it is necessary to examine the capabilities of AI tools and compare them with human creations. One popular AI tool is ChatGPT. In media production, it is used, for example, in the creation of journalistic texts, as it is specialized to generate texts in a ‘human way’ based on input data. Therefore, the research paper aims to assess this AI tool in the context of the criteria of press release production as a basic journalistic genre. The object of investigation is to assess and evaluate the fulfilment of the basic criteria set for a quality press release, for two groups of media content – human-generated and ChatGPT-generated. In the evaluation, the authors will emphasize the fulfillment of the specific criteria formulated in the assignment, noting also the AI’s ability to learn and improve its creations. In its theoretical framework and analytical argumentation, the paper draws on existing knowledge from the literature, including scholarly studies by experts such as H. Pravdová (2016), T. Rončáková (2011), B. Jones et al. (2022), A. Tušer (2010), J. Mistrík (1989), M. Richter (2023), A. Kellerman (2023), B. Dhiman (2023), D. Zagorulko (2023) and others.

Key words: Artificial Intelligence. ChatGPT. Media Communication. Media Production. Press Release.

1 Introduction

The rapid development of technology and the seduction of digital innovation has become a reality of today. What took generations in the past now comes virtually overnight, causing structural shifts in society, changing its experienced paradigms (Richter, 2023). Du Sautoy (2019, in Richter, 2023) states that in the last five years there has been a huge increase in information saturation, especially in the digital space, which naturally prompts the need to synthesize, systematize, archive and operationally update this data. One of the modern technological phenomena that can effectively process and even ‘catalyse’ this digital information is artificial intelligence. The recent launch of OpenAI’s ChatGPT chatbot, which can generate engaging and comprehensible texts or generate answers to users’ questions based on “learning” from a huge amount of input data, has generated a lot of attention and attracted approximately one hundred million unique users in two months (Browne, 2023). However, its implementation in digital media requires discretion, as ChatGPT’s capabilities are still in development. This also brings controversial attitudes towards its use. AI will expose us to new ethical issues and challenges to our critical thinking in the coming period. Therefore, it is important to take a closer look at this relatively “technical” topic within the social sciences (Richter, 2023).

Artificial intelligence has been used in the media, e.g. in journalistic practice, since the 1990s. In 1999, it was predicted to have a major impact on the work practices of journalists (Zagorulko, 2023). In 2023, Pavlik analysed ChatGPT and its potential impact on shaping digital media, with the key result that GPT, despite its limitations, can help journalists improve the quality and effectiveness of their work (Pavlik, 2023, in Zagorulko, 2023). The aim of the present paper is to verify to what extent the content generated by ChatGPT adheres to journalistic standards and criteria for the production of a press release – information saturation, credibility or stylistic correctness – in the context of predicting non-adherence to

these principles. It also aims to outline an answer to the question of assessing the effectiveness of the use of ChatGPT in contemporary journalistic production.

Artificial intelligence has evolved from the logical-symbolic paradigm primarily due to the capabilities of a new machine learning approach. One of the breakthrough milestones of introducing AI as a separate scientific discipline was in 1956, when the Dartmouth Summer Research Project on Artificial Intelligence (DSRPAI) brought together researchers from different fields to create a tool with the ability to simulate human intelligence (Haenlein & Kaplan, 2019). Even nowadays, it is not easy to define it precisely. AI can be seen as the ability of a system to correctly interpret external data and learn from it, allowing it to flexibly adapt and achieve specific goals (Haenlein & Kaplan, 2019). Du Sautoy (2019, in Richter, 2023) emphasizes that artificial intelligence becomes capable of learning due to the large amount of data that humanity produces. This data allows it to look for patterns, establish rules, recognize sound and image, generate text, and even predict the possible evolution of situations (de Vries, 2020). AI technology has enabled its tools, such as ChatGPT, to become intelligent and relatively autonomous content creators. These new communication technologies can also instantaneously transmit the generated information (audio and visual content in addition to text) over the Internet, expanding further the possibilities of their use (Kellerman, 2023).

Authors Haenlein and Kaplan (2019) explain that artificial intelligence offers e.g. media and marketers the tempting opportunity to “rely” on its algorithms, replicating human cognitive functions. By implementing them, they can thus benefit, for example, by reducing the costs of content creation tools (licenses of programs for editing audio, videos, for creating graphics, etc.), as well as the costs of production staffing (editors, video editors, copywriters, web designers, SEO managers...). AI also makes it possible to streamline (speed up, improve) the creation of audiovisual processes, their final products (e.g. media content – articles, reports, videos, films...) and to disseminate them through a variety of means of communication. AI Chatbots are of key importance in the field of digital communication. However, the quality of their outputs depends on the quality of the input data. Ali et al. (2021, in Richter, 2023) states that these are statistical models “taught” to produce new data that resemble the original, training data set. For modern text generators, large language models (LLMs) have become the basis for AI to create content in the form of articles, news, social media posts, scenarios, and other creative activities. OpenAI has developed ChatGPT (Generative Pre-trained Transformer), a high-performance tool with the potential to change the way we interact with technology. Božić et al. (2023) explain that this unique technology is based on advanced machine learning algorithms. The GPT system has been pre-“trained” to work with data-intensive text files, allowing it to generate highly sophisticated responses to user input (inputs, prompts). The tool can be enhanced by means of so-called plug-ins, which allows developers to adapt this language generator to a variety of uses in applications, etc. (Bartl et al., 2023).

1.1 Artificial Intelligence in Journalism

The main questions in the context of the integration of AI and journalism at the moment are, for example: whether machines can be trusted, whether they can replace the work of journalists, i.e. whether humans can cope with machines that rarely make mistakes, etc. One answer is that AI allows journalists to access many sources of information and multitask with less effort compared to human performance (AI does not know the “creative exhaustion phenomenon”). Natural language processing technology also allows journalists to analyze public attitudes by, for example, synthesizing comments on social media articles (Gondwe, 2021). AI can also augment the functions of news reporting, e.g. by involving virtual or augmented reality, which will enrich the current way of delivering information with

interactive experiences for readers and viewers. Thus, AI features provide new opportunities for journalists to create higher quality, more professional and engaging content (Dhiman, 2023).

Among the fundamental critical perspectives on AI, e.g. in the production of journalistic texts, is the aspect of credibility, the truthfulness of the generated content. According to Zagorulko (2023), ChatGPT as well as other language models can provide false information and refer to irrelevant or even non-existent sources. This problem is also acknowledged by OpenAI, the developer of ChatGPT, and is considered difficult to resolve as the system lacks the ability to identify relevant sources. It follows that in its current form, ChatGPT is not a reliable tool for journalists in terms of generating factual content or verifying sources. The author stresses that the tool's responses need to be additionally (manually) checked and then edited, which requires "human journalistic skills", especially critical thinking. This assertion also eliminates one of the concerns of the discourse on AI in journalism, namely the unnecessary of journalists in the new media text production processes. The claim is refined by Marconi (2020, in Gondwe, 2021) by stating that the use of AI and other technologies in journalism is not intended to automate the industry, but to increase efficiency, primarily in the collection and processing of data.

Based on the fact that the overall system of journalistic genres is very dynamic and thus constantly evolving and changing, determining the specific characteristics of a press release can be complicated (Rončáková, 2016).

According to Tušer (2003), each genre has certain basic characteristics that belong to it, but at the same time it is also characterized by prevailing features that specifically identify it. In news reporting (where the press release is primarily used), the journalist presents a current event, idea, phenomenon or facts through simple means of expression, without personal comments, thus informing the public factually, concisely and accurately. His task is to answer the basic questions of who, what, when, where, how and why. It is also important here to favour timeliness, professionalism and objectivity. In terms of intent and effectiveness, a number of approaches are used. In a press release, the logical procedure dominates, following the principle of the so-called inverted pyramid – the emphasis is on placing the most important facts and events at the beginning of the text with the gradual inclusion of less important information in the course of the text (Tušer, 2003; Trampota, 2006; Dočekalová, 2006; Pravdová & Volková, 2016; Kvetanová et al., 2017; Halada & Osvaldová, 2023).

Stylistic correctness is also an important criterion that we will judge in human-generated press releases and ChatGPT. For the purposes of this analysis, we present the news style characteristics of Mistrík (1989, in Gladiš, 2015). It uses objective style-forming factors (subject matter, situation) and should use linguistic devices such as: predominance of factual data, neutral words – without emotional colouring (to maintain clarity and eliminate opinion manipulation), predominance of proper names, numbers, balanced presentation of information, concrete (not descriptive) expressions, expressing oneself in short factual sentences (to maintain readers' attention and clarity of the content), use of technical terminology (relevant to the topic while maintaining clarity), use of logical structures such as headings, paragraphs or bullet points (organisation of information for better clarity, readability).

2 Methodology

The main goal of the scientific paper is to highlight the properties of artificial intelligence and its generative language models, more specifically ChatGPT, in the context of media content creation, press releases.

For our research, we chose to analyse press releases produced by TASR (Press Agency of the Slovak Republic) and messages generated by ChatGPT. We chose the genre of press release because of its important function in society, i.e., that it is disseminated to a high number of recipients in a relatively unchanged form through its uptake by editorial offices and media channels. In order to demonstrate the use of the AI language model in journalism, the objects of study are news with the following topics: politics, economy and culture, created by TASR editors in 2022. We explain the selection and timing by the interest of the topic areas (according to TASR results, the most read topics) and the fact that the GPT model has data up to 2022. We selected the following news:

- “OZPŠaV negotiated with the Prime Minister and the representative of the Ministry of Finance, the negotiation will be continued further”, 8.7.2022, (the report informs about the ongoing negotiations of the OZPŠaV with the government representatives on the valorization of tariff salaries in education – topic: economy) (TASR, 2022a).
- “Beekeepers from all over Slovakia met in the Pribylina open-air museum”, 24.7.2022 (the report informs about the traditional event “Beekeepers’ Sunday”, where beekeepers from Slovakia met to present their activities, etc. – topic: culture) (TASR, 2022b).
- “P. Pellegrini: Hlas-SD will probably support one of the candidates for mayor of Košice”, 2.6.2022 (the report informs about the statement of the chairman of the Hlas-SD party, Peter Pellegrini, on the mayoral elections in Košice – topic: politics) (TASR, 2022c).

In the research procedure, the implementation of the AI tool followed. We entered a prompt, a command, into ChatGPT to state the basic criteria for a quality press release. After this verification that it had data on the characteristics of a press release, we formulated prompts to create press releases, specifying the topic (the same as in TASR news), basic data (time, place, names...) and sub-context. In the prompts, we specified that the news should be generated with the basic criteria of a good quality press release. To explore ChatGPT’s capabilities more thoroughly, we also repeatedly used the re-generate function, whereby the text generator produced additional versions of the original message. This is a so-called learning process through which the GPT should process the initial request more efficiently. Subsequently, we applied the method of quantitative-qualitative analysis, focusing on the evaluation of: information saturation – answering the six basic news questions, adherence to the structure of the inverted pyramid, factuality, truthfulness of information, stylistic correctness, etc. We deliberately omitted examining the aspect of objectivity, as the GPT would have to have “studied” the broader context of the topics in advance, which we consider problematic in the context of conducting research. Using the methods outlined above, we evaluated the extent to which the AI tool was able to adhere to the established criteria of a press release compared to a ‘human author’. The thesis also concludes by outlining possible implications for the future development of AI in the field of media communication, its benefits but also warnings of potential risks and limitations in the creation of media content.

3 Results

In its empirical part, the paper evaluates the adherence to journalistic standards, more precisely to press release criteria, in texts produced by humans (TASR editors) and a language model of artificial intelligence – ChatGPT (hereafter also GPT). In the analysis of the media texts in question, we declare the violation or non-compliance with the selected criteria on specific examples from the texts, where the label a) indicates examples from the economic topic, b) cultural and c) from texts on the topic of politics.

Information Saturation

TASR + GPT

As a result of the examination of the criterion of information saturation in the selected TASR press reports, the reports compiled by “human editors” met this criterion without any significant shortcomings and at the same time with the provision of a broader context on the topics presented. Similarly, the texts generated by ChatGPT adhered to this criterion to a high degree, thus answering the six basic news questions: who, what, when, where, how and why. An interesting phenomenon that we could observe during our examination was that GPT included several times in the generated messages and in their updates an “extra” – information that we did not enter in the prompts and that was also not included in the TASR messages. We provide examples from the texts generated by GPT:

- “Today, at the **headquarters of the Central Union of Education and Science Workers (OZPSaV)** in” – Although the mention of the exact venue of the meeting is fabricated as the GPT was not given clear information in the prompts as to where the meeting was held, but we can assess positively that it has relatively grasped the context in which it has added the venue of the meeting.
- “In addition, an expert lecture was held to provide a **platform for discussion on the latest trends and challenges in beekeeping**”. The highlighted part of the sentence is auto-completed by GPT without any information, input data in the prompt where we only entered the indication that an expert lecture was also held as part of the event.
- We observed a similar case in the generation of messages on the topic of politics: “**Our goal is to achieve the best results for the inhabitants of Košice. We open opportunities to cooperate with candidates who will spread our values and vision for the prosperity of the city,**” Pellegrini expressed. GPT “made up” this entire quote, as the prompt did not contain this information. At the same time, we did not even instruct him to include the quote in the report. As this is one of the updated versions of the originally generated report, we can assess here that GPT has adopted the context of the report, on the basis of which it has expanded the information saturation in a rather relevant way. In all three cases, however, this was fabricated data.

Credibility, Factuality

TASR

We have verified the factual information presented in selected TASR press releases through other sources. We verified the facts presented using other sources, e.g. the websites of the relevant authorities and press releases of other newsrooms. The criterion of credibility of the facts was reinforced, in the case of all three press releases, by quotations from interested parties and references to sources directly in the text of the reports. A few examples are given:

- “**The Ministry of Finance of the Slovak Republic confirmed to TASR** that collective bargaining with the Confederation of Trade Unions of the Slovak Republic is not yet completed”. “The next round will take place shortly under the Prime Minister’s authority. Until then, we are not going to comment on possible conclusions,” the **press department of the Ministry of Finance said**.
- “**As the director of the Liptov Museum Michal Kovačič told TASR,** they evaluate their achievements there, offer bee products and try to popularize their activities”. “That is why the Beekeeping Sunday is one of the five main events we organise at the Museum of the Liptov Village in Pribylina,” he said.
- “We already know something, we already know to whom we will probably lean, but until it is officially decided, I will not confirm it officially and I will not even give a name,” **Pellegrini told TASR**.

GPT

In most of the reports generated by the GPT (including their updated versions), we observed a fundamental fabrication of facts, even of the exact data that had been precisely defined in the prompts, which we consider a significant risk in case of additional non-human verification. At the same time, we consider the need for significant checking of texts (and the factual data in them) generated by GPTs to be inefficient in journalistic practice, especially in terms of time. Since the criterion of factuality and trustworthiness has been violated to a high degree in the generated reports, we have created several categories defining the ways in which this important standard has been violated for a clearer assessment.

Editing partial data

In a number of cases, it occurred in the generated messages that the GPT, despite the unambiguous specification in the prompt, rephrased the information, a fact about the number (e.g. of events):

- The report reporting on the (one) meeting of the OZPŠaV with the Prime Minister and the MF SK was edited by stating without reason that there were several meetings: “today in Bratislava, **negotiations were held...**”, “**The negotiations focused on** the topic of...”, “One of the key points of **the negotiations...**”, ect.
- We observed a similar fabrication phenomenon in other reports, when instead of informing about one event (Beekeeping Sunday), it stated that there were several events: “the **events** included an expert lecture...”, “about the nature of **the events**, the **highlight of the events** was...”.
- “Today, the Hlas-SD party announced that **it is unlikely to participate in the mayoral elections** in Košice and instead plans to run one of the existing candidates”. In this statement, GPT did edit, re-styling the partial information about involvement in the mayoral election, but this action changed the complete meaning and truthfulness of the statement. Although we did not include in the prompter the statement that the Voice Party plans to be heavily involved in the mayoral election, the press release from TASR did include this information, so GPT probably drew on this data, but reinterpreted it into an incorrect, fabricated statement.

Styling adjustment

In the evaluation of the messages generated by GPT, we also encountered a more serious fabrication of facts and meanings, namely the complete re-styling of sentences, which changed the entire meaning of the utterances:

- “**According to the agreement reached at the negotiations, they were to be indexed by 3.5 per cent as of 1 January 2023 and then by a further five per cent as of 1 January 2024**”. By modifying the stylization, the GPT has created a fabricated statement (according to data from verified sources of TASR and OZPŠaV), since the prompts do not provide information on the results of the negotiations, only that a negotiation took place at which the proposal for the above-mentioned indexation was also discussed.
- “...more than 200 children **predicted** their artistic abilities and love of bees”.
- “Party chairman Peter Pellegrini informed the public about the decision **not to run his own representative** and called for a united approach in favour of the city”.

Generating your own data

As another example of fabrication, we present the generation of arbitrary statements, whole statements that are related to the topic, but were not specified in the prompt. Thus, this is a phenomenon where the GPT makes up entire sentence constructions that are not necessary for the structure of the press release. The statements in question are completely

made up, they are not even in the TASR reports. A positive aspect in this case may be, for example, GPT's "effort" to broaden the context of the topic. At the same time, however, we can declare that this is a violation of the criterion of factuality, which is characteristic of this genre.

- "This initiative is a step towards recognising and rewarding education workers for their invaluable contribution to the quality of education in Slovakia. These steps are aimed at ensuring fairer and more sustainable financial remuneration in the field of education."
- "Kovacic reported on other events that the museum is organizing, with an emphasis on education and outreach in the field of beekeeping."
- "Today, the Hlas-SD party announced that it is unlikely to participate in the mayoral elections in Košice and instead plans to run one of the existing candidates."

One of the phenomena we observed in the GPT reports was that the initial versions of the generated reports did not contain citations or link to relevant sources. We observed this phenomenon (and one of the standards of press release structure) only in subsequent, updated versions. In contrast, the TASR reports applied this information in all three reports evaluated.

The Inverted Pyramid Principle

GPT + TASR

Based on our assessment of the reports produced by TASR editors and generated by GPT, we assess that we did not observe significant non-compliance with this criterion in the reports examined. In most cases, GPT was able to credibly and journalistically correctly place the most important information (such as date, time, place, subject of the news) in the introduction of the news and in a few cases even structured it as a perex. At the same time, it also correctly placed subsequent information about events based on their importance – placing the least relevant information on the topic under discussion (in most cases) at the end of the report.

Substantiality

TASR

TASR's press releases avoided slang or jargon and presented the facts without superfluous descriptions and comments, while maintaining a factual discourse. However, a certain degree of distortion of the factual character can be observed, for example, in the following sentences:

- "“**Discussions** with the social partners **have been very fair and constructive,**” they added”. This statement approximates the atmosphere of the negotiations, which we do not consider necessary for the purpose of the report, and it is to some extent an evaluative, commentary statement.
- "“**The event attracts many** tourists to the Liptov open-air museum every year.” The use of the expression “the event attracts” can be considered as a slightly emotionally coloured, i.e. not neutral, factual description. At the same time, we observe a vague expression of the number of tourists; it would have been more appropriate to indicate at least an approximate figure, e.g. several thousand tourists, etc., to increase the factualness.
- "“The Hlas-SD party will **probably** not stand in the election of the mayor of Košice [...] This **was hinted** on Thursday in Košice by party chairman Peter Pellegrini.” The highlighted names can be described as vague and in the context of factuality it would be more appropriate to use more specific means of expression.

GPT

- "“**This** initiative is a step...”, “**These** steps are directed...”, “...**so** the intention to start...”, “to increase **this** supply...”. In the salary indexation report, the GPT's use of an excessive

amount of vague pronouns and stating terms reduces the factuality and accuracy of the content.

- b) “**The highlight of** the events was the expert lecture, which **shed light on the** latest trends in beekeeping. The **beekeeping enthusiasts** did not forget the **little ones...**, ...who with their **clever work** created...”. We evaluate the highlighted expressions as emotionally coloured, expressive statements, which are not factual statements of fact, but rather their aim is to make the text more attractive and to influence the perception of the percipient.
- c) “The Voice-SD’s overall position reflects its commitment to securing the best outcomes for the city...” In this sentence we observe an overly descriptive expression of information. “Pellegrini stresses **common unity and cooperation** in the political spectrum of Košice.” The highlighted expressions are used redundantly in the sentence, for the sake of keeping the sentence to the point it would be sufficient to say: “Pellegrini emphasises cooperation in the political spectrum of Košice”.
“The Voice-SD party **has expressed its readiness to negotiate.**” This sentence is not a factual statement; it would be more appropriate to say: “The Voice-SD Party is ready to negotiate”.

Grammatical Correctness

TASR

We did not observe any significant grammatical errors in the press releases produced by TASR. The exception was the sentence below, where a comma after the phrase “the mayor of Košice” was missing in the pericope: “The Hlas-SD party will apparently not run its own candidate in the election for mayor of Košice **and will** support someone from among those who will join the electoral contest”.

GPT

It was problematic for ChatGPT to provide subtitles and subheadings for messages without grammatical errors. Their structure (among other errors) repeatedly featured capital letters at the beginning of each word. We explain the phenomenon in question by the fact that it may have a database constructed predominantly from the English language, which is characterized by the use of such a structure. For example: “**Hlas-SD Uviedol, že Bude Podporovať Kandidáta na Primátora Košíc, Pellegriniho Vyhlásenie: Otvorenosť a Spolupráca, Vízia Včelárskej Nedele**” (Hlas-SD Stated It Will Support Candidate for Mayor of Košice, Pellegrini’s Statement: Openness and Cooperation, Joy and Education).

The following are examples of incorrect grammar in the phrases “**Včelárskej nedele**” (Beekeeper’s Sunday – the word *nedele* is grammatically incorrectly used), **medových radôst** (honey joys – the word *radôst* is ungrammatical), **Sprejit’ radosť a vzdelanie** (Combine joy and education – grammatically incorrectly used word *Sprejit’*).

Overall, however, we note that we did not observe any significant grammatical errors in both the TASR and GPT reports.

Stylistic Correctness

TASR

The news produced by TASR editors, i.e. people, is characterised by an informative language style, which is standard for the field of news reporting. The length of sentences is appropriate, while the dynamics of the text is preserved – the alternation of short and long sentences. No slang, jargon or other expressive elements are observed in the evaluated reports.

GPT

In the messages generated by ChatGPT and their updated versions, we observed a **number of stylistic errors and incorrect phrasing of sentences**, which made a number of statements in these messages rather **unintelligible**. To declare such incorrect stylization, we provide a few examples from the generated texts and their updates, which we assess as the most serious and requiring thorough human correction:

- “Government representatives, according to the opinion, **have decided a willingness to increase** this supply to respond even better to the needs of the education workforce. **One of the key topics of the negotiations** was an increase in tariff salaries.”
- “**More than 200 children are competing this year**, which shows the interest of young people in the world of beekeeping and the world of beekeeping. **The technology of Beekeeping Sunday included a competition for the best honey**, where beekeepers could showcase the quality of their bee products.”
- “**The party is open to discussion** with other candidates who **may enter the electoral contest**.”

Based on the above findings, we conclude that the messages generated by ChatGPT require a lot of stylistic proofreading and subsequent fact-checking, as incorrect stylistics is a significant factor in making the information unintelligible.

Non-Standard Language Expressions

TASR

We did not observe any significant substandard speech in the reports produced by TASR editors. However, we consider the use of information in the future and present tense in a report that retrospectively reflected an event (Beekeepers’ Sunday in Liptov) to be relatively untypical. The report states: “At 3 p.m. there will be an organ concert. During the event there will be activities for children and sales...”. Exceptions to compliance are e.g. quotations, but if the report reports in the past tense, it should adhere to this standard throughout the text.

GPT

One of the recurring non-standard language elements in GPT-generated reports was the inclusion of titles, headlines of press releases as: “Press Release”, which occurred in most of the generated reports. A similar non-standard feature in the generated texts was also the inclusion of the phrase: “End” or “End of press release” at the end of the message (in the bottom left corner), which was observed in some of the initial messages as well as in their updated (regenerated) versions.

An interesting phenomenon was that GPT started to provide message subtitles and subtitles (without entering them in the prompt) only after the generated messages had been updated several times, which to some extent confirms the tool’s ability to learn and improve in language production.

In the process of analysis, we also encountered a non-standard phenomenon in the form of a modification of the stylization of the prompts. The GPT automatically edited each assignment we provided to it into a form with incorrect stylistics, which may have interfered with the understanding of the meanings in the assignment. We were unable to eliminate this phenomenon and admit that it may have influenced the form of the generated texts to some extent.

4 Discussion

The analysis of the generated texts (ChatGPT tool) yielded findings of insufficient compliance with journalistic standards, especially factual accuracy of information and stylistic

correctness in (potential) press releases. In the texts thus produced, GPT repeatedly used fabrication of data and facts and incorrect stylisation of sentences/phrases, leading to unintelligibility of the content. The results of the study show that ChatGPT generates tendentious content. Although it adapts to the context of the task (accuracy of the data in the prompt), it regularly modifies the wording, stylistics of the utterances. This in several cases caused a change in the meaning of the information in the generated texts, messages. The observed phenomenon of violating the intelligibility and trustworthiness of AI-generated content is, according to Jones et al. (2022) is particularly risky in the case of news reporting in public media, given the necessity of constructing stylistically correct and factually accurate statements that are presented to the public as trustworthy.

By examining the potential of the ChatGPT tool to produce news texts in the light of the findings, we are currently questioning its effective and responsible use in serious journalism. And not only as an autonomous system, but also as a tool that is “under the control” of a human. We explain the above statements in light of the fact that the required outputs can be “re-generated”, allowing GPT to “learn” new knowledge and then use it in an updated version. We also tested this possibility in our research, and found that while it is of some benefit and a possible reduction of undesirable phenomena, e.g., improved text stylistics, information saturation, and the implementation of headlines and sub-headlines, even multiple updates of the GPT press release did not bring the necessary factuality and credibility to the content, which we consider to be a key aspect of the news text. Based on the present finding, we therefore judge the ChatGPT tool as currently less effective compared to the “human creator” of journalistic texts.

We add to the above claims that current research is looking at the changes AI is bringing to journalistic practice and the possibilities of personalizing digital media content. We therefore consider the application of journalistic values and standards to the creation of AI-assisted media products to be important considerations in exploring, assessing and exploiting this part of the ‘digital revolution’. However, we remain rather positive in our final reflections, especially because of the possibility to meet information needs more efficiently and to develop ways of communication, which we consider as one of the important privileges of AI implementation in society.

5 Summary

The existence and potential use of generative models brings risks and raises legal and ethical questions such as: who owns the artworks created using generative models? Who is liable when false or poorly edited information causes harm, either directly or indirectly, to individuals? (Ali et al., 2021, in Richter, 2023). As noted above, the current form and functionality of AI tools is not yet sufficiently effective, but the predicted use of AI as a creator of journalistic texts is in our view inevitable, and the accumulation of new data combined with access to the internet may increase its effectiveness. Alongside this process, however, it is inevitable to compose in parallel official standards and codifications defining the criteria for its use.

Acknowledgement: This paper was elaborated within the research project supported by Slovak Research and Development Agency (APVV) No. APVV-21-0115, titled ‘Hypermodern Media Culture – Film and Television Production as Mirror of Sociocultural Phenomena of the 21st Century’.

Bibliography

- Bartl, M., Hošták, R., & Valent, M. (2023, January 19). *ChatGPT: Spása alebo skaza? Ako funguje a 47 využití* [ChatGPT: Salvation or doom? How it works and 47 uses]. <https://www.dexfinity.com/marketingove-nastroje/ako-na-chat-gpt-a-prikazy/>
- Božić, V., & Poola, I. (2023). *ChatGPT and education* [Reprint]. <http://dx.doi.org/10.13140/RG.2.2.18837.40168>
- Browne, R. (2023, February 8). *All you need to know about ChatGPT, the A.I. chatbot that's got the world talking and tech giants clashing*. <https://www.cnb.com/2023/02/08/what-is-chatgpt-viral-ai-chatbot-at-heart-of-microsoft-google-fight.html>
- de Vries, K. (2020). You never fake alone. Creative AI in action. *Information, Communication & Society*, 23(14), 2110-2127. <https://doi.org/10.1080/1369118x.2020.1754877>
- Dhiman, B. (2023). *Does artificial intelligence help journalists: A boon or bane?* [Preprint]. <https://doi.org/10.20944/preprints202303.0428.v1>
- Dočekalová, M. (2006). *Tvůrčí psaní pro každého* [Creative writing for everyone]. Grada Publishing.
- Glađiš, M. (2015). *Žáner v prostredí masových médií* [Genre in the mass media environment]. Pavol Jozef Šafárik University in Košice.
- Gondwe, G. (2021). Newsmakers: Artificial intelligence and the future of journalism, by Francesco Marconi. *Journalism & Mass Communication Quarterly*, 98(1), 289-290. <https://doi.org/10.1177/1077699020957963>
- Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California Management Review*, 61(4), 5-14. <https://doi.org/10.1177/0008125619864925>
- Halada, J., & Osvaldová, B. (2023). *Slovník žurnalistiky – Výklad pojmů a teorie oboru* [Dictionary of journalism – Interpretation of terms and theory of the field]. Karolinium.
- Jones, B., Jones, R., & Luger, E. (2022). AI 'everywhere and nowhere': Addressing the AI intelligibility problem in public service journalism. *Digital Journalism*, 10(10), 1731-1755. <https://doi.org/10.1080/21670811.2022.2145328>
- Kellerman, A. (2023). Chatbots and information mobility: An agenda for thought and study. *Environment and Planning B: Urban Analytics and City Science*, 50(6), 1413-1415. <https://doi.org/10.1177/23998083231181595>
- Kvetanová, Z., Bučková, Z., & Rusňáková, L. (2017). *Publicistika v periodickej tlači. Žurnalistické žánre* [Journalism in the periodical press. Journalistic genres]. University of Ss. Cyril and Methodius in Trnava.
- Mistrík, J. (1989). *Štylistika* [Stylistics] (2nd ed.). SPN.
- Pravdová, H. (2016). III. Teória a tvorba žurnalistických žánrov [III. Theory and creation of journalistic genres]. In J. Matuš, S. Magál, & D. Petranová (Eds.), *Príručka pre uchádzača* [Guide for applicants] (pp. 63-88). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Pravdová, H., & Volková, B. (2016). Žáner, žánrová hybridizácia [Genre, genre hybridization]. In H. Pravdová, J. Radošinská, & J. Višňovský (Eds.), *Slovník vybraných pojmov z mediálnych štúdií: kľúčové termíny v súčasnej mediálnej komunikácii* [Glossary of selected terms in media studies: Key terms in contemporary media communication] (pp. 236-243). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.

- Richter, M. (2023). *Vliv umělé inteligence na vnímání kvality a důvěryhodnosti obsahu v digitální komunikaci* [The impact of artificial intelligence on perceptions of content quality and trustworthiness in digital communication] [Master thesis]. Charles University.
- Rončáková, T. (2011). *Žurnalistické žánre: učebnica pre poslucháčov vysokoškolského štúdia* [Journalistic genres: A textbook for undergraduate students]. Verbum.
- Rončáková, T. (2016). Aktuálne tendencie vývoja žurnalistických žánrov. Niekoľko podnetov v kontexte slovenských spoločenských týždenníkov [Current trends in the development of journalistic genres. Some suggestions in the context of Slovak social weeklies]. In M. Bočák, L. Regrutová, & J. Rusnák (Eds.), *Médiá a text 5* [Media and text 5] (pp. 325-336). Faculty of Philosophy, University of Prešov.
- TASR. (2022, July 8). *OZPŠaV rokoval s premiérom i zástupcom MF SR, vyjednávanie bude pokračovať ďalej* [OZPŠaV negotiated with the Prime Minister and the representative of the Ministry of Finance, the negotiation will be continued further]. <https://www.tasr.sk/tasr-do-kazdej-skoly>
- TASR. (2022, July 24). *V pribylinskom skanzene sa stretli včelári z celého Slovenska* [Beekeepers from all over Slovakia met in the Pribylina open-air museum]. <https://www.tasr.sk/tasr-do-kazdej-skoly>
- TASR. (2022, June 2). *P. Pellegrini: Hlas-SD zrejme podporí jedného z kandidátov na primátora Košíc* [P. Pellegrini: Hlas-SD will probably support one of the candidates for mayor of Košice]. <https://www.tasr.sk/tasr-do-kazdej-skoly>
- Trampota, T. (2006). *Zpravodajství* [News]. Portál.
- Tušer, A. (2003). *Ako sa robia noviny* [How newspapers are made] (2nd ed.). SOFA.
- Tušer, A. (2010). *Praktikum mediálnej tvorby* [Practicum of media creation]. Eurokódex.
- Zagorulko, D. I. (2023). ChatGPT in newsrooms: Adherence of AI-generated content to journalism standards and prospects for its implementation in digital media. *Scientific Notes of V. I. Vernadsky Taurida National University, Series: Philology. Journalism*, 2(1), 319-325. <https://doi.org/10.32782/2710-4656/2023.1.2/50>

Contact Data:

Mgr. Patrícia Nagyová
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 nagyova12@ucm.sk

Assoc. Prof. PhDr. Zora Hudíková, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 zora.hudikova@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0002-8288-7439>

PERCEPTION OF MARKETING COMMUNICATION IN A STORE USING SENSORY MARKETING

Ivana Ondriřová – Dávid Miřko

DOI: <https://doi.org/10.34135/mmidentity-2023-37>

Abstract:

Communication through sensory marketing appeals to consumers' emotions and utilizes their life experiences, which encompass sensory, cognitive, behavioral, and emotional aspects. The aim of the study was to examine the attributes of sensory marketing from the perspective of how they are perceived by store customers. Data collection was carried out through a questionnaire method. The questionnaire was oriented toward four senses (Visual, Acoustic, Haptic, Olfactory). Survey revealed that the majority of respondents agree with statements concerning the influence of sensory marketing on consumer behavior. Within the hypothesis, we assumed that there are statistically significant differences in the perception of sensory marketing attributes based on the gender of the respondents. Based on the analyses presented, it can be concluded that the original assumption of the hypothesis was confirmed in all four studied sensory attributes. In all relevant items, women tended to agree with the statements more. The qualities observed in the environment subsequently influence how a customer forms a mental image of that environment. The mental image of the environment, along with the emotional state, influences the customer's decision to purchase a service or product.

Key words: Consumer Behavior. Consumer Perception. Gender. Senses. Sensory Marketing. Store.

1 Introduction

In some shopping situations, the effectiveness of the store environment may have a greater impact than the attributes of a particular product or the customer's original purchase decision. Therefore, the environment can directly influence customer behavior and the formation of their attitudes towards services or products (Kotler, 1973).

Sensory experiences, or sensory marketing in other words, make up the majority of experiences offered to customers through experimental marketing. Influencing the senses of consumers is one way to engage them and offer them an experience. In other words, stimuli produced by marketing are initially received by sensory organs, and perception is achieved through the interpretation of these stimuli (Odabařı & Barıř, 2012). As a result of this perceptual process, we can expect that a person will either be satisfied or dissatisfied.

Classic marketing attempts to win customers over through logic, expecting them to continuously consider specific business factors such as price, product features, and utility. Sensory marketing appeals to consumers' emotions and utilizes their life experiences, which have sensory, cognitive, behavioral, and emotional aspects. In this type of marketing, it is assumed that buyers will forget objective arguments and prioritize emotional impulses (Longley, 2019).

Sensory marketing is marketing that engages the senses of consumers and influences their perception, judgment, and behavior (Krishna, 2013). Ifeanyichukwa and Abude (2018) define sensory marketing as a new tool of marketing communication that engages the five senses of humans, creating an unforgettable experience for the consumer. Involving all the senses of the consumer influences their memories, perceptions, emotions, preferences, and decisions to purchase goods or use services.

The impact of the environment on consumers through sensory marketing is based on the subject of purchase, where we buy a service or product that is located in an atmosphere defined by sensory qualities. Customers perceive these sensory qualities and interpret them in their unique way. The qualities observed in the environment subsequently influence how a customer forms a mental image of that environment. The mental image of the environment, along with

the emotional state, influences the customer's decision to purchase a service or product (Franěk, 2005; Štefko et al., 2020).

1.1 Visual Communication

Visual marketing is based on the fact that sight provides the most used sense in all of marketing. Among all the senses, this one is the most influenced by the surrounding environment. The selection of formats, colors, or materials for a particular product is important for the organization of the sales area but also plays a significant role in promotion, where these elements are used to capture the consumer's attention (Samulova, 2017). Through sight, the customer gains up to 80% of information from the surrounding environment. It's for this reason that the visual environment of a store holds significant importance. For retailers, colors and lighting are particularly important (Bařinková, 2010). The choice of colors and shapes in product design, store layout, and promotional campaigns are key success (or failure) factors well understood by marketing professionals. Color studies have provided evidence of how certain colors in advertising are likely to lead to positive attitudes (Elder et al., 2010). The coloring of spaces or objects can impact customers' visual perception, such as the weight and volume of objects or the dimensions of the store (Opluřtil, 2014). Colors can create emotional connections, resulting in product distinctiveness, gaining a competitive advantage, strengthening loyalty, increasing sales, shortening brand perception time, ensuring longer customer stays in stores, generating positive emotions, and building customer relationships. They encourage impulse buying and increase the intention to shop again (Sliburyte & Skeryte, 2014).

1.2 Acoustic Communication

Another influential sense for customers is hearing. Every store should pay attention to negative noise caused by excessively loud refrigerators, beeping cash registers, or buzzing light bulbs in stores, which can literally drive customers away. Conversely, very quiet environments, often preferred by banks, can deter some customers. They may not feel sufficiently protected to discuss their financial matters there. Therefore, every store should choose an appealing musical background that suits both its overall concept and its target audience (mediaguru.cz, 2012). Nadanyiová et al. (2018) stated in their study that music is easily accessible and has many uses in marketing. Its goal is to influence the customer's mind so they can make a purchase. The so-called "colorfulness" of music is also important, which is based on targeted emotion and rhythm in music. The most fundamental rhythm in a person's life is the heartbeat. With the help of these two parameters, it is possible to evoke emotion and the atmosphere of a given environment. For example, blue music moves rhythmically under the heartbeat and has a calming effect on customers, while red music is more emotional, moving above the heart rate. It is suitable, for example, for a fashion store for young people. Effective sensory marketing combines music with other sensory stimuli. In stores, music should be in harmony with the colors and scents of the store. The integration of distinct sensory perceptions must align with the brand's goals and corporate strategy. Therefore, auditory marketing should support the brand and its objectives (Chudomelová, 2013).

1.3 Olfactory Communication

The sense of smell has a profound emotional impact on everyday human life. This sense can influence a person's feelings and emotions. Different scents have the ability to affect many aspects of daily life. This fact is harnessed by aroma marketing (olfactory marketing), which aims to create a pleasant atmosphere and influence the customer's mind. Well-chosen aroma can create pleasant feelings, and these feelings will be associated with the company and brand in the customer's mind (Hulten, 2020). Aroma marketing is based on the fact that scents

recognizable by the human nose elicit specific stimuli in the brain responsible for creating emotions and memories. Unlike sight, scent generates many more emotional experiences, and we can recognize and remember them for a long time. The presence of a scent is generally accepted as a positive influence on consumer perception, either as the overall scent in stores and other environments or in a more direct form, such as scents included in products. It is generally defined as contextual congruence between the scent and the product category (Nadanyiová et al., 2018). Nowadays, it is commonplace for various companies and businesses to have their unique and distinctive aromas that help build the company's image. In rooms with a higher number of people, in addition to ventilation, it is recommended to use scents that can freshen the air and are pleasant, such as fruity, woody, and herbal scents. These aromas create a sense of freshness and cleanliness among customers and help create a unique atmosphere. Through these different scents, people can associate stores and businesses with unique aromas and better remember them (Aromamarketing.sk, 2020).

1.4 Haptic Communication

Haptic (tactile) marketing is based on the fact that the human skin has several million sensory receptors that allow us to perceive the materials, weight, smoothness, simplicity, or complexity of products. Touch enables the consumer to assess whether a product has the desired and expected characteristics and also convinces them of the quality of the product (Nadanyiová et al., 2018). Three aspects motivate individuals to desire touch when shopping: the product, the consumer, and the product environment. The need for touch arises for two reasons: first, as an instrumental need, and second, as a hedonic need. As soon as a consumer touches something, their attention turns to how they interpret haptic stimuli. This is likely a complex function of product attributes, individual characteristics, and situational factors. Unfortunately, touch cannot be applied in all consumption contexts. Online shopping, where consumers must rely entirely on visual cues, is particularly problematic (Peck and Childers, 2003). Plush toy stores are a great target for haptic marketing, especially for women and children. Specifically, women have thinner skin compared to men, making them more sensitive to tactile stimuli, making them more appealing to them (Čichovský, 2017).

1.5 Gustatory Communication

Gustatory (taste) marketing is an essential component of sensory marketing that allows companies to distinguish themselves from competitors. It primarily involves sales promotion through tastings. Using taste receptors, consumers can discern flavors and determine what they like based on taste sensations. Taste perceptions tend to be affectively driven, with greater attention paid to sensory perceptions leading to heightened affective reactions (Elder et al. 2010). According to De Pelsmaeker, Dewettinck, and Gellynck (2013), taste is valuable because it helps consumers build loyalty to a brand. When introducing a new product, the initial tasting serves to familiarize consumers with the new product and its taste. In some cases, it is possible to vividly showcase the entire preparation of dishes, involving experiential marketing as well (Lindstrom 2005).

In general, when applying sensory marketing, the stimulus intensity should be above the threshold of perception, and the consumer should be in a state of average attention. It is also important to note that if a product or brand influences more senses simultaneously, the consumer perceives it more intensely and forms deeper emotions.

2 Methodology

The aim of the study was to examine the attributes of sensory marketing from the perspective of how they are perceived by store customers.

Based on the study’s goal, hypothesis was formulated:

H1: We assume that there are statistically significant gender differences in the perception of sensory marketing attributes.

Data collection was carried out through a questionnaire method. The questionnaire consisted of 20 survey items, including four attributes oriented toward four senses (Visual, Acoustic, Haptic, Olfactory). Since this was not a study of dining establishments, the sense of taste was intentionally omitted. Each attribute was enriched with five items assessing customer perception in the store in terms of that sense. Respondents could answer on a Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The questionnaire is based on an original author’s methodology.

The sample consisted of 109 respondents, including 39 (35.8%) men and 84 (64.2%) women, with an average age of 26.6 years (min. = 14, max. = 66).

Hypothesis was tested using mathematical and statistical methods in the IBM SPSS 26 software.

3 Results

The results of the questionnaire survey on a sample of respondents are presented in Table 1.

Table 1: Descriptive statistics of questionnaire survey results

Attribute	Item	Gender	Mean	Std. Deviation	Std. Error Mean
Visual	I need to read a pointer whose color appeals to me	women	4,31	1,029	0,112
		men	4,2	0,913	0,183
	I easily notice poor lighting in the store	women	3,75	1,139	0,124
		men	3,16	1,028	0,206
	I don’t mind a higher price if the store impresses me with its appearance and layout	women	3,19	1,285	0,14
		men	3,32	1,108	0,222
	I look for color coding that guides me to discounts and promotions	women	3,29	1,238	0,135
		men	2,76	0,926	0,185
	If the products in the store are coordinated and systematically arranged, it leaves a good impression on me	women	2,96	1,246	0,136
		men	2,56	0,917	0,183
Acoustic	I get nervous when there’s noise in the store	women	3,51	1,34	0,146
		men	3,16	1,313	0,263
	I immediately respond to silence in the store	women	3,27	1,245	0,136
		men	3,08	1,115	0,223
	If I don’t like the music in the store, I quickly leave	women	2,48	1,146	0,125
		men	1,96	0,611	0,122
	Sometimes, the music in the store cheers me up	women	3,9	1,025	0,112
		men	4	1,041	0,208
	Pleasant music “encourages” me to stay in the store longer	women	3,05	1,211	0,132
		men	2,88	1,054	0,211
Olfactory	If the scent in the store doesn’t relate to the products, I notice it	women	3,05	1,201	0,131
		men	3	1	0,2
	I linger longer in a store that smells good to me	women	3,68	1,11	0,121

		men	3,32	1,18	0,236
	Unpleasant odors in some stores discourages me from visiting them	women	4,11	1,151	0,126
		men	3,48	1,358	0,272
	Too strong or unpleasant scent “encourages” me to leave the store	women	3,76	1,048	0,114
		men	3	1,19	0,238
	My mood is getting better when I smell a pleasant scent in the store	women	3,98	0,891	0,097
		men	3,72	0,936	0,187
Haptic	Sometimes, my purchase decision is influenced by the feeling when I pick up the product	women	4,25	1,028	0,112
		men	4,4	0,577	0,115
	I’m bothered that I can’t try products on the internet	women	4,14	1,204	0,131
		men	4,16	1,143	0,229
	If I have the opportunity to try products in the store, I don’t mind a higher price	women	3,56	1,236	0,135
		men	3,48	1,229	0,246
	Before making a purchase, I prefer to try products in the store	women	4,56	0,812	0,089
		men	4,36	1,036	0,207
	It deters me when I have to pull products from overcrowded racks, and everything around them falls	women	4,64	0,722	0,079
		men	4,12	1,236	0,247

Source: own processing, 2023

The results of the questionnaire survey indicate that the respondents generally agreed with most of the statements, with a higher level of agreement shown more frequently by women. Within hypothesis H1, we assumed that there are statistically significant differences in the perception of sensory marketing attributes based on the gender of the respondents. The hypothesis was tested by comparing two groups of respondents using a t-test for two independent samples. Hypothesis was partially tested on all four studied sensory perception attributes. The first attribute tested was Visual.

Table 2: Testing differences between women and men in the visual attribute

		Independent Samples Test						
		Levene’s Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
If the products in the store are coordinated and systematically arranged, it leaves a good impression on me	Equal variances assumed	,075	,785	,479	107	,633	,110	,229
	Equal variances not assumed			,511	43,790	,612	,110	,214
I look for color coding that guides me to discounts and promotions	Equal variances assumed	,196	,659	2,322	107	,022	,590	,254
	Equal variances not assumed			2,456	43,094	,018	,590	,240
I don’t mind a higher price if the store impresses me with its appearance and layout	Equal variances assumed	1,429	,235	-,456	107	,649	-,130	,284
	Equal variances not assumed			-,494	44,978	,624	-,130	,262

I easily notice poor lighting in the store	Equal variances assumed	5,196	,025	1,964	107	,052	,526	,268
	Equal variances not assumed			2,294	52,077	,026	,526	,229
I need to read a pointer whose color appeals to me	Equal variances assumed	2,799	,097	1,504	107	,136	,404	,269
	Equal variances not assumed			1,771	53,034	,082	,404	,228

Source: own processing, 2023

As indicated in Table 2, gender differences were confirmed in the Vision attribute in one item, specifically in “I look for color coding that guides me to discounts and promotions.” In this case, we can assert that women are more inclined towards this statement (mean = 3.75) compared to men (mean = 3.16).

The next attribute tested was Acoustic.

Table 3: Testing differences between women and men in the acoustic attribute

		Independent Samples Test						
		Levene’s Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
I get nervous when there’s noise in the store	Equal variances assumed	,118	,732	1,158	107	,249	,352	,304
	Equal variances not assumed			1,171	40,073	,248	,352	,301
I immediately respond to silence in the store	Equal variances assumed	4,110	,045	,699	107	,486	,194	,277
	Equal variances not assumed			,742	43,394	,462	,194	,261
If I don’t like the music in the store, I quickly leave	Equal variances assumed	18,137	,000	2,158	107	,033	,516	,239
	Equal variances not assumed			2,953	76,339	,004	,516	,175
Sometimes, the music in the store cheers me up	Equal variances assumed	,128	,721	-,406	107	,685	-,095	,234
	Equal variances not assumed			-,403	38,923	,689	-,095	,236
Pleasant music “encourages” me to stay in the store longer	Equal variances assumed	2,018	,158	,625	107	,534	,168	,268
	Equal variances not assumed			,674	44,607	,504	,168	,249

Source: own processing, 2023

Table 3 highlights a gender difference in one of the items of the Acoustic attribute, specifically in the item “If I don’t like the music in the store, I quickly leave the store.” In this case as well, women (mean = 2.48) tend to agree with the statement more than men (mean = 1.96).

The next sensory marketing attribute tested was Olfactory.

Table 4: Testing differences between women and men in the olfactory attribute

Independent Samples Test	
--------------------------	--

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
If the scent in the store doesn't relate to the products, I notice it	Equal variances assumed	3,849	,052	,180	107	,857	,048	,264
	Equal variances not assumed			,199	46,566	,843	,048	,239
I linger longer in a store that smells good to me	Equal variances assumed	,045	,833	1,397	107	,165	,359	,257
	Equal variances not assumed			1,351	37,551	,185	,359	,265
Unpleasant odors in some stores discourages me from visiting them	Equal variances assumed	3,631	,059	2,292	107	,024	,627	,274
	Equal variances not assumed			2,096	34,911	,043	,627	,299
Too strong or unpleasant scent "encourages" me to leave the store	Equal variances assumed	2,271	,135	3,091	107	,003	,762	,246
	Equal variances not assumed			2,885	35,813	,007	,762	,264
My mood is getting better when I smell a pleasant scent in the store	Equal variances assumed	,404	,526	1,247	107	,215	,256	,205
	Equal variances not assumed			1,214	37,898	,232	,256	,211

Source: own processing, 2023

Table 4 indicates that gender differences in the Smell attribute were confirmed for two items. In the item "Unpleasant odors in some stores discourages me from visiting them," women tended to agree with the statement more (mean = 4.11) than men (mean = 3.48). In the item "Too strong or unpleasant scent 'encourages' me to leave the store," women also tended to agree with the statement more (mean = 3.76) than men (mean = 3.00).

The last tested sensory marketing attribute was Haptic.

Table 5: Testing differences between women and men in the haptic attribute

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
Sometimes, my purchase decision is influenced by the feeling when I pick up the product	Equal variances assumed	6,746	,011	-,696	107	,488	-,150	,216
	Equal variances not assumed			-,932	72,114	,355	-,150	,161
I'm bothered that I can't try products on the internet	Equal variances assumed	,067	,796	-,063	107	,950	-,017	,271
	Equal variances not assumed			-,065	41,162	,948	-,017	,264
	Equal variances assumed	,152	,698	,283	107	,778	,080	,281

If I have the opportunity to try products in the store, I don't mind a higher price	Equal variances not assumed			,284	39,579	,778	,080	,280
Before making a purchase, I prefer to try products in the store	Equal variances assumed	1,673	,199	1,010	107	,315	,200	,198
	Equal variances not assumed			,885	33,252	,382	,200	,225
It deters me when I have to pull products from overcrowded racks, and everything around them falls	Equal variances assumed	8,708	,004	2,655	107	,009	,523	,197
	Equal variances not assumed			2,016	29,041	,053	,523	,259

Source: own processing, 2023

Table 5 reveals that gender differences in the Touch attribute were confirmed in one item, specifically in “It deters me when I have to pull products from overcrowded racks, and everything around them falls.” In this case as well, it was confirmed that women tend to agree with the statement more (mean = 4.64) than men (mean = 4.12).

Based on the analyses presented, it can be concluded that the original assumption of hypothesis H1 was confirmed in all four studied sensory attributes. In all relevant items, women tended to agree with the statements more.

4 Discussion and Conclusion

The conducted questionnaire survey revealed that the majority of respondents agree with statements concerning the influence of sensory marketing on consumer behavior. In terms of gender, statistically significant differences were found in all four studied attributes, with women tending to agree more with the respective statements.

An extensive study conducted in 2005 in thirteen different countries showed that 99% of all commercial brand communications at the time focused on only two senses – sight and sound. However, emotional connection is more effective when multiple senses are engaged (ideally all five). Multi-sensory brands have the highest likelihood of forming an emotional connection between customers and their products. The research also indicated that the more senses are engaged, the stronger the message conveyed to the recipient will be, which applies to any communication, including brand communication (Lindström, 2005). The research by Dennis, Newman, and Marsland (2005) clearly shows that women prefer attributes related to the center’s atmosphere, service quality, as well as attributes related to cleanliness and free space. Women value the quality of shopping itself. Men can primarily appreciate the parking lot, lighting, and a good layout of the center. Pajonk and Plevová (2015) state that women are more sensitive to olfactory marketing elements. A pleasant smell can keep women in the store for a longer time and improve their mood.

One of the main goals of retailers is to understand the evaluation processes in product selection for individual consumers. Researchers strive to define the desires, wishes, and basic needs of customers as accurately as possible so that the proposed products best meet their needs. However, even consumers themselves often do not know what product they are looking for, what features it should have, and what it should excel in. Firms also face the challenge of finding an appropriate communication method that can effectively target the customer base. The use of knowledge in the field of sensory perception aims to assist in solving this problem.

Our findings have important implications for marketing strategies and communication campaigns in the business environment. The field of sensory marketing appears to be an extremely effective tool for targeting the female demographic. Focusing on appropriate visual,

auditory, olfactory, and tactile elements of communication can help improve manipulation of perception and influence on consumers.

The conclusions of this article support the need for adapting marketing activities based on consumer gender. Considering and utilizing differences in sensory perception between men and women can lead to increased effectiveness of marketing communication. These insights can be used to create sensory experiences that are relevant to the preferences and needs of women.

A limitation of our research is the convenience sampling and the level of understanding and awareness among respondents. Further research can be focused on sensory marketing research in terms of other socio-demographic variables such as social status or age. This opens up opportunities for further exploration of this issue, considering other factors as well.

Acknowledgement: This study was supported by the project VEGA 1/0428/23 – Research on Customers' Subconscious Reactions Using Eye-Tracking and Other Neuromarketing Tools.

Bibliography

- Aroma Marketing (2020, August 10). *Dlhšie strávený čas vo voňavej predajni* [Longer time spent in the fragrant shop]. <https://www.aromarketing.sk/dlhšie-straveny-cas-vo-vonavej-predajni>
- Bařinková, K. (2010). *Nové trendy v obalovém průmyslu* [New trends in the packaging industry] [Bachelor's thesis]. Tomas Bata University in Zlín.
- Čichovský, L. (2017, February 27). *Marketing s využitím všech 5 smyslů* [Marketing using all 5 senses]. <http://www.marketingovenoviny.cz/marketing-s-vyuzitim-vsech-smyslu-cast-5-hmat-a-prozitkovy-marketing/>
- Chudomelová, E. (2013, March 19). *Hudba v místě prodeje dokáže divvy* [Music at the point of sale can do wonders]. <https://www.mediaguru.cz/clanky/2013/03/hudba-v-miste-prodeje-dokaze-divvy/>
- Dennis, C., Newman, A., & Marsland, D. (2005). *Objects of desire. Consumer behaviour in shopping centre*. Palgrave Macmillan London. <https://doi.org/10.1057/9780230509481>
- De Pelsmaeker, S., Dewettinck, K., & Gellynck, X. (2013). The possibility of using tasting as a presentation method for sensory stimuli in conjoint analysis. *Trends in Food Science & Technology*, 29(2), 108-115. <https://doi.org/10.1016/j.tifs.2012.10.001>
- Elder, R. S., Aydinoglu, N. Z., Barger, V., Caldara, C., Chun, H. E., Lee, C. J., Mohr, G. S., & Stamatogiannakis, A. (2011). A sense of things to come: Future research directions in sensory marketing. In Krishna, A. (Ed.), *Sensory marketing: Research on the sensuality of products* (pp. 361-376). Routledge. <https://ecommons.cornell.edu/items/871ac7e4-9e45-49d8-89cd-48d2aac9038>
- Franěk, M. (2005). Vliv hudby na nákupní chování [Influence of music on shopping behavior]. *E + M Ekonomie a management*, 8(1), 127-133.
- Hulten, B. (2020). *Sensory marketing: An introduction*. SAGE Publications.
- Ifeanyichukwu, C. D., & Abude, P. (2018). The role of sensory marketing in achieving customer patronage in fast food restaurants in Awka. *International Research Journal of Management, IT and Social Sciences*, 5(2), 155-163. <https://doi.org/10.21744/irjmis.v5i2.632>
- Kotler, P. (1973). Atmospherics as a marketing tool. *Journal of Retailing*, 49(4), 48-64.
- Krishna, A. (2013). *Customer sense: How the 5 senses influence buying behavior*. Springer.
- Lindstrom, M. (2005). Broad sensory branding. *Journal of Product & Brand Management*, 14(2), 84-87. <https://doi.org/10.1108/10610420510592554>

- Longley, R. (2019, September 8). *An introduction to sensory marketing how our senses sell*. <https://www.thoughtco.com/sensory-marketing-4153908>
- Mediaguru.sk. (2012, April 20). *Proč investovat do smyslového marketingu [Why invest in sensory marketing]*. <https://www.mediaguru.cz/clanky/2012/04/proc-investovat-do-smysloveho-marketingu/>
- Nadanyiova, M., Kliestikova, J., & Kolencik, J. (2018). Sensory marketing from the perspective of a support tool for building brand value. *Economics and Culture*, 15(1), 96-104. <https://doi.org/10.2478/jec-2018-0011>
- Odabaşı, Y., & Barış, G. (2012). *Tüketici davranışı [Consumer behavior]*. MediaCat Kitapları.
- Opluštil, O. (2014, March 30). *Myslíte na své smysly? [Are you thinking of your senses?]*. <https://markething.cz/myslíte-na-sve-smysly>
- Pajonk, P., & Plevová, K. (2015). Sensory marketing – the sense in sales promotions. *Studia comercialia Bratislavensia*, 8(29), 83-91.
- Peck, J., & Childers, T. L. (2003). To have and to hold: The influence of haptic information on product judgments. *Journal of Marketing*, 67(2), 35-48. <https://doi.org/10.1509/jmkg.67.2.35.18612>
- Samulová, P. 2017. *Zmyslový marketing a jeho vplyv na slovenských spotrebiteľov [Sensory marketing and its influence on Slovak consumers]* [Master's thesis]. University of Žilina.
- Sliburyte, L., & Skeryte, I. (2014). What we know about consumers' color perception. *Procedia-Social and Behavioral Sciences*, 156, 468-472. <https://doi.org/10.1016/j.sbspro.2014.11.223>
- Štefko, R., Fedorko, R., Bačík, R., Rigelský, M., Oleárová, M. (2020). Effect of service quality assessment on perception of TOP hotels in terms of sentiment polarity in the Visegrad group countries. *Oeconomia Copernicana*, 11(4), 721-742. <https://doi.org/10.24136/oc.2020.029>

Contact Data:

Ing. Ivana Ondrijová, PhD.
 University of Prešov
 Faculty of Management and Business
 Konštantínova 16
 08001 Prešov
 SLOVAK REPUBLIC
 ivana.ondrijova@unipo.sk
 ORCID-ID: <https://orcid.org/0000-0003-4760-5931>

Mgr. Dávid Miško, PhD.
 University of Prešov
 Faculty of Management and Business
 Konštantínova 16
 08001 Prešov
 SLOVAK REPUBLIC
 david.misko@unipo.sk
 ORCID-ID: <https://orcid.org/0000-0002-1961-3005>

THE POSITION OF GAME REVIEWS IN VIDEO GAME JOURNALISM

Hana Pravdová – Monika Cihlářová

DOI: <https://doi.org/10.34135/mmidentity-2023-38>

Abstract:

This theoretical study discusses the influence of game journalism on its audience's decision-making in the process of purchasing a digital game product, as well as the possibilities of providing feedback to the creator of a digital game. Game review, as an elementary and characteristic genre of game journalism, forms a link between creators and players of a digital game. Due to its opinion-forming influence and the necessity to maintain a relationship with game developers, it is criticized not only by the game audience but also by representatives of traditional journalism, especially abroad. In addition, different opinions emerge in the discourse of games journalism regarding the differences between game reviews and game criticism. In this thesis we try to define these terms from different positions, to understand them and to find the link that connects the different claims. The aim of the present study is to highlight the importance of game reviews in the customer's product selection process and to reflect on the relevance of game reviews on the acceptance of digital games in society. To investigate the existing empirical research, we have chosen comparative and discourse analysis and some logical analysis methods.

Key words: Audience. Ethics. Game Criticism. Game Journalism. Game Reviews. Objectivity. Videogame Industry.

1 Introduction

On a broader scale, games journalism, its practitioners and its messages are vastly undervalued in terms of seriousness. Especially when compared to political, economic and other genres that we classify as hard news (Hanusch, 2012, in Perreault & Vos, 2019). Soft news, in which we would probably classify it, is far from necessarily matching the reality in which it reflects its progressive integration into the broader culture in parallel with digital games. That integration alone does not testify to its respectability, but it does encourage us to approach it as a tool with a large reach to an increasingly wider audience. The monograph by Nieborg and Foxman, *Mainstreaming and Game Journalism* (2023), testifies to the widening field of action of game journalism.¹ The latter was already an important source of information in the past, and its position proved at certain moments its key role in the selection of digital game titles, but it was strongly reserved for male gamers – which later led to the Gamergate case², aimed against the feminisation of gaming culture. Discrimination against women is certainly a serious social problem, which only highlights the question of whether gaming journalism can be so easily subsumed under soft news. Nowadays, its field of action is much more widespread and it is becoming part of a young generation that is integrating itself in a culture that embraces digital games for all, regardless of age, gender, ethnicity, etc. According to Kirkpatrick, it was games journalism that played a key role in this process of normalising, legitimising and marketing the subcultural offerings of the video games industry (Kirkpatrick, 2016). In addition to the term game journalism, the term game criticism has also established

¹ Authors' note: However, the authors point out that digital games are still in the process of becoming mainstream. However, they are basing this on the claims of some video game journalists who claim that games like Fortnite, Minecraft, Candy Crush Saga and Roblox have been mainstream for quite some time.

² Authors' note: Since August 2014, male gamers have targeted women in the video game industry, particularly feminist media critic Anita Sarkeesian and video game developers Zoë Quinn and Brianna Wu, among others. The cause was aimed at suppressing the integration of women into video game culture. Gamergate participants threatened them with rape and death.

itself. In this thesis, we will use comparative analysis and selected methods of logical analysis to analyse the discourse on video game journalism, so as to capture the essence, differences and connections between the two concepts. We will discuss its inclusion in the journalistic ecosystem and the reason for its devaluation by representatives of traditional journalism and the related issue of objectivity.

Several authors agree that the main representative of games journalism is the review. They say that it directly overshadows other genres such as news, investigative reporting and other forms of analytical texts (Zagal et al., 2009, as cited in Nieborg & Sihvonen, 2009). The aim of the present study is to highlight the importance of game reviews in the customer's product selection process and to reflect on the relevance of game reviews to the adoption of digital games in society. In this paper, we describe the importance of game reviews in terms of the relationships between the components of the video game industry, define the characteristics of reviews, and provide examples that demonstrate the relevance of reviews to the reception of digital games in video game culture. The chosen methods of investigation are a comparative analysis of existing empirical research, and we use selected methods of logical analysis to analyse the discourse on games journalism.

2 Defining Game Journalism

Game journalism does not have a firm place in the journalistic ecosystem. Moreover, two terms have become established in the global professional understanding – games journalism and games criticism. According to Prax and Soler (2016), some video game editors prefer the label of game critic rather than journalist, which he demonstrates with the example of Swedish editor Skog, who explains his preference by his lack of a journalism education, which he believes is essential for the profession of journalist. In *The Videogame Style Guide and Reference Manual* (Thomas et al., 2007), published by the International Association of Videogame Journalists, the authors explain the difference between criticism and review as two different ends of the spectrum of videogame evaluation. The common denominators of the established terms are thus the terms game review and criticism. Bučková and Rusňáková (2017) describe the most universal classification of review types according to several authors (e.g., Tušer, 1999; Pravdová & Koltaiová, 2007; Rončáková, 2011) into testimonial and critique, with the difference lying mainly in the focus of the periodical, in the language adapted to the target audience, and in the level of evaluation. Critically focused review, defined by Bučková and Rusňáková (2017) from the definitions of the above authors, is more common in professional periodicals, addressed to a specific audience with expertise, thus addressing both readers and creators, evaluating the work thoroughly, and containing more informational than evaluative elements. If we compare the interpretation of review and critique in the video game editors' handbook with that of researchers in the field of journalism, we find that both point to different levels, with just critique or critical review representing a higher, more specifically focused level. For the critical type, Bučková and Rusňáková (2017) point to its frequent occurrence, not its necessary presence in a professional periodical, which allows us to apply the whole definition to the example of a game review, which is addressed to a specific audience (gamers and video game creators), uses video game discourse, thoroughly evaluates the different parts of a digital game and contains more informative elements than evaluative ones, as can be seen in the structure of the review, which also includes minimum hardware requirements, information about the publisher, information about previous works, etc. . Thus, we can say that game reviewing and game criticism are synonyms that differ in a defined field only with respect to the authors' education and the depth of their evaluation. If we wanted to place game criticism within the journalistic ecosystem based on the defined terms, we could agree with Foxman and

Nieborg's (2016) characterization of game criticism as a subset of journalism closely related to other forms of art criticism.

2.1 Reasons for Skepticism

Thus, the basic difference in the defined terms remains, above all, the editors' education in journalism. Education is one of the reasons for the skepticism of traditional journalism representatives towards the legitimization or inclusion of game criticism in the journalistic ecosystem. The very publication of the aforementioned guide to improving the quality of video game journalism is evidence of the need to raise the level of video game journalism. Game criticism is in demand by both readers and publishers. Apart from education, the credibility of games journalism or the objectivity of its editors can be ranked as another and probably the most important reason. The latter is questioned mainly because of the relationship between game publishers and journalists. In the case of objectivity, the question arises whether editors who depend on good relations with publishers can be expected to be completely and definitely objective.³ Zagal et al. (2009) defined 9 parts of a game review, which included reviewer suggestions for improvements. They defend the legitimacy of this option as reviewers are likely to have uploaded more games than the developers themselves and therefore know the medium better. At the same time, they question whether this dialogue is a two-way street. If the proposed improvements outweigh the positives, it could be a devaluation of the brand in the eyes of the audience for the game title. Carlson (2008) examined an incident in 2007 when a negative review of a demo version of *Too Human* appeared in *Electronic Gaming Monthly*. The author of the game explained that the influence of the respected periodical caused conflicts with investors and complications with the release. For larger studios, Nieborg and Foxman (2023) mention the practice of "blackballing", which manifests as denying access to press conferences, early game releases, etc., as an effective deterrent against overly critical reviews.

This puts the editors in a situation where they have to find a balance in the language they use in order to satisfy both audiences⁴ and at the same time maintain some kind of "notional"⁵ code of ethics. Certain events, especially foreign ones, related to the objectivity of editors and the consequences of their reviews have not escaped the attention of the gaming public and have become known as Gertsmanngate⁶, Doritosgate⁷ and Gamergate⁸.

The historical significance of games journalism is not negligible either. Kirkpatrick (2016) argues that in the pages of magazines we can trace the entire process by which computers and computing, and later games and gamers, were positioned in the wider culture.

³ Authors' note: The same question can be asked of other branches of review-oriented journalism. To give an example, car reviewers also face the same dilemma. Moreover, there is an assumption that obtaining a game title by way of purchase is more financially acceptable than is the case with automobiles.

⁴ Authors' note: An example of a balance used in Slovakia in the 1990s is the magazine Riki (1994 – 1999), which was "dependent" on good relations with foreign studios that supplied games for review. The editor-in-chief, Ivan Líška, answered a reader's question in the letter room, focusing on the difference between the text and the numerical evaluation, by saying that the percentage evaluation is intended for the foreign publisher, who hardly translates the text and because of that looks rather at percentages. In the text, the author negatively criticised the play but did not take the negative criticism into account in the percentage evaluation (Líška, 1996).

⁵ Authors' note: The deliberate use of the term "notional" points to the absence of a uniform and established code of ethics for games journalism.

⁶ Authors' note: Gertsmanngate is an event in which Gamespot's editor-in-chief, Jeff Gerstmann, was removed from his mediocre review of a video game that was heavily advertised on Gamespot in 2007.

⁷ Authors' note: Doritosgate refers to a controversial event focusing on gaming journalists and their relationship with product advertising. The controversy was sparked by writer Rab Florence in an article published on Eurogamer.net about the shortcomings of video game journalism at the time and how he thought they were affected by advertising revenue.

⁸ Authors' note: Gamergate was male gamers' resistance to the feminization of video game culture.

This gradual mainstreaming of game criticism and game culture, as mentioned in the introduction, has, according to Foxman and Nieborg (2016), set the right time to leave behind the aforementioned conflicts such as Gerstmanngate, Doritosgate, and Gamergate, which the authors argue should be teachable moments in the future in order to create a productive and coherent professional ideology.

3 Game Review

One of the fundamental genres of games journalism is the game review. Nieborg and Sihvonen (2009) discuss its importance in their work, referring to game reviews and first impressions as the “bread and butter” of European game journalism, as they make up the majority of publications. According to Panagiotopoulos et al. (2019), game reviews abroad also bear the name of game reviews written by players in online stores, as they can be a source of important information for buyers. Here, however, we can allude to the aforementioned degree of evaluation of video games and also to the influence, which is much smaller compared to that of game journalism. Game reviews change depending on new media and the features that media bring with them. This is confirmed by Gursoy (2011) who says that game criticism and the discourse about it changes with each new generation of design choices and each new group of critics. She also adds that this variability provokes negotiations among participants about what it actually means to critique, evaluate, and analyse games. As we can see the form of review takes different forms in contemporary discourse with different effects on audiences. The print reviews that characterised the early days of games journalism have gradually been complemented by digital reviews, which are available online and free for all. According to Bakanov et al. (2019), the transition of game journalism to the Internet is its natural evolutionary stage, which led to each title having a website for the print edition, which organized forums with discussions where readers have the opportunity to comment and interact not only with editors, but also with game developers thanks to globalization. In the next chapter, we will give an example of how the involvement of the audience in the communication processes between journalists and game publishers has had a significant impact on the position of games journalism in relation to publishers. In the process of blurring the boundary between video game producers and their consumers, according to Carlson (2008), it is video game journalists who can play a major role.

4 Relevance of the Review to Degree Acceptance

Nowadays, with the number of new titles that are added to the gaming market every year, there is an increasing need for consumers to choose the one that best suits their requirements. Based on some of their previous experiences and preferences, they are able to narrow down the choice and sort that out with the help of reviews. Similar to Hall's (1973) delineation of 3 different approaches to message decoding, the recipient of a game review can approach its content from 3 perspectives. He can accept it completely, partially or take an oppositional view. This can be encountered nowadays especially in discussions during online reviews on specialized gaming sites. Regardless of which stance the recipient takes, what happens is that he/she comments on the game, is intrigued enough to read the review, express his/her position and thus engage in the discussion.

In the past, a similar phenomenon could be observed more sporadically in print, especially in the letters section. According to Kirkpatrick (2015), gaming magazines have in the past been open to involving their readers in the process of game culture creation, not only by publishing letters on some pages, but also by issuing regular calls for readers to participate as reviewers and publishers of games. Critics and reviewers created and later maintained a

specific idea of what digital games should be played, how they should look and feel. (Kirkpatrick, 2013, in Nieborg & Foxman, 2023).

According to Zagal et al. (2009), game reviews have an impact on how players see, understand and talk about digital games. Moreover, research from 2021 provided some insights into how game video reviews on the YouTube platform can influence the sales of a video game title, thus confirming this platform as an effective marketing channel (Adigüzel, 2021).

Starting from the other side, in 2007, the online magazine Kotaku blacklisted Sony for leaking information about yet unreleased products. The magazine subsequently added a copy of an email from Sony to its network informing it of the “blackballing”. This triggered a backlash in video game journalism that led to the decision being reversed and the collaboration being reinstated. Although this is not directly a case for the sake of a review, we can see how much impact a magazine with more than a million readers can have and how important it is for a game publisher to maintain good relations with the representatives of video game journalism. Non-Disclosure Agreements (NDAs), or embargoes, which define the time before which a review cannot be published and, in some cases, the areas on which editors are or are not allowed to comment, have proven useful for maintaining this. Companies offer editors an early version of a game to test before launch so that subsequent reviews can be published shortly before or at the time of release to reach the target audience. According to Kotaku editor Totiloo (2021), the timeframes given for reviews vary and are sometimes too short, making it impossible to fully assess the game. The need for publishers to interfere with the degree to which reviewers rate games is, in our view, sufficiently telling of how highly relevant game reviews are to a video game title’s potential audience.

5 Conclusion

Video game journalism has participated in the creation of gaming culture since its inception. The name gaming may evoke a lower level of respectability and seriousness, which we believe is a false impression that can be refuted for several reasons. The social cause of Gamergate against the feminisation of gaming culture shows that games journalism is taken very seriously by its audience and also touches on socially sensitive topics. Nowadays, gaming culture is mainstreamed and integrated into the culture of young people regardless of age, gender, ethnicity. Thanks to this, we can assume that it reaches a wide audience and therefore it is essential to pay due attention to it.

In the discourse on video game journalism, we have discussed the inclusion of game journalism in the journalistic ecosystem, for which we have used a comparison of two established terms – game criticism and game journalism. In the comparison, we took into account the views of video game journalists and the definitional frameworks of traditional journalism. We found that they are synonymous, with the term game criticism being adopted mainly by representatives of game journalism, who claim that they do not have a journalistic education and thus do not have the right to call themselves journalists. Another observation revealed that traditional journalism uses the term criticism to refer to a higher, more professional evaluative stance of the author, i.e. criticism is considered to be a higher level of evaluation of video games. Despite differing opinions on the classification of games journalism, we agree with Foxman and Nieborg’s assertion of its close connection to other forms of art criticism.

The only difference we have found between the terms is the educational background of its representatives. This, together with the question of objectivity, are the main reasons for traditional journalism’s scepticism towards the legitimisation of video game journalism. To enhance quality, the International Association of Game Journalists created a manual to ensure

it. As game journalism is gradually integrated into the broader culture, the standard of the texts is also gradually raised, the language is adapted to a wider gaming audience and conforms to social norms without any form of discrimination. We demonstrated the second reason for objectivity and credibility by asking whether journalistic forms of criticism (not just art) that depend on good relations with product manufacturers can be completely objective. They can't. We found that a balance in evaluation is needed, since critics are at risk of blackballing by the creator.

We also delineated different forms of reviews in this paper with respect to their level of evaluation of video games. Reviews on store sites written by gamers can be considered lower and video game reviews written by journalists can be considered higher. We demonstrated the main aim of the study to show its importance and relevance to the choice of a title with examples that take into account its position in the digital game *Too Human* case, in the Kotaku vs. Playstation case, and by studying Adigüzel's YouTube reviews. Also, its relevance is confirmed by measures in the form of legal NDAs between the providers of games and journalists, defining the time for reviews, the time when reviews can be published and the areas that journalists are or are not allowed to comment on.

Acknowledgement: This paper was elaborated within a national research project supported by the Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences (VEGA) No. 1/0489/23, titled 'Innovative Model of Monetization of Digital Games in the Sphere of Creative Industries'.

Bibliography

- Adigüzel, F. (2021). The effect of YouTube reviews on video game sales. *Journal of Business Research – Turk*, 13(3), 2096-2109. <https://doi.org/10.20491/isarder.2021.1249>
- Bakanov, R., Davletshin, R., Tumanov, D., & Sabirova, R. (2019). Problematics and functional diversity of video game journalism in the modern Russian media “Igromania”. *International Journal of Engineering and Advanced Technology*, 9(1), 7429-7432. <https://doi.org/10.35940/ijeat.a3108.109119>
- Bučková, Z., & Rusňáková, L. (2017). *Publicistika v periodickej tlači. Žurnalistické žánre [Journalism in the periodical press. Journalistic genres]*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Carlson, R. (2008). “Too human” versus the enthusiast press: Video game journalists as mediators of commodity value. *Transformative Works and Cultures*, 2(3). <https://doi.org/10.3983/twc.2009.098>
- Foxman, M., & Nieborg, D. (2016). Between a rock and a hard place: Games coverage and its network of ambivalences. *Journal of Games Criticism*, 3(1), 1-51.
- Gursoy, A. (2011). *Game worlds: A study of video game criticism*. Princeton University.
- Hall, S. (1973). *Encoding and decoding in television discourse*. University of Birmingham Centre for Contemporary Cultural Studies.
- Kirkpatrick, G. (2015). *The formation of gaming culture: UK gaming magazines. 1981 – 1995*. Palgrave Macmillan. <https://doi.org/10.1057/9781137305107>
- Kirkpatrick, G. (2016). Making games normal: Computer gaming discourse in the 1980s. *New Media & Society*, 18(8), 1-16. <https://doi.org/10.1177/1461444814558905>
- Líška, I. (1996). BLAM! MACHINEHEAD. *Riki*, 3(24), 24.
- Nieborg, D., & Foxman, M. (2023). *Mainstreaming and game journalism*. The MIT Press. <https://doi.org/10.7551/mitpress/13837.001.0001>
- Nieborg, D., & Sihvonen, T. (2009). The new gatekeepers: The occupational ideology of game journalism. In *DiGRA'09 – Proceedings of the 2009 DiGRA international*

- conference: *Breaking new ground: Innovation in games, play, practice and theory*. Brunel University.
- Panagiotopoulos, G., Giannakopoulos, G., & Liapis, A. (2019). A Study on video game review summarization. In G. Giannakopoulos, J. Conroy, M. Litvak, P. Rankel, & M. El-Haj (Eds.), *Summarizations across languages, genres and sources* (pp. 35-43). MultiLing. http://doi.org/10.26615/978-954-452-058-8_006
- Perreault, G., & Vos, T. (2019). Metajournalistic discourse on the rise of gaming journalism. *New Media & Society*, 22(1), 159-176. <https://doi.org/10.1177/1461444819858695>
- Pravdová, H., & Koltaiová, A. (2007). *Problematika periodickej tlače [The Problematics of periodical print]*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Prax, P., & Soler, A. (2016). Critical alternative journalism from the perspective of game journalists. *Proceedings of 1st international joint conference of DiGRA and FDG, Scotland, 1(13)*, 1-15.
- Rončáková, T. (2011). *Žurnalistické žánre. Učebnica pre poslucháčov vysokoškolského štúdia [Journalistic Genres. Textbook for undergraduate students]*. Verbum.
- Thomas, D., Orland, K., & Steinberg, S. (2007). *The videogame style guide and reference manual*. Power Play Publishing.
- Totilo, S. (2021, February, 4). *Here's how video game embargoes (and other restrictions) work*. <https://kotaku.com/how-video-game-review-restrictions-work-and-dont-1846199977>
- Tušer, A. (1999). *Ako sa robia noviny [How Newspapers Are Made]*. Eurokódex.
- Zagal, J., Johnson, T., & Ladd, M. (2009). Characterizing and understanding game reviews. In R. M. Young (Ed.), *Proceedings of the 4th international conference on foundations of digital games* (pp. 215-222). Association for Computing Machinery <https://doi.org/10.1145/1536513.1536553>

Contact Data:

Prof. PhDr. Hana Pravdová, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 hana.pravdova@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0001-8804-5016>

Mgr. Monika Cihlářová
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 cihlarova1@ucm.sk
 ORCID-ID: <https://orcid.org/0009-0007-5469-6209>

CRISIS COMMUNICATION IN THE CREATIVE INDUSTRY: SPECIFICS OF B2B AND B2C COMMUNICATION OF ADVERTISING AGENCIES

Veronika Števcát Szabóová

DOI: <https://doi.org/10.34135/mmidentity-2023-39>

Abstract:

The article discusses the specifics of crisis communication in the creative industry, more particularly in the communication of advertising and creative marketing agencies on the Slovak market. The main focus is on the business-to-business (B2B) and business-to-customer (B2C) communication of advertising agencies. The content and the findings of the article are related to the author's previous articles (Szabóová & Spálová, 2019; Szabóová, 2019) in which the author defines how creative employees or rather employees in advertising agencies perceive the crisis, maps the level and nature of the staffing and material provision of crisis communication in advertising agencies, etc. The author equally reflects on differences between the nature of crisis communication in the creative industry mapped by the author and between the anchoring of crisis communication by recognized and quoted experts (e.g., Chalupa, Chudinová, Vymětal, Bednář, and others) who perceive crisis communication rather as a field of management and crisis management of companies with an automatic transition to crisis communication with media. The article is comprised of selected findings and conclusions from the author's dissertation (Szabóová, 2021) in which, based on the results of the research, the author defines the frequency of crisis communication, although not in general, but specifically in the B2B and B2C spheres in agencies, followed by the causes of the crisis in the observed spheres, tools of crisis communication, the specifics as well as the differences.

Key words: Advertising Agencies. B2B Crisis Communication. B2C Crisis Communication. Creative Industry. Crisis Communication.

1 Introduction

“Crisis communication is a multidisciplinary field of study that includes the various practices and procedures through which organizations communicate before, during, and after a crisis” (Spradley, 2017, p. 1). Crisis communication primarily aims to protect the reputation of the company/brand as well as mitigate and eliminate the damage on repute.

The author has been dealing with the issue of crisis communication in the advertising industry for a longer period of time, thus, in the individual stages of her research, she tends to focus on new and unexplored areas of crisis communication in advertising agencies. The initial impulse, dating back to 2018, stemmed from the author's assumption that crisis communication in the creative industry, specifically in advertising and marketing agencies, would be different from how it is described in literature dealing with crisis communication or crisis management, e.g., Chalupa (2012), Chudinová and Tušer (2013), Chudinová (2014, 2016, 2019), Vymětal (2009), Bednář (2012), and others. The assumption was subsequently supported by the assertion of Moerdyk, a marketing analyst and former head of strategic planning and public relations for BMW South Africa, claiming,

While I have a lot of respect for advertising agencies, they are simply not equipped, skilled, or experienced in crisis communication. Finding an advertising agency that is able to solve a crisis and conduct crisis communication is like naively thinking that a finger and a thumb are one and the same. (Moerdyk, 2017, in Szabóová, 2019, pp. 338-339)

One of the author's significant findings confirming her primary assumption is that despite the fact that specialized literature claims that crisis communication is ought to be

systematic and led by trained staffing/communication team relying on manuals or scripts, the current situation in advertising agencies tends to suggest the very opposite; in other words, crisis communication is intuitive and there is no separate department or position with sole responsibility for it. It is covered internally, on a case-by-case basis, by untrained employees (Szabóová, 2019).

2 Research Methodology

In order to fulfill the objective below and find answers to the proposed research questions, an interviewing method was used to collect data, and the subsequent analysis and interpretation of the open-ended questions were, due to the qualitative nature of the data, carried out against the background of grounded theory; the data from the closed-ended questions were analyzed by using descriptive statistics and statistically verified through the Chi-Square Test (Goodness-of-Fit Test).

2.1 Objective, Research Questions, and Hypotheses

The article elaborates one of the author's dissertation objectives – to define the nature and specifics of crisis communication of advertising agencies in the B2B and B2C spheres. Based on the objective, two research questions were set:

RQ1: In which of the following spheres does crisis communication dominate in advertising agencies: *business-to-business* or *business-to-customer*?

RQ2: Do the features of crisis communication differ depending on the sphere of communication, i.e., does crisis communication have different features in the communication process in the *agency-to-customer's client* and *agency-to-client* spheres?

We equally defined the null hypothesis H0 and the alternative hypothesis H1:

H0: There is no statistically significant difference between the compared groups.

H1: There is a statistically significant difference between the compared groups.

The hypotheses were tested using the Chi-Square Test (Goodness-of-Fit Test) in the ratio of real (observed) data to the expected ratio of represented responses.

2.2 Characteristics of the Research Sample

As stated in the dissertation (Szabóová, 2021), the research sample was selected deliberately; the selection criterion was unambiguous and strict – the respondent must have been professionally active in the creative industry, specifically in an advertising agency. In total, we distributed the questionnaire form to 162 people with the following composition – we decided to address the request for participation in our research to people who worked in agencies that were members of KRAS (Club of Advertising Agencies of Slovakia); nonetheless, we expanded the sample and we also addressed people from member agencies of ADMA (Association of Digital Marketing Agencies). From each agency, we approached 5 people, two of them always in leading positions. As 3 of the agencies were members both of the KRAS and ADMA, the total was 12 KRAS agencies + 20 (-3) ADMA agencies = 29 x 5 = 145 people contacted (as of June 2021). Based on the methodological and research paradigms in which return rates are expected to be only around 10% for such highly specialized research, we decided to reach out to 17 more people from agencies we had worked with in the past that were not members of any association, as we expected a high return rate due to good relationships. As we expected, the return rate from the first group of agencies, i.e., ADMA or KRAS member agencies, was 13% (out of 145 reached people, 19 respondents), and the return rate from people from independent agencies was 76.5% (out of 17 reached people, 13 respondents). As for what concerns the agencies represented by the

Association of Public Relations of the Slovak Republic (APRSR), we deliberately did not address them as crisis communication constitutes a solid part of PR activities which these agencies are closely profiled as well as specialized in. We were, contrarily, interested in regular advertising agencies that do not exclusively specialize in PR, but in all tools of marketing communication. Nonetheless, in the future, we aim to equally explore the nature of crisis communication management in PR agencies in order to expand our knowledge of crisis communication in the selected segment of the creative industry.

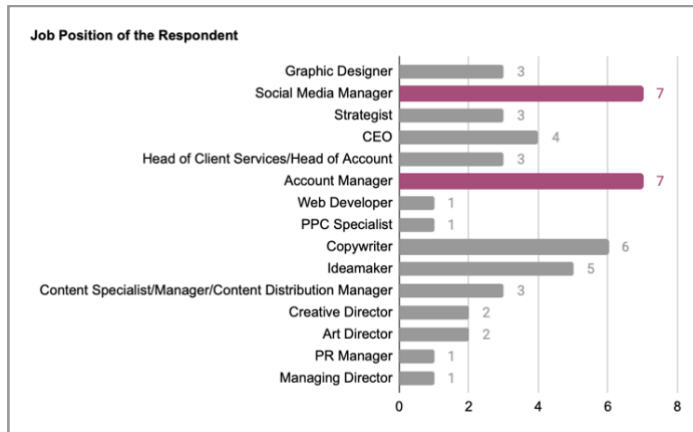


Figure 1: Position in the Advertising Agency
Source: Szabóová (2021, p. 80)

In the final analysis, our research sample consisted of 32 respondents (their position in the agency is shown in Figure 1), 11 of whom stated that they held a leading position in the agency (namely CEO, Head of Client Services, Head of Account, Creative Director, Managing Director, Art Director). Account Managers and Social Media Managers dominated the respondent pool, and, in our experience, they are the most likely to struggle with crisis communication. Our assumption was subsequently confirmed by the results of the survey, when the answer to the item: “Who handles crisis communication on social media in your agency” was, both in the B2B and B2C sphere of communication, primarily Social Media Manager, followed by CEO and Account Manager (see Figure 2 and Figure 3).

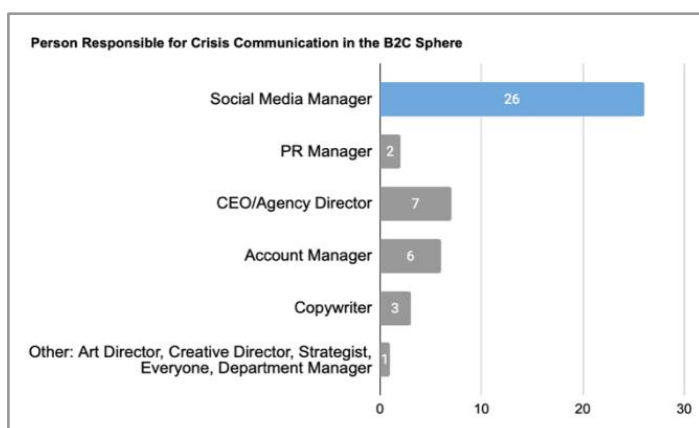


Figure 2: Persons responsible for crisis communication on social media in the B2B sphere
Source: Szabóová (2021, p. 80)

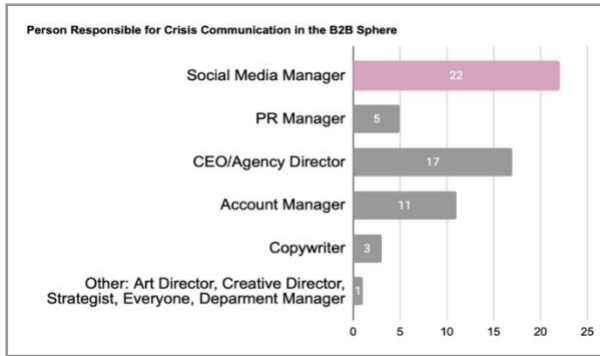


Figure 3: Persons responsible for crisis communication on social media in the B2C sphere
 Source: Szabóová (2021, p. 80)

However, a difference might be observed in the weight of responsibility in the hands of the CEO or the Agency Director; they have a much higher involvement in the crisis communication in the agency-to-client sphere than in the resolution of crises in the agency-to-client’s end-customer sphere. We decided to statistically verify this result by applying the Chi-Square Test (Goodness-of-Fit Test) to see if the difference in CEO/Agency Director engagement in the B2B and B2C spheres was statistically significant. The result (see Table 1) indicates that the difference was statistically significant as the p-value was below the α level of significance ($0.04 < 0.05$). Therefore, we rejected the H0 hypothesis for this trait. For the other traits capturing the competent position for crisis communication in an advertising agency, we could not reject the H0 hypothesis – statistical validation did not show a statistically significant difference in the involvement of the Account Manager, PR Manager, Social Media Manager, and Copywriter in the B2B and B2C spheres.

Table 1: Result of statistical comparison of selected positions in the advertising agency responsible for crisis communication management in the B2B and B2C spheres

Compared Features in the B2B and B2C Spheres	χ^2	Df	p-value	Accepted Hypothesis
CEO/Agency Director	4.117	1	0.04	H1
Copywriter	0.000	1	1.00	H0
Account Manager	1.471	1	0.23	H0
PR Manager	1.286	1	0.26	H0
Social Media Manager	0.333	1	0.56	H0

Source: Szabóová (2021, p. 81)

3 Results

Informal interviews with representatives of the advertising industry are also part of the research into the issue of crisis communication in the industry. It is on the basis of such interviews that we gained insight into the internal environment and classified 3 types of crisis communication: 1) crisis communication in the B2C sphere, i.e. communication between the agency and the client’s end customer, 2) crisis communication in the B2B sphere in the agency-to-client sphere and 3) B2B agency-marketing industry sphere where crises may arise as a result of competitive disputes, copying part of the campaign, etc.

3.1 Occurrence of Crisis and Crisis Communication in an Advertising Agency

The survey revealed and provided the following answers to the research question RQ1: “In which sphere does crisis communication dominate in advertising agencies – business-to-business or business-to-customer?”; most often crisis appears, and crisis

communication is implemented, in the B2C sphere, i.e., the agency, on behalf of its client, communicates with client’s customers (see Figure 4) who most often express their dissatisfaction publicly, in the social media environment.

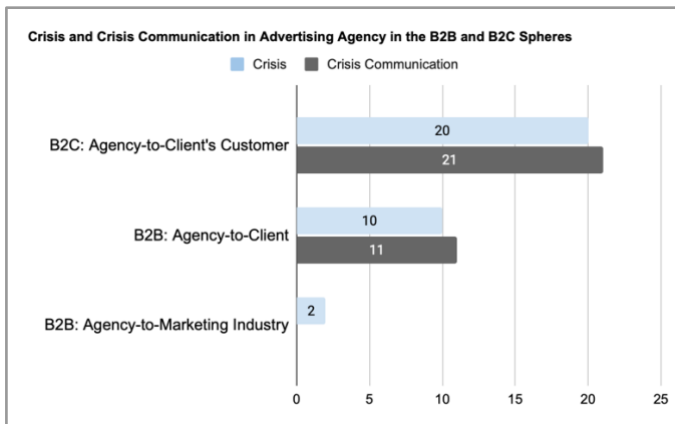


Figure 4: Rates of crisis and crisis communication in the B2C and B2B spheres

Source: Szabóová (2021, p. 82)

In absolute values, the incidence of crises and crisis communication was predominant in the B2C sphere; however, for higher validity of the results, we wanted to verify whether this difference was statistically significant compared to the B2B sphere. We applied the Chi-Square Test (Goodness-of-Fit Test), the results of which are captured in Table 2, where the p-value indicates whether there is a statistically significant difference between the two groups compared at a significance level of $\alpha = 0.05$. If the p-value is above 0.06, we cannot reject the H0 hypothesis; if it is below or equal to 0.05, we reject H0.

Table 2: Statistical comparison of the occurrence of crisis or crisis communication in the B2B and B2C spheres

Features Compared in B2B and B2C Spheres	χ^2	Df	p-value	Accepted Hypothesis
Crisis	1.000	1	0.16	H0
Crisis Communication	3.125	1	0.07	H0

Source: Szabóová (2021, p. 83)

There was no statistically significant difference in the incidence of crises in the B2C and B2B spheres as well as in the incidence of crisis communication, therefore we cannot reject the H0 hypothesis. Our discoveries also indicate that the occurrence of crisis communication is sporadic (see Figure 5).

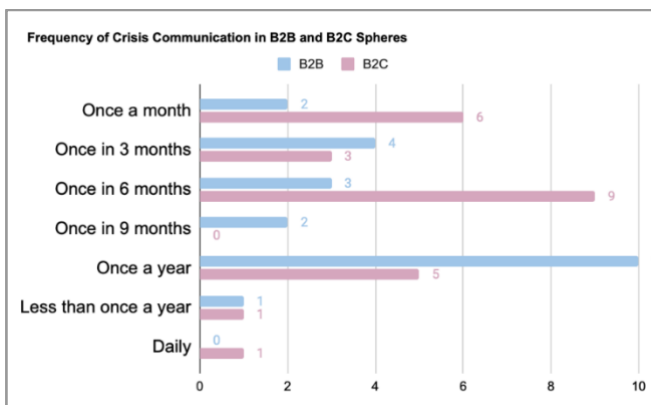


Figure 5: Frequency of occurrence of crisis communication in B2C and B2B spheres

Source: Szabóová (2021, p. 83)

The difference in the frequency of crisis communication between the comparison groups is not statistically significant. And although, according to the respondents, crisis communication is an infrequent phenomenon, when it does occur, of the tools described by experts (Riečanská & Révayová, 2018; Chudinová & Tušer, 2013), competent persons in the advertising agency most often use a direct tool – a press release, or and an indirect tool of crisis communication – informal communication with media (see Figure 6).

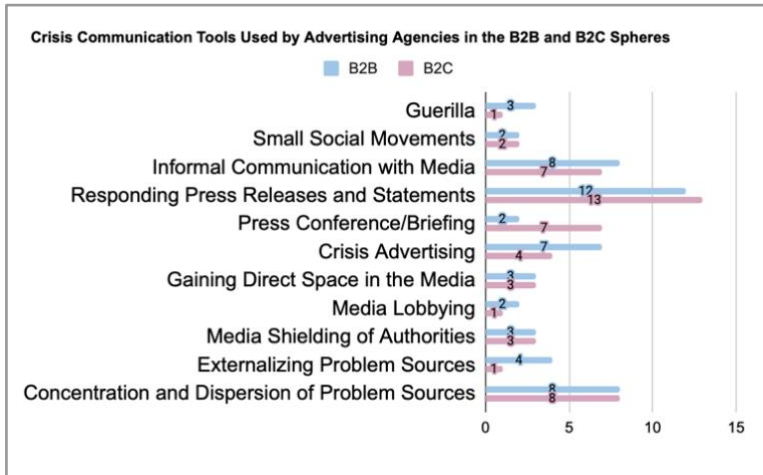


Figure 6: Crisis communication tools used by advertising agencies in the B2B and B2C spheres
Source: Szabóová (2021, p. 84)

In the application of crisis communication tools in the B2B and B2C spheres, we concluded, on the basis of the statistics testing (see Table 3), that there was no statistically significant difference between the occurrence of traits in the compared groups. The p-value was higher than the alpha significance level (e.g., 0.37 > 0.05) for each of the compared traits; therefore, we cannot reject the H0 hypothesis.

Table 3: Results of statistical comparison of the application of crisis communication tools in the B2B and B2C spheres

Features Compared in B2B and B2C Spheres	χ^2	Df	p-value	Accepted Hypothesis
Crisis Advertising	0.818	1	0.37	H0
Press Conference/Briefing	2.778	1	0,10	H0
Responding Press Releases and Statements	0.040	1	0.84	H0
Informal Communication with Media	0.067	1	0.80	H0

Source: Szabóová (2021, p. 85)

3.2 Specifics and Differences of Crisis Communication within the B2B and B2C Spheres

By examining the issue at length, we have identified the sphere in which the communication takes place as an important criterion that shapes the nature of crisis communication in an advertising agency. Therefore, we assume that the nature of crisis communication varies from sender and receiver of the message. However, before proceeding to delineate the differences of crisis communication in the B2C and B2B spheres, and thus also answering the research question RQ2, we indicate the specifics for each sphere separately and display them in tables (see Table 4 and Table 5).

Table 4: Concepts and causal conditions of crisis communication in the B2B sphere

CONCEPT: CONTENT	CATEGORIES			
	Facts (Ratio)	Simplicity and Clarity		Crisis Situation Mitigation Strategies
	Statement Examples			
	“B2B communication is overall more based on facts and ways of dealing with crisis situation mitigation. ”			
	“In the case of B2B, it is rather about a more rational solution to problems that are directly related to the quality of the work done.”			
CONCEPT: PERSONAL COMPTENCY	CATEGORIES			
	Agency Management		Representing person – Spokesperson	
	Statement Examples			
	“B2B is handled higher up, in management and at a more professional level. It is as if it was more important to keep the project than to care about the end customer.”			
	“...in B2B, the company is represented by a selected person by default (they do not always defend the interests of themselves, but of the company; thus, they do not have to present their views, they are in the role of an intermediary)”			
CONCEPT: CAUSE	CATEGORIES			
	Inefficient Time Management	Negative Feedback	Problematic Output	Misunderstanding/ Mistake in Communication
	Statement Examples			
	“An issue at the level of the produced creativity, the creative output of the agency.”			
	“ Negative feedback in comments under agency posts or on other brand profiles.”			
	“Temporary inability to meet agreed delivery dates. ”			
	“Thank goodness, usually just a misunderstanding. ”			
CONCEPT: COMMUNICATION TYPE	CATEGORIES			
	Privacy			
	Statement Examples			
	“B2B is more personal. ”			

Source: Szabóová (2021, p. 85)

Crisis communication in the business-to-business sphere is most often activated due to negative feedback from the client, i.e., the client expresses unfulfilled expectations from the delivered activities, outputs, and parts of the campaign. Respondents described it as personal, more professional communication, saturated with facts, but at the same time functional and clear. The agency management is involved in it; the phenomenon in the communication process is a mediator who stands on the client’s side.

Table 5: Concepts and causal conditions of crisis communication in the B2C sphere

CONCEPT: CONTENT	CATEGORIES	
	Emotions/Empathy	Facts
	Statement Examples	
	“...the communication is more objective, factual , we keep our distance.”	
CONCEPT:	CATEGORY	
	“B2C communication is about empathy, emotion , dealing with brand image or attitude.”	

PERSONAL ENGAGEMENT	Customers for Themselves		
	Statement Examples		
	“... in B2C crisis communication, it is usually everyone for themselves. ”		
CONCEPT: CAUSE	CATEGORIES		
	“Hating”	Slander	Complaints (Product Attributes)
	Examples of statements		
	“Repetitive “hating” on social media ; risk of online “hating” starting to shape the media narrative; risk to client’s reputation.”		
	“Social media – posts, campaigns, messages – complaints, negative attitude of customers, hating , negatively tuned discussion, slander... ”		
	“Unfavorable response to the advertised product/service.”		
	“A slip on the part of the client, which people then complain about on social media.”		
CONCEPT: COMMUNICATION TYPE	CATEGORIES		
	Publicity	Personalization	
	Examples of statements		
	“In the case of B2C, communication can be more personalized. ”		
	“... B2C on FB is public ; the whole audience reads it.”		
	“... it does not matter who you write off and who has a problem, the whole public space gets to see the communication... ”		

Source: Szabóová (2021, p. 86)

In the case of B2C communication, we note the presence of inconsistency in the nature of the content – in the qualitative data, on the one hand, appeared statements that, “B2C communication is about empathy, emotions”, on the other hand, statements highlighting the factuality and absence of emotional involvements, e.g., “When we do crisis communication on behalf of the client towards its customers, e.g., on social media, we respond to the comments of angry fans; we are not that emotionally involved, and therefore the communication is more objective, more factual, we keep our distance.” This reveals a space for pointing out that although we speak about B2C communication, other factors, such as the aforementioned reputational threat and the level of responsibility for the crisis, also influence the content of the communication, on which the crisis response strategy depends. Taking this fact into account, we see an opportunity to note that it cannot be unambiguously stated that crisis communication in an advertising agency in the B2C sphere is purely rational or always primarily based on emotion. The tone and content of the communication must be chosen individually, depending on the type of situation.

In Tables 4 and 5, we have listed the crisis causes that ultimately shape crisis communication – these were the results of the analysis of qualitative data that we extracted from the responses to the open-ended items. However, we also asked our respondents to indicate, in a closed-ended item in the questionnaire, which causes of crisis (categorized according to Chalupa, 2012) were most common in their advertising agency, both in the B2C and B2B sphere. The results indicated that in the agency-to-client’s customer communication sphere, product-related issues and damage to the client’s reputation were the most frequent cause, which is in line with the results of the qualitative analysis (see Table 5 above).

In the context of agency-to-client or agency-to-marketing industry communication, the dominant sources of crisis are damage to goodwill, human factor, and backlog (see Figure 7); it once again shows consistency with the findings from the qualitative data, where the problematic output, as a consequence of human factor failure, was identified as a widespread reason for crisis communication in correlation with B2B.

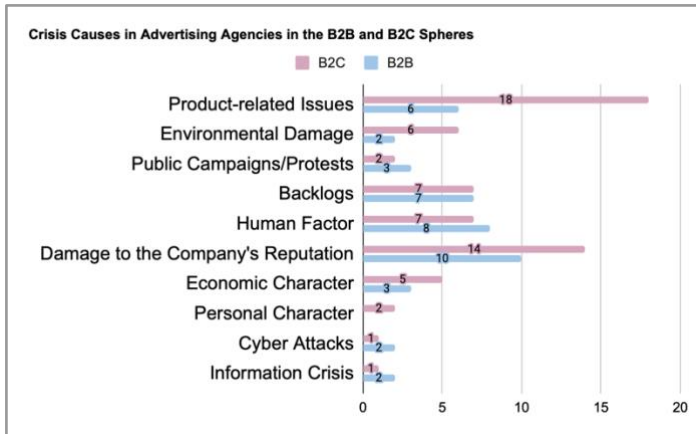


Figure 7: Crises causes in advertising agencies in in the B2B and B2C spheres
Source: Szabóová (2021, p. 88)

For statistical validation by Chi-Square Test, we selected the four most frequent causes of crisis, and we note that a statistically significant difference was confirmed only for the cause product-related issues in the B2B and B2C spheres (see Table 6), as the p-value was below the significance level ($0.01 < 0.05$). For the attributes of damage to the company’s reputation, human factor, and backlogs, we cannot reject the H0 hypothesis as no statistically significant difference was confirmed. Since a statistically significant difference was proved for the trait product-related issues, we can label this cause as significant for the business-to-customer sphere.

Table 6: Result of statistic comparison of significance of selected causes of crises in the B2B and B2C spheres

Compared Features in B2B and B2C Groups	χ^2	Df	p-value	Accepted Hypothesis
Damaging the Company’s Reputation	0.667	1	0.41	H0
Human Factor	0.067	1	0.79	H0
Backlog	0.000	1	1.00	H0
Product-related Issues	6.000	1	0.01	H1

Source: Szabóová (2021, p. 89)

4 Discussion and Conclusion

Crisis communication in the B2B sphere is described by people working in an advertising agency as more professional, more demanding to prepare and implement, and its possible negative consequences as more important and more dangerous for the agency. The management of B2B communication is also of interest to agency management, and at a professional level. In contrast, crisis communication in the B2C sphere is simpler. Although the basic contours are the same, the difference is mainly in the size of the audience – while agency-to-client crisis communication is more personal and intimate, B2C communication is public and accessible to a wide audience. There is equally a discrepancy in the emotional engagement; in the communication with the client’s customer through the social media accounts that they manage, i.e. not under their own name/brand, but on behalf of the client/brand, agencies admit to a slight indifference. On the other hand, in the B2B sphere, people in advertising agencies describe a personal/emotional connection with the client or the campaign that they are creating for them.

An example of such a crisis response, i.e. involving emotional engagement, is, in our opinion, the response of the MullenLowe GGK (2021) agency in the comment below their post, in which they proudly announced the winning of a new tender (see Figure 8). The user’s comment contains criticism of their new client’s products; the agency’s subsequent response

is offensive-defensive in nature, dominated by emotion over rationality – which is not advisable in the context of crisis communications. Author Bednář (2012) also states that crisis communication should be rational, thoughtful, systematic, planned, and cleansed of emotional outpourings. This does not necessarily mean the absolute elimination of emotions from communication; however, emotions should only be a supplementary tool, not the goal. By following these recommendations, agencies would maintain a professional image in the eyes of the non- as well as professional public (marketing industry).

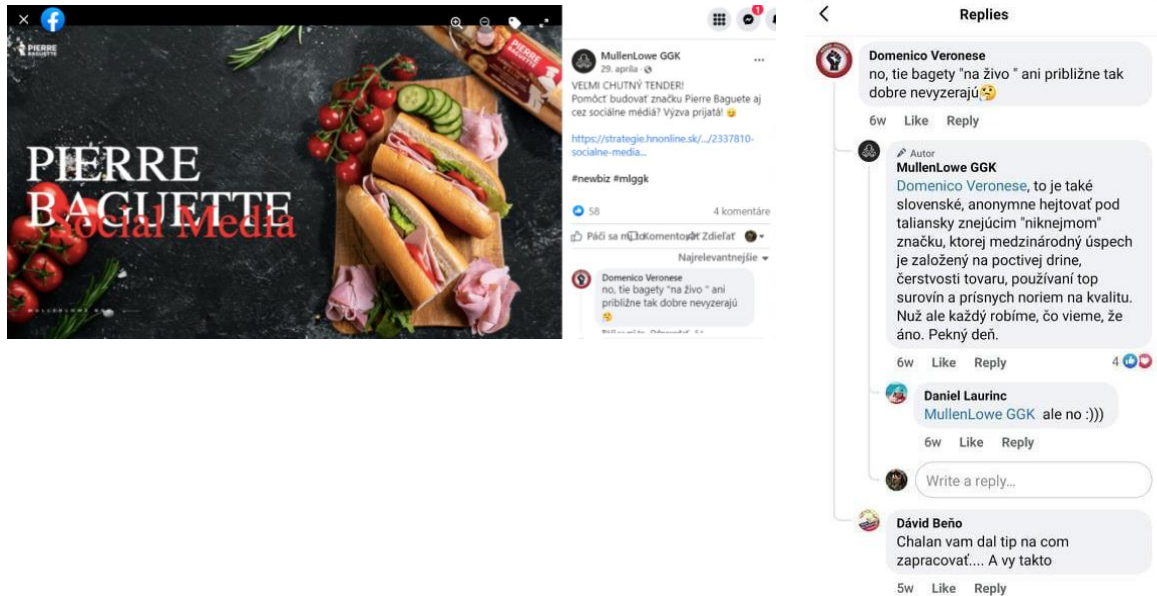


Figure 8: Demonstration of affective crisis communication of an advertising agency¹
Source: MullenLowe (2021)

For the B2C sphere, the statistical validation indicated product-related issues as a significant cause of the crisis; for the B2B sphere, the statistical testing did not reveal a significant source of the crisis.

Acknowledgement: This article was written as an output of the project UGA IV/3/2023 Crisis Communication in the Practice of the Creative Industry (Principal Investigator: Mgr. Veronika Števcát Szabóová, PhD.)

Bibliography

Bednář, V. (2012). *Krizová komunikace s médii [Crisis communication with the media]*. Grada Publishing.

¹Transcript:

MullenLowe GSK, April 29

A VERY TASTY TENDER!

Helping to build the brand Pierre Baguete through social media? Challenge accepted!

Domenico Veronese: well, in real life, those baguettes don't look that tasty at all.

MullenLowe GSK (Author): @Domenico Veronese, so Slovak of you to use an Italian-sounding nickname to anonymously hate on a brand whose international success is based on hard work, freshness of goods, use of best-quality ingredients and strict qualitative norms. Well, at the end of the day, we all do what we can, don't we? Have a nice day.

Daniel Laurinc: @MullenLowe GSK c'mon ☺

Dávid Beňo: that guy just gave you a tip on how to improve things and this is your reaction...

- Chalupa, R. (2012). *Efektivní krizová komunikace pro všechny manažery a PR specialisty* [Effective crisis communication for all managers and PR specialists]. Grada Publishing.
- Chudinová, E., & Tušer, A. (2013). *Kompetentný hovorca* [Competent spokesperson]. Eurokódex.
- Chudinová, E. (2014). Kompetentný hovorca vo verejnej správe na Slovensku [Competent spokesperson in public administration in Slovakia]. *Global Media Journal*, 1(2), 25-39.
- Chudinová, E. et al. (2016). *Médiá – moc – manipulácia* [Media – power – manipulation]. Pan-European University.
- Chudinová, E. (2019). *Public Relations I*. Faculty of Arts, Comenius University Bratislava.
- MullenLowe GKG [@mullenlowegkg]. (2021, April 21). VEĽMI CHUTNÝ TENDER! Pomôcť budovať značku Pierre Baguete aj cez sociálne médiá? Výzva prijatá! [VERY TASTY TENDER! Help build the Pierre Baguete brand through social media? Challenge accepted!] [Facebook post]. Retrieved from <https://www.facebook.com/MullenLoweGKG/posts/4435480246466254>
- Riečanská, J., & Révayová, M. (2018). *Grayling – Prepare. Respond. Recover*. https://web.archive.org/web/20180311170448/http://www.amcham.sk/events/2679_w_orkshop
- Spradley, R. T. (2017). Crisis communication in organizations. In C. R. Scott, & L. Lewis (Eds.), *The international encyclopedia of organizational communication, volume I: A – C* (pp. 559-571). John Wiley & Sons. <https://doi.org/10.1002/9781118955567.wbieoc050>
- Szabóová, V. (2019). Crisis communication in creative industries and its staffing. In A. Kusá, A. Zaušková, & Z. Bučková (Eds.), *Marketing Identity: Offline is the new online* (pp. 335-352). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Szabóová, V. (2021). *Krizová komunikácia – optimalizácia komunikačných procesov v krízovom manažmente* [Crisis communication – optimization of communication processes in crisis management] [Doctoral dissertation]. Constantine the Philosopher University in Nitra.
- Szabóová, V., & Spálová, L. (2019). Crisis communication in the creative industry. In *ARICBE/ARICPAS 2019 Cambridge, UK conference proceedings* (pp. 24-37). Aricon.
- Vymětal, Š. (2009). *Krizová komunikace a komunikace rizika* [Crisis communication and risk communication]. Grada Publishing.

Contact Data:

Mgr. Veronika Števcát Szabóová, PhD.
 University of Constantine the Philosopher in Nitra
 Faculty of Arts
 Department of Mass Media Communication and Advertising
 Dražovská 4
 949 01 Nitra
 SLOVAK REPUBLIC
 veronika.szaboova.ukf@gmail.com
 ORCID-ID: <https://orcid.org/0000-0003-2214-450X>

THE IMPORTANCE OF RELATIONSHIP MARKETING IN THE PROCESS OF ELECTRONIC COMMERCE

Lenka Štofejová – Richard Fedorko – Štefan Král'

DOI: <https://doi.org/10.34135/mmidentity-2023-40>

Abstract:

Presently, the customer takes center stage in the realm of sales, playing a pivotal role in the establishment of enduring relationships and loyalty. This shift implies a transformation in the dynamics between sellers and customers, with sellers increasingly incorporating elements of relationship marketing. This paper offers an overview of issues related to relational marketing within the context of electronic commerce, highlighting its significance in fostering relationships between online sellers and customers in the digital environment. The advent of the digital age has also brought about changes in how sellers engage with customers. There is a growing emphasis on relationship marketing, a strategy used to cultivate and sustain long-term connections with customers. There is also a growing prominence of artificial intelligence systems. Artificial intelligence is widely used in customer relationship management. The surge in e-commerce has amplified interest in relationship marketing, prompting a deeper understanding of fundamental aspects in forming online relationships with consumers. It is imperative for sellers to formulate and execute relational marketing strategies and to implement artificial intelligence systems within sales and communication processes, ultimately providing them with a competitive edge and fostering consumer loyalty. E-commerce plays a pivotal role in this evolving landscape.

Key words: Customer. E-Commerce. Electronic Commerce. Electronic Trading. Relationship Marketing.

1 The Fundamentals and Importance of Relationship Marketing

In the rapidly evolving and interactive business landscape of today, the dynamics of customer and business relationships are undergoing a profound transformation. Traditional sales-centric approaches are giving way to a paradigm where customers, along with other stakeholders, actively contribute to the construction of relationships and the development of trust. Investments in customer relationship marketing are experiencing a notable surge, consistently surpassing expenditures on brand-centric initiatives (Brodie, 2017; eMarketer, 2016).

In the marketing paradigm, the consumer assumes a pivotal role, holding the power to decide on the purchase of products and services. Understanding customer needs, preferences, and the intricacies of consumer behavior is integral to a contemporary marketing approach. As the significance of customer relations continues to escalate, businesses are increasingly recognizing the imperative of not only acquiring but, more crucially, retaining customers as a key to future success. In light of these realities, a novel marketing concept emerged – namely, relational or relationship marketing. At its core, relational marketing entails establishing robust economic and social connections with customers by delivering personalized, high-quality products or services that provide exceptional value at a reasonable price. The emphasis lies in cultivating enduring and mutually beneficial relationships with customers. The prosperity of most organizations hinges on their capacity – financial, human, and material – to craft a value proposition and deliver it effectively to their customer base (Gubíniová, 2009; Pajtinková Bartáková, 2014).

Bivainis et al. (2011) delineated three fundamental viewpoints regarding relationship marketing. The philosophical standpoint conceptualizes relational marketing through the lens of the customer relationship life cycle, emphasizing the integration of consumers and employees into the company to optimally cater to the needs of customers within the target segment. From a strategic standpoint, relationship marketing encompasses marketing activities directed at existing customers, considering economic, technological, psychological,

geographical, and temporal dimensions. On a tactical level, relationship marketing is viewed as a tool supporting sales and facilitating negotiations with customers.

At the heart of relationship marketing lies the emphasis on value and connections, in contrast to transactional marketing linked to mass selling. Historically, transactional marketing often involved applying psychological pressure on customers to purchase products they had no interest in, resulting in lost customers and short-term profits. Presently, there is a shift from transactional marketing towards relational marketing, where the central focus is on the customer. This approach centers on cultivating relational interactions between businesses and customers by delivering the value sought by the customer. It involves deepening cooperation (Lendel & Varmus, 2015). Jurgilevičiūtė and Sūdžius (2010) characterize relationship marketing as a prolonged, mutually advantageous association between a customer and a seller, characterized by elements such as trust, cooperation, communication, commitment, dependence, as well as development and maintenance, among others. For sellers, long-term relationships can translate into repeat purchases, increased sales, referrals, and support. Meanwhile, for customers, it reduces the need to seek new information and minimizes the potential risk associated with purchasing unfamiliar products or services (Cockayne, 2016).

2 Transactional Marketing vs. Relationship Marketing

Cultivating enduring relationships has emerged as a key objective of relationship marketing, and customers wield considerable influence over specific marketing strategies. Marketing is no longer viewed solely as a set of business activities but as an intricate process that underscores not only the components of the marketing mix but also the cultivation, bolstering, and fortification of relationships with other participants in the market (Lendel & Varmus, 2015). The subsequent table provides a juxtaposition of traditional and relational marketing.

Table 1 Transactional marketing vs. relationship marketing

Transactional marketing	Relationship marketing
Product and price as key elements in the sales process	Customer criteria and their compliance with marketing mix elements
Segmentation based on product portfolio	Segmentation based on customer differences
Production of products of such quality that they are salable on the market	Use of technologies that allow customers to customize the product
Providing better products and services than the competition	Providing products and services that customers perceive as more valuable compared to the competition
Each transaction with a customer is seen as a separate sale	Every transaction is incorporated into an enduring relationship with the customer.
Communication with large segments through mass media	Communication by sending personalized messages
Using one-way communication	Using interactive communication
Using customer satisfaction surveys in sales management	Using customer satisfaction surveys to improve relationships

Source: own processing, 2023; According to Pajtinková Bartáková & Gubiniová (2012)

While transactional marketing concentrates on the brief sales process and the business is unconcerned with cultivating a lasting relationship with customers, relational marketing adopts a distinct viewpoint. It views customers as revenue-generating business assets that demand attention. Relationship marketing acknowledges that certain customers possess the potential to generate substantial value for the company over time. Hence, the principal objective of relationship marketing can be identified as the long-term establishment, preservation, and enhancement of profitable relationships with customers (Bowie et al., 2016).

3 Relationship Marketing in the Context of Electronic Commerce

Online relationship marketing emerged in the 1990s, primarily stemming from e-commerce. It encompassed elements such as social media and online communities, mobile applications, big data, artificial intelligence, and augmented reality strategies, all converging to enhance comprehensive customer experiences (Lemon & Verhoef, 2016). Juščius et al. (2006) identified key factors that contributed to the rapid ascent of relationship marketing, including intense global competition, educated and discerning customers, heightened fragmentation of consumer markets, swiftly evolving consumer buying patterns, continually escalating quality standards, the imperative to compete not solely based on quality, the influence of technology across almost all product and service categories, and the diminishing effectiveness of some traditional facets of the marketing mix.

Relationship marketing is currently experiencing a surge in importance. Establishing robust customer relationships is crucial for a company's strategy and performance, particularly in response to trends shaping the global business landscape. These trends include the shift toward service-based economies, heightened global competition, growth in emerging markets, an aging population, saturation with advertising, and, notably, extensive digitization (Palmatier & Steinhoff, 2019). The rise of e-commerce has amplified interest in relationship marketing, prompting marketers to delve into key considerations for fostering meaningful online connections with individuals. For e-commerce websites, the strategic focus should be on cultivating a cadre of loyal customers. The exchange of information between customers and sellers, coupled with adept information management, plays a pivotal role in sustaining these relationships. Relationships progress and trust is established based on the shared information (Ghandour et al., 2021). Navigating the landscape of online relationships is notably distinct from offline interactions, making it a key focus for both researchers and marketing managers (Verma et al., 2016; McConnell, 2017; Kozlenkova et al., 2017). Offline relationships between customers and sellers involve face-to-face interactions, while in the online realm, these face-to-face exchanges disappear, and all interactions are indirect, facilitated by Internet technologies. Human-to-human interaction diminishes, and relational exchanges depend on human-technology interactions. Online relationships are essentially relational exchanges between customers and sellers, mediated by Internet technology. Many relationships fall on a spectrum, ranging from exclusively offline to exclusively online, and are often hybrid. Customer-vendor relationships encompass both offline components, such as in-store interactions, and online components, such as functions provided through mobile applications. Companies actively employ omnichannel approaches to effectively manage customer relationships (Yadav & Pavlou, 2014; Steinhoff et al., 2019).

In the past two decades, retailers have been compelled to expand their online offerings due to escalating customer demands and disruptive technologies. The advent of the digital age has also prompted a shift in the communication strategies employed by sellers, with an increasing emphasis on relationship marketing. Through relationship marketing, sellers endeavor to establish and sustain long-term connections with customers by creating and delivering value. The underpinning principles guiding the development of relational

marketing practices in the realm of electronic commerce include the optimization of utility, fostering trust and loyalty, engaging in social exchange, generating value, and ensuring the protection of privacy (Thaichon & Ratten, 2021). Within relational marketing, the customer emerges as a pivotal element, and sellers aim to attain a competitive advantage through the reciprocal exchange of information. The relationship between the customer and seller in relationship marketing is a mutually advantageous commitment, compelling both buyers and sellers to collaborate for long-term advantages that enhance the likelihood of a successful association. Leveraging technology, marketers can sift through extensive datasets, derive specific insights, and gain a profound understanding of customer preferences and behavior. Consequently, they can formulate tailored solutions, communication strategies, and products to cater to the unique needs of their customers (Lo & Campos, 2018). Over time, the dynamic between seller and buyer has evolved from a tangible exchange to an intangible one grounded in knowledge and interaction, with the customer assuming the role of a co-creator. The success of this relationship hinges on the customer’s willingness to divulge personal information in an online setting. This interaction facilitates the mutual development of opportunities for both parties, founded on learning, risk mitigation, and collaborative efforts through online platforms aimed at enhancing performance. Customer participation in the co-creation of products and services can lead to information dissemination among other customers, thereby elevating awareness of the seller and enhancing its reputation. Conversely, online channels enable the company to directly gather information about customers and their behavior, enabling the provision of personalized products and services (Thaichon & Ratten, 2021).

The following table presents selected studies and their results regarding the issue of relational marketing in connection with the online environment.

Table 2: Selected studies of relational marketing issues in the context of e-commerce

References	Objective	Study theme	Findings
Fong et al. (2015)	To demonstrate the effectiveness of locational targeting, the practice of promoting to consumers near a competitor’s location, and the getting closer to the customer by using geo-local targeting.	Locational targeting as a tool for getting closer to the customers.	If retailers can use mobile phones to estimate what a shopper is experiencing, they may be better able to reach shoppers with the right message and get closer to them.
Aguirre et al. (2015)	To investigate the role of personalization in building and maintaining trust and relationships between customer and seller.	Trust-building strategies on online advertisement effectiveness.	The ease and availability of reaching shoppers via specific online accounts has increased personalized communications. Personalization allows for a better fit with shopper preferences and greater convenience and thus it finally contributes to maintaining long-term relationships with customers.
Khamitov et al. (2019)	To examine how different types of brand relationships drive customer brand loyalty and relationship building.	Consumer – brand relationships and their impact on customer loyalty.	Various retailer – shopper relationship features are differentially related to attitudinal or behavioral loyalty, so this distinction is critical for retailers that should also focus on later phases of the shopper journey.
Hock et al. (2020)	To investigate how price promotions can increase consumer conversion rates, spending, and quality of customer-retailer relationships.	Price promotions and their use in digital and relationship marketing.	Using price promotions to effectively communicate value can mean experimenting with new approaches. This can ultimately result in building stronger long-term

Villanova et al. (2021)	To investigate how to cultivate the right long-term relationship with a shopper.	Retailer marketing communications and relationships in the digital era.	relationships with customers. Encouraging customer engagement is the key to maintaining long-term relationships. The higher engagement leads to greater loyalty. It is necessary to point out the benefits that consumers can gain by engaging in retailers' activities.
Hallikainen et al. (2022)	To study if personalized product recommendations price promotions impact online consumer loyalty.	Consequences of personalized product recommendations and prices promotions in online shopping and consumer – retailer relationships.	Personalized price promotions operate as an effective online marketing tool for online grocery retailers to ease consumer decision making and strengthen relationships between them.
Rong et al. (2023)	To identify the effects of cross-platform multichannel shopping behavior and marketing strategies on customer relationship length, depth, and breadth.	Effect of cross-platform multichannel shopping behavior on online customer-firm relationship length, depth, and breadth.	Cross-platform multichannel shopping behavior and marketing strategies lengthen, deepen, and broaden the online customer-firm relationship.
Fu et al. (2023)	To examine the factors that can lead to customer trust in chatbots and improving relationships between sellers and customers.	The role of chatbots' human-like characteristics in online shopping and relationships between sellers and customers.	The characteristics of customer readiness: optimism and innovativeness, and the human characteristics of chatbots: empathy and social presence, have a positive effect on customer trust in chatbots. This fact is ultimately reflected in increased trust in the given e-shop and in the maintenance of long-term relationships between customers and sellers.
Qu et al. (2023)	To analyze the effects of online interactions on user stickiness in a social commerce environment.	The role of online interaction in user stickiness of social commerce.	Online interactions play a crucial role in strengthening user stickiness in social commerce and their relationships with retailers.
Zhang et al. (2023)	To investigate the relationships between sellers and consumers in online social media marketing.	Consumer – seller relationships in online social media marketing.	Sellers and consumers in online social media marketing create a virtual, intuitive, visible, and communicable environment together, where there is a space for building and maintaining long-term relationships and increasing the perceived value.

Source: own processing, 2023

Customers play a crucial role in e-commerce operations. Historically, companies relied on employees to handle customer relationships. In the present era, there is a growing prominence of artificial intelligence systems. These systems possess the capability to forecast consumer behavior during the purchasing process, predict the products preferred by specific customers, and strategize on how to establish and uphold optimal relationships with them. Leveraging artificial intelligence, a business can gain insights into customer satisfaction and meticulously strategize responses to customer needs and demands, irrespective of the time or situation. Artificial intelligence contributes to creating a harmonious environment where human and machine collaborate to achieve profitability and boost sales (Soni, 2020; Pallathadka et al., 2021).

4 Conclusion

In the rapidly advancing and dynamic contemporary landscape, the customer takes precedence for sellers, holding an indispensable role in the establishment and sustenance of enduring relationships, trust, and loyalty. Concurrent with the transformation of the roles of sellers and customers, the dynamics of their relationship have also evolved. Sellers are progressively incorporating elements of relationship marketing into their business strategies. The objective of this paper was to offer insights into relational marketing considerations within the realm of electronic commerce, emphasizing its significance in fostering connections between online sellers and customers in the digital landscape.

The shift to the digital age has likewise prompted alterations in how retailers engage with their customer base. They frequently employ the techniques and methodologies of relationship marketing, aiming to establish and sustain mutually advantageous, long-term connections with customers. The surge in the prominence of e-commerce has heightened sellers' fascination with relationship marketing. Marketers are actively seeking to comprehend the pivotal concerns and complexities inherent in constructing online relationships with customers and then devising strategies to address and navigate them. For them, it is imperative to implement relational marketing approaches and artificial intelligence systems in their sales and communication processes. This serves as the foundation for not only attaining and preserving a competitive edge but also cultivating trust and loyalty among customers. E-commerce plays a pivotal role in this context.

With the development of information technology and artificial intelligence systems, the transformation to digitization has become an important means of increasing the level of specialization in many sectors, not excluding electronic commerce. Artificial intelligence creates business value in the e-commerce process in three main ways – automating processes, generating innovative insights, and engaging in business processes with stakeholders. The advantages of artificial intelligence are the optimization of internal business operations, making better decisions, improving existing products, using workers for more creative work, creating new products and advancing in new markets (Davenport & Ronanki 2018; Dwivedi et al., 2019). Artificial intelligence has great potential, but there are still many challenges in terms of its application in practice. In connection with relationship marketing, it can gain positive results and success in the process of electronic commerce.

Acknowledgement: This study was supported by the project VEGA 1/0694/20 – Research in the field of relational marketing – perception of aspects of electronic commerce and its impact on purchasing behavior and consumer preferences.

Bibliography

- Aguirre, E., Mahr, D., Grewal, D., De Ruyter, K., & Wetzels, M. (2015). Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness. *Journal of Retailing*, 91(1), 34-49. <https://doi.org/10.1016/j.jretai.2014.09.005>
- Bivainis, J., Daukševičiūtė, I., & Vilkaitė, N. (2011). Relationship marketing through the prism of customer loyalty. *Business: Theory and Practice*, 12(4), 348-361. <https://doi.org/10.3846/btp.2011.36>
- Bowie, D., Buttle, F., Brookes, M., & Mariussen, A. (2016). *Hospitality marketing* (3rd ed.). Routledge.

- Brodie, R. J. (2017). Enhancing theory development in the domain of relationship marketing: How to avoid the danger of getting stuck in the middle. *Journal of Services Marketing*, 31(1), 20-23. <https://doi.org/10.1108/JSM-05-2016-0179>
- Cockayne, D. (2016). Redefining B2B relationship marketing: Insight from postmodern Alibaba. *Journal of Customer Behaviour*, 15(1), 49-66. <https://doi.org/10.1362/147539216X14594362873497>
- Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96, 108-116.
- Dwivedi, Y. K. et al. (2019). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994. <https://doi.org/10.1016/j.ijinfomgt.2019.08.002>
- Emarketer. (2016, August 17). *Marketers double down on CRM spending*. <https://www.emarketer.com/Article/Marketers-Double-Down-on-CRM-Spending/1014355>
- Fong, N. M., Fang, Z., & Luo, X. (2015). Geo-conquesting: Competitive locational targeting of mobile promotions. *Journal of Marketing Research*, 52(5), 726-735. <https://doi.org/10.1509/jmr.14.0229>
- Fu, J., Mouakket, S., & Sun, Y. (2023). The role of chatbots' human-like characteristics in online shopping. *Electronic Commerce Research and Applications*, 61, 101304. <https://doi.org/10.1016/j.elerap.2023.101304>
- Ghandour, A., Parackal, M., & Deans, K. R. (2021). Relationship development process in ecommerce websites. In *2021 22nd international arab conference on information technology (ACIT)*, (pp. 573-581). IEEE. <https://doi.org/10.1109/ACIT53391.2021.9677208>
- Gubíniová, K. (2009). Orientácia marketingového manažmentu v súčasnom trhovom prostredí [Marketing management orientation in the current market environment]. In H. Mališová (Ed.), *Aktuálne trendy v oblasti environmentálne zodpovedného podnikania [Current trends in environmentally responsible business]* (pp. 27-43). Comenius University Bratislava.
- Hallikainen, H., Luongo, M., Dhir, A., & Laukkanen, T. (2022). Consequences of personalized product recommendations and price promotions in online grocery shopping. *Journal of Retailing and Consumer Services*, 69, 103088. <https://doi.org/10.1016/j.jretconser.2022.103088>
- Hock, S. J., Bagchi, R., & Anderson, T. M. (2020). Promotional games increase consumer conversion rates and spending. *Journal of Consumer Research*, 47(1), 79-99. <https://doi.org/10.1093/jcr/ucz043>
- Jurgilevičiūtė, L., & Sūdžius, V. (2010). Relationship marketing in financial services. *Business: Theory and Practice*, 11(3), 116-123. <https://doi.org/10.3846/btp.2010.13>
- Juščius, V., Navickas, V., & Jonikas, D. (2006). Relationship marketing: Theoretical aspects. *Business: Theory and Practice*, 7(4), 254-262. <https://doi.org/10.3846/btp.2006.31>
- Khamitov, M., Wang, X., & Thomson, M. (2019). How well do consumer-brand relationships drive customer brand loyalty? Generalizations from a meta-analysis of brand relationship elasticities. *Journal of Consumer Research*, 46(3), 435-459. <https://doi.org/10.1093/jcr/ucz006>
- Kozlenkova, I. V., Palmatier, R. W., Fang, E., Xiao, B., & Huang, M. (2017). Online relationship formation. *Journal of Marketing*, 81(3), 21-40. <https://doi.org/10.1509/jm.15.0430>

- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69-96. <https://doi.org/10.1509/jm.15.0420>
- Lendel, V., & Varmus, M. (2015). Proposal of innovative approaches of relationship marketing in business. *Business: Theory and Practice*, 16(1), 63-74. <https://doi.org/10.3846/btp.2015.434>
- Lo, F.-Y., & Campos, N. (2018). Blending internet-of-things (IoT) solutions into relationship marketing strategies. *Technological Forecasting and Social Change*, 137, 10-18. <https://doi.org/10.1016/j.techfore.2018.09.029>
- McConnell, C. (2017, February 9). How to build strong customer relationships online. *Forbes*. <https://www.forbes.com/sites/forbescommunicationscouncil/2017/02/09/how-to-build-strong-customer-relationships-online/>
- Pajtinková Bartáková, G., & Gubiniová, K. (2012). *Udržateľný marketingový manažment [Sustainable marketing management]*. IAM press.
- Pajtinková Bartáková, G. (2014). Nový rozmer marketingového riadenia – meranie výkonnosti marketingu v organizácii [A new dimension of marketing management – measuring marketing performance in an organisation]. *Marketing Science & Inspirations*, 9(4), 18-27.
- Pallathadka, H., Ramirez-Asis, E. H., Loli-Poma, T. P., Kaliyaperumal, K., Mango Ventayen, R. J., & Naved, M. (2023). Applications of artificial intelligence in business management, e-commerce and finance. *Materials Today: Proceedings*, 80(3), 2610-2613. <https://doi.org/10.1016/j.matpr.2021.06.419>
- Palmatier, R. W., & Steinhoff, L. (2019). *Relationship marketing in the digital age*. Routledge.
- Qu, Y., Ciešlik, A., Fang, S., & Qing, Y. (2023). The role of online interaction in user stickiness of social commerce: The shopping value perspective. *Digital Business*, 3(2), 100061. <https://doi.org/10.1016/j.digbus.2023.100061>
- Rong, Z., Wang, Q., & Zhang, H. (2023). Effects of cross-platform multichannel shopping on online customer – firm relationship length, depth, and breadth: An empirical investigation. *Information Processing & Management*, 60(2), 103218. <https://doi.org/10.1016/j.ipm.2022.103218>
- Soni, V. D. (2020). Emerging roles of artificial intelligence in ecommerce. *International Journal of Trend in Scientific Research and Development*, 4(5), 223-225. <https://ssrn.com/abstract=3648698>
- Steinhoff, L., Arli, D., Weaven, S., & Kozlenkova, I. V. (2019). Online relationship marketing. *Journal of the Academy of Marketing Science*, 47(3), 369-393. <https://doi.org/10.1007/s11747-018-0621-6>
- Thaichon, P., & Ratten, V. (2021). *Transforming relationship marketing: Strategies and business models in the digital age*. Routledge.
- Verma, V., Sharma, D., & Seth, J. (2016). Does relationship marketing matter in online retailing? A meta-analytic approach. *Journal of the Academy of Marketing Science*, 44(2), 206-217. <https://doi.org/10.1007/s11747-015-0429-6>
- Villanova, D., Bodapati, A. V., Puccinelli, N. M., Tsiros, M., Goodstein, R. C., Kushwaha, T., Suri, R., Ho, H., Brandon, R., & Hatfield, C. (2021). Retailer marketing communications in the digital age: Getting the right message to the right shopper at the right time. *Journal of Retailing*, 97(1), 116-132. <https://doi.org/10.1016/j.jretai.2021.02.001>
- Yadav, M. S., & Pavlou, P. A. (2014). Marketing in computer-mediated environments: Research synthesis and new directions. *Journal of Marketing*, 78(1), 20-40. <https://doi.org/10.1509/jm.12.0020>

Zhang, W., Zhang, W., & Daim, T. U. (2023). Investigating consumer purchase intention in online social media marketing: A case study of Tiktok. *Technology in Society*, 74, 102289. <https://doi.org/10.1016/j.techsoc.2023.102289>

Contact Data:

Mgr. Lenka Štofejová, PhD.
University of Prešov in Prešov
Faculty of Management and Business
Department of Marketing and International Trade
Konštantínova 16
080 01 Prešov
SLOVAK REPUBLIC
lenka.stofejova@unipo.sk
ORCID-ID: <https://orcid.org/0000-0001-5695-4047>

Assoc Prof. Mgr. Richard Fedorko, PhD.
University of Prešov in Prešov
Faculty of Management and Business
Department of Marketing and International Trade
Konštantínova 16
080 01 Prešov
SLOVAK REPUBLIC
richard.fedorko@unipo.sk
ORCID-ID: <https://orcid.org/0000-0003-3520-1921>

Mgr. Štefan Král
University of Prešov in Prešov
Faculty of Management and Business
Department of Marketing and International Trade
Konštantínova 16
080 01 Prešov
SLOVAK REPUBLIC
stefan.kral@smail.unipo.sk
ORCID-ID: <https://orcid.org/0000-0002-0584-3934>

INNOVATIVE TECHNOLOGY IN THE REVITALIZATION OF ART MARKETING COMMUNICATION IN CULTURAL INSTITUTIONS

Marek Štosel – Lucia Spálová

DOI: <https://doi.org/10.34135/mmidentity-2023-41>

Abstract:

Currently – and more than ever – we are witnessing a rapid rise of digital transformation of hybrid means of communication in cultural and historical monuments. As a result of the recent uncomfortable situation, cultural and historical sites re-evaluated their rigorous attitudes towards contemporary modernity. Thanks to these changes, they vehemently entered a prosperous phase of technological progress. It is mainly the Slovak castles, which can be identified as museum exhibits that have shown that they are able to respond to the current visitor needs, which are triggered by their demand. However, it is debatable whether such congruences are reliable, effective, valuable and profitable from the point of view of art marketing and art marketing communication. For this reason, the aim of this scientific study was to find out what marketing and communication tools are used by select Slovak cultural and historical monuments in the context of support, development and revitalization of art marketing communication. We will also look into whether Trenčín Castle, Čachtice Castle and Beckov Castle consistently prefer the interaction and participation with visitors through traditional digital communication media only, or whether they simultaneously employ other more sophisticated interactive tools, such as extended (augmented) reality, which is influenced by artificial intelligence. We collected our data through preselected research methods. The case study as a qualitative method (strategy) was the primary technique for collecting empirical data. This was supplemented with other compatible methodological partialities, such as observation, interview and subsequent analysis, and interpretation and comparison of data.

Key words: Artificial Intelligence. Augmented Reality. Cultural and Historical Heritage. Revitalization of Art Marketing Communication.

1 Introduction

The gradually evolving revolution in digital communication has become a long-awaited impetus for cultural institutions. The implementation and application of modern technological mechanisms is no longer a matter of the distant future (Su, 2008). Today's historical monuments can be safely classed as organizations of the 21st century. Despite numerous and profound differences, the cultural and historical monuments started to approach the digitization of art marketing and art marketing communication in a highly professional manner (Baggesen, 2019).

However, it is for a fact that some organizations are resistant to technological progress (Pescarin, 2014). However, not all of them approach communication so rigorously. Some monuments gradually implemented sophisticated devices with the support of extended (augmented) reality, and used them to their advantage (Dziekan & Proctor, 2019). For many foreign and Slovak cultural and historical monuments, the concept of digital and audiovisual additions to actual spaces has become a very useful and beneficial tool (Šobánková & Lažová, 2016). Thanks to augmented reality, which can also contain elements of artificial intelligence (Geroimenko, 2023), it is now possible to model the cultural space more thoroughly and in detail in a way that it meets important historical, cultural and also artistic and aesthetic standards.

Augmented reality is a tool that can interact and participate with visitors. Therefore, the main goal of this scientific study was to find out whether Trenčín Castle, Čachtice Castle and Beckov Castle continue to prefer the typical media formats only for the communication

with their visitors, or whether they are supporters of modern digital hybridization, which includes augmented reality and elements of artificial intelligence.

2 Hybridization of Communication vs. Cultural and Historical Heritage

Digital technology, such as virtual or augmented reality, can contribute to the enhancement of visitor experience. At the same time, it is perceived as being able to draw the visitors/participants in through audiovisual additions. The technological combinations of augmented and virtual reality are popular in many museums (Jung et al., 2016). Expert literature also presents the notion that augmented reality and virtual reality are in an equal “brotherly” relation (Huang et al., 2013). Grasnick (2022) identifies virtual reality as a system that creates a completely artificial environment. On the other hand, augmented reality cooperates with the existing environment by supplementing it with new digital elements. A participant who uses augmented reality is not isolated from the outside world (Geroimenko, 2021). It still functions as a full-fledged part of the real and actual space, except that the real world is enriched with additional digital information (Pangilinan et al., 2019). Offline or online mobile applications are often the source medium of this augmented information (Peddie, 2017).

Augmented reality has become a stimulating tool of art marketing communication in the rapid development of information technology in the cultural and historical heritage of Central Europe. The rapid transformation was caused by the development of new digital technology (Spicheva, 2014). Its massive rise was mainly triggered by the development of artificial intelligence (Dimatteo et al., 2022). The proponents of artificial intelligence are convinced that it will bring new knowledge to the field of cultural heritage (Greenfield & Romero, 2021), allowing us to create a more sustainable space out of it (Xie, 2022). Based on their own empirical research, numerous scientific studies have confirmed that it would be incorrect to separate digital technology from cultural and historical heritage (Sobocinska, 2019). Augmented reality is destined to digitally support and improve the cultural and historical space (Spálová et al., 2023).

The opponents are convinced that such interference in the cultural and historical space is extremely reckless (Rhodes, 2015). Digital technology causes a devaluation and degradation of the ideas of cultural organizations (Wróblewski & Lis, 2018). It goes without saying that the governing bodies have no need to destroy or disparage the basic ideas of cultural and historical organizations through the spatial implementation and use of augmented reality (Krajewski, 2020). Many historical institutions, such as castles, offer various ways to use the time spent in their spaces as interactively as possible without disturbing or destroying anything (Loureiro & Sarmiento, 2018). One should also note that the managers cannot under any circumstances turn their backs on the visitors (Javornik, 2016). It is important for the management to be sufficiently able to approach the visitors and thus create a functional space for them that exceeds the framework of the visit itself.

3 Methodology

Owing to the implementation above and application of new digital technologies in the exhibition space of selected historical monuments for the purpose of developing and revitalizing art marketing communication, we formulated the following research questions:

- What digital constructs are used by Trenčín Castle, Čachtice Castle and Beckov Castle?
- For what purpose do these historical sites use augmented reality?
- Can augmented reality influence the attendance rates at cultural and historical monuments?

- Can an artificial intelligence system manage art marketing communication activities in cultural and historical monuments?

Within the implementation phase of the scientific part of our study, and based on the operationalization of the research problem, which mostly includes the Slovak historical monuments such as Trenčín Castle, Čachtice Castle and Beckov Castle, we chose qualitative research – a descriptive case study – as the primary research technique, which also includes quantitative elements – statistical data.

The theorists view the case study from different angles (Chrastina, 2019). Yin (2018) characterizes the case study as a research strategy. Zucker (2009) sees it as a research procedure and Bergen and White (2000) as a research design.

Our case study was primarily based on the recommendations of Robson (1993) and Hendl (2005). We used a multiple case study. Yin (2016) refers to this type of case study as a collective case study or multiple holistic design. In this technique several cases complement each other (Hancock & Algozzine, 2006). A case study focuses on describing the similarities and dissimilarities that affect the research problem.

Other additional empirical research methods can be included as a secondary part of the case study. This methodological combination can be referred to as triangulation of research techniques (Denzin & Lincoln, 2018). In our case, we interfaced with the observation and interview method. For this purpose, we used non-standardized, participatory, hidden (anonymous) observation and a non-standardized, free (informal) in-depth interview.

The collection of research material took place in May – June 2023. The main selection criterion was the use of augmented reality in select historical monuments and sites. Only 3 institutions met this criterion:

- Trenčín Castle – <<https://trencianskyhrad.sk/>>
- Čachtice Castle – <<https://cachtickyhrad.eu/>>
- Beckov Castle – <<https://www.hrad-beckov.sk/>>

4 Results

We identified Čachtice Castle, Beckov Castle and Trenčín Castle as three institutions that were able to respond to the recent situation by making their exhibition spaces available through the Hrad3D (Yahart, 2023) interactive mobile app. However, one shouldn't conclude that this app was created for the purpose of replacing or eliminating the workforce, as some critics argued. This mobile app is built on the principle of digital additions to the exhibition space of cultural organizations. At the same time, it is also a full-fledged marketing and communication medium through which the institutions interact and participate with visitors.

Trenčín Castle

Based on an interview with the management of Trenčín Museum, which acts as the main coordinator, we found that Trenčín Castle has also implemented other marketing and communication channels than the usual and proven ones. From 2021, it has implemented augmented reality as the first cultural and historical institution in the region. The castle and the museum have previously complained that they cannot accurately portray the original and period coloring of the individual exhibition rooms. They believed that the app would become a functional and representative solution to boost visitor interest and traffic. At the same time, the management assured us that the goal of the mobile app is not to replace, reduce or terminate the workforce. The concept was primarily built as a supplement and addition. The app has become very popular among the visitors and users. The Hrad3D app gained popularity mainly due to the fact that the user is shown the original historical space with

period equipment and characters in a digital augmented form. In this context, we were also interested in the specific opinions of the visitors and how they perceive and assess these additional services. The clients considered this interactive concept to be an important element. They do not consider it an unnecessary burden. Nor do they view it as something that devalues the essence of a cultural institution.

The platform works on the principle of QR codes. After scanning the relevant marker, the application automatically shows the augmented space that complements and completes the natural environment in the given exhibition area. The user can also view additional historical inventory on this platform. The application also shows two anthropomorphic figures. In our view, the digital representation of historical spaces through this app is as an excellent art marketing and art marketing communication tool.

From the point of view of statistical data, which were published by the Slovak National Museum in 2021 in the *Annual Report of Museum Activities for 2021* (Slovenke národné múzeum, 2021), the castle exhibition was visited by 100,273 people. The attendance rate in 2021 was not only affected by the relaxation of many pandemic measures, but also by the implementation and use of the Hradý3D interactive platform in the exhibition space. In terms of statistical data, the number of visitors to Trenčín Castle increased by 45.15% in 2022 compared to 2021, which ultimately represents 145,553 visits (Martinisko, 2022). Statistical indicators that would demonstrate an increase in attendance at the given exhibition are not yet publicly available by the Slovak National Museum by 2023. So far, according to unofficial data, the management of the Trenčín Museum together with the Trenčín Castle claim that attendance for 2023 has increased by 3.05 percent, which means that attendance for 2023 represents 150,000 visits. The only reliable material that describes to us the increased attendance for the year 2023 is the oral testimony of the expert staff. The professional management of both institutions involved is convinced that the use of this technology has become a stimulating accelerator and catalyst for visitor attendance. Of course, they don't claim that the increased attendance can only be attributed to this digital platform. Rather, they are of the opinion that the use contributed to an exponential increase in visitor interest and attendance.

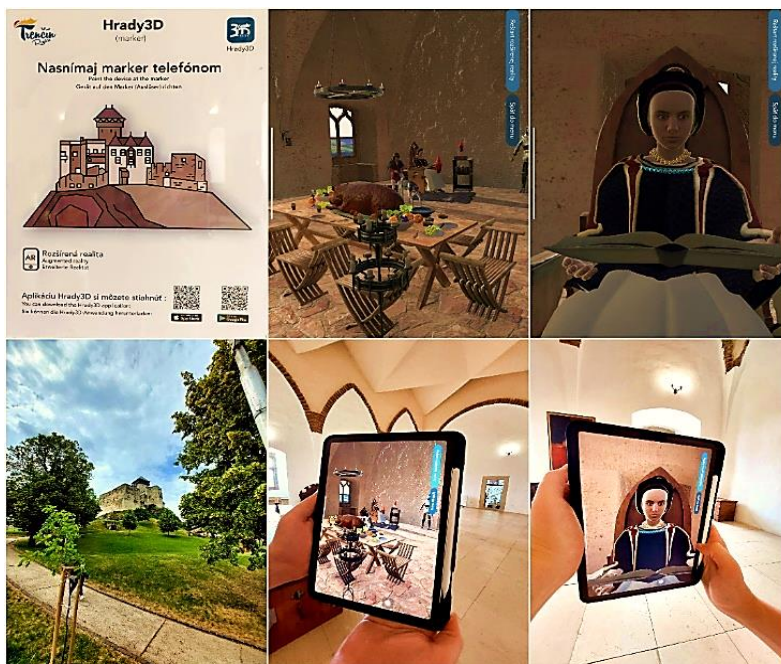


Figure 1: Augmented reality – Trenčín Castle
 Source: own processing, 2023; According to Hradý3D app (Yahart, 2023)

Čachtice Castle

The marketing was not taken lightly by the institution in the past. Čachtice Castle has become popular for the movie adaptation of the “Bloody Countess” Alžbeta Bátoriová by director Juraj Jakubisko. Thanks to the anonymous interviews with members of management, we found that Čachtice Castle prefers comprehensive marketing solutions. The institution’s management prefers the triangulation of digital and destination marketing with the traditional concept of marketing communication. The main idea behind this multidisciplinary mix is to implement modern approaches that include sophisticated marketing tools and channels, such as social media, audiovisual platforms (podcasts and blogs), interactive mobile applications, motion sensors, virtual reality, augmented reality and holographic projections. Čachtice Castle most often communicates via Facebook and YouTube. The castle also has an account on Instagram. However, according to the statements we received, the management does not consider this platform sufficiently functional, efficient and representative.

As far as the promotion of the Hrad3D mobile app is concerned, they say it is poorly focused. Čachtice Castle only promoted the app to a small extent. As in the previous case, the augmented space is launched as soon as the visitor scans the relevant code with their smart device. When the digital space is fully loaded, the app immediately plays the voice recording of the digital guide. The platform also offers a historical statement by Alžbeta Bátoriová. The app can be launched on different types of multifunctional devices. It is questionable whether, in this case, the Hrad3D app has in any fundamental way affected (positively or negatively) the attendance rate of this historical monument.

There are no official statistics on traffic, which could be used to assess whether this digital platform has become a factor that motivated the clients to visit the site. The castle management only made its conclusions based on approximate data from the main tourist season. The average number of visits to Čachtice Castle over the past three calendar years is 51,601 visits per year. In 2021, exactly 44,174 clients visited the historical monument. In 2022, it was 52,000, which means that the traffic increased by 17.71% in this period (Krajská organizácia pre cestovný ruch Trenčín Region, 2022). In the current year 2023, attendance increased again, but only by approximately 12.75%, which represents 58,630 visitor entries, but this is only a management estimate. Management does not believe that this increase is entirely correlated with the Hrad3D application. The management of the castle is rather convinced that the exponential increase was influenced by the cancellation of epidemiological regulations. However, the governing bodies do not strictly rule out that the application does not have its share in the increased traffic, they just do not perceive it as a significant factor.



Figure 2: Augmented reality – Čachtice Castle.
Source: own processing, 2023; According to Hrad3D app (Yahart, 2023)

Beckov Castle

The governing bodies mainly use traditional print communication channels to promote their products and services. Beckov Castle creates its own promotional communications. It has its own brand of alcoholic beverages. When looking at the use of innovative marketing techniques, we see that digital marketing is on the periphery. The current management of the castle complex is aware of the fact that its primary goal must be to make digital marketing communication effective through interactive technologies. But despite these visions, most marketing and marketing communication activities are still oriented towards analog promotions.

The most frequently used types of digital marketing include the website, social networks and the new interactive application Hrad3D. The castle website is visually appealing and contains a lot of consistent information. In our opinion, their communication via social networks is weak. Beckov Castle has implemented the new digital technologies only to a limited extent, which we consider to be incorrect. However, it is paradoxical that the above application, which was also implemented in the exhibition space of this castle, is considered by the management to be an effective solution to support and revitalize its marketing activities. After loading the digital space, it was clear that the area is more refined and detailed compared to Čachtice Castle.

The contours of augmented images were more accurate and better matched the actual location. A higher number of anthropomorphic characters were inserted into the digital space. The historical buildings, fortifications and the church complex were rendered more aesthetically. The app also offers more audio cues. As with Čachtice Castle and Trenčín Castle, even in this case we had the opportunity to complete the individual tasks that the platform offered as a bonus option.

Despite several reservations, we consider the application to be an excellent tool that can definitely increase traffic. However, we were unable to confirm this claim. Through the publicly available document of the Beckov Castle's annual activity reports from 2021 (Pastier, 2021) and 2022 (Pastier, 2022), which demonstrates that attendance has decreased by 3.84% due to the implementation of the application. In 2021, attendance was in the range of 61,379 visits during the calendar year. However, attendance decreased to 59,022 visits in

2022. The year 2023 is still unclear from the point of view of statistical data. The management did not even approximately estimate the share of visitors for 2023. However, as regards the decrease that we identified in 2021 and 2022, management cannot clearly explain the given situation. However, it assumes that attendance in 2023 will be the same as in 2021.



Figure 3: Augmented reality– Beckov Castle
Source: own processing, 2023; According to Hrady 3D app (Yahart, 2023)

5 Discussion

We noted a number of imperfections when looking at the historical monuments in the Hrady3D app. The promotional activities are weaker and less targeted. However, we identified certain determinants in art marketing communication that the institutions used. Trenčín Castle was fine in terms of marketing communication even though the actual promotion of the interactive medium through social networks was minimum. Beckov Castle is faring much worse in terms of active digital art marketing communication. It has profiles on two social networks, but none of them shows any representative activity which could make us conclude that the castle or its management communicates with the visitors and informs them about the current offer of products and services or other activities. Čachtice Castle is in exactly the same position as Beckov Castle in this respect. We perceive Čachtice Castle as less visually appealing compared to Trenčín Castle or Beckov Castle in terms of augmented reality.

We also found that the app has been implemented last in a row in this institution. However, based on the visuals, we believed that the app was launched first. We thought that it was some kind of test, or alpha version, which was used by the creators and authors to see if the product is showing correctly or not. However, the app was launched third in line. The reason behind this was the insufficient number of relevant historical records, which could shape the digital form of the space. The current digitized form of the historical space – coupled with the historical figures and period accessories – is a defacto historical, cultural, but also artistic compromise, which was agreed upon by the professional public together with the creators of the app. However, from a visual and aesthetic point of view, we would class it as a

cultural-artistic mess, which, albeit having a certain expressive value, is unattractive and dubious to the recipient.

In this regard, we would like to recommend the castle management and their cooperating institutions to make the websites more attractive. At the same time, we also recommend the management to increase their activity on social networks and increasingly communicate with the Hradý3D mobile app with the visitors who have decided to visit the given cultural historical monuments and use the interactive augmented elements in this platform. At the same time, we would advise the management not to worry unnecessarily about the negative effects of artificial intelligence on the cultural sector. An artificial intelligence system is just an electronic mechanism that is exclusively controlled by humans, and nothing else. We assume that cultural institutions – together with the historical monuments – will begin to actively implement the artificial intelligence systems in the near future. We believe that the cultural space will prosper as a result and the activities of these institutions will be positively promoted. In the environment of cultural organizations, artificial intelligence should primarily fulfill a supplementary role or serve as an executive assistant, and not vehemently usurp the role of an unquestionable organizational director. We are personally convinced that the systems with the support of artificial intelligence will not harm the cultural, artistic or historical industry. On the contrary, we are of the opinion that they will maintain a certain status that they had been building for a long time.

6 Conclusion

It is stereotypical to claim that the digitization of cultural and exhibition spaces or specific cultural, artistic or historical artifacts is meaningless and counterproductive. At present, many Slovak cultural and artistic institutions and historical monuments are fortunately aware of their fragile position. In this context, the COVID-19 pandemic and the development of artificial intelligence can be described as *invention accelerators*. In the previous few years, the COVID crisis managed to transform the mindset of management units – and not only in cultural organizations. Artificial intelligence has effected this change even further. It made many people think about the problems in a more progressive way and not focus on the old-fashioned and ineffective marketing processes only.

However, with the pandemic over and the advent of AI round the corner, we constantly witness that some cultural and artistic organizations and historical monuments are still unable to solve the basic art marketing or art marketing communication issues they are confronted with. These very institutions were on the verge of economic and social collapse at the height of the pandemic, and only because of a lack of mutual cooperation. We realize that several unwanted regulations had been introduced during this situation. The restrictions in place did not allow the cultural institutions to provide and mediate financially profitable services to the visitors. On the other hand, there were – and still are – lots of instance solutions through which the cultural and historical monuments can effectively interact and participate with the visitors. However, these were only used to a minimum extent in the Slovak cultural space.

Some historical monuments, such as Trenčín Castle, Beckov Castle and Čachtice Castle, are an exception to this rule. They reacted immediately and were able to withstand the pressure from government structures without realizing that they were also using fragments of artificial intelligence. During the situation, they jointly rolled out the Hradý3D app under the auspices of the Regional Organization for Tourism – Trenčín Region, which meant an exponential shift in visitor turn-up for all of the above organizations. In our opinion, and from the point of view of revitalization of digitalization efforts in art marketing communication, this interactive and innovative concept is a functioning solution that can help the institutions

maintain their original pre-Covid status quo and prevent them from slipping into economic recession. We consider the use of augmented reality with elements of artificial intelligence to be an important step in boosting the visitor interest and attendance in these cultural organizations. Based on statistical data, we found that Trenčín Castle, Čachtice Castle and Beckov Castle were able to motivate and draw the clients to visit and participate. Over time, the visitors have started to use and personalized with this modern and publicly available tool. The founding authorities of these historical monuments confirmed to us that the use of such tools has had a positive effect on their visitors. The management found that these historical monuments have become much more trustworthy and attractive in the eyes of the visitors than those that only use traditional ways for the representation of cultural artifacts.

Acknowledgment: The research study is a partial output of the projects: VEGA 1/0650/22 Mass media communications in digital and print form and their understanding by various target groups and UGA IV/4/2023 Usability and application of virtual and augmented reality to increase the digital competencies of professionals in selected Slovak cultural institutions due to marketing and marketing communication support.

Bibliography

- Baggesen, R. H. (2019). *Mobile media, mobility and mobilisation in the current museum field*. Taylor and Francis.
- Bergen, A., & While, A. (2000). A case for case studies: Exploring the use of case study design in community nursing research. *Journal of Advance Nursing*, 31(4), 926-934. <https://doi.org/10.1046/j.1365-2648.2000.01356.x>
- Chrastina, J. (2019). *Případová studie – metoda kvalitativní výzkumné strategie a designování výzkumu [Case study – a qualitative research strategy and research designation]*. Univerzita Palackého.
- Denzin, N., & Lincoln, Y. (2018). *The SAGE handbook of qualitative research*. SAGE Publications.
- Dimatteo, L. A., Poncibò, C., & Cannarsa, M. (2022). *Cambridge handbook of artificial intelligence*. Cambridge University Press.
- Dziekan, V., & Proctor, N. (2019). *From elsewhere to everywhere: Evolving the distributed museum into the pervasive museum*. Taylor and Francis.
- Geroimenko, V. (2021). *Augmented reality in tourism, museums and heritage*. Springer.
- Geroimenko, V. (2023). *Augmented reality and artificial intelligence: The fusion of advanced technologies*. Springer.
- Grasnick, A. (2022). *Basics of virtual reality*. Springer.
- Greenfield, G., & Romero, J. (2021). *Artificial intelligence*. Springer.
- Hancock, D. R., & Algozzine, B. (2006). *Doing case study research: A practical guide for beginning researchers*. Teachers College Press.
- Hendl, J. (2005). *Kvalitativní výzkum: Základní teorie, metody a aplikace [Qualitative research: Basic theory, methods and applications]*. Portál.
- Huang, C.-Y., Backman, S. J., Backman, K. F., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. *Tourism Management*, 36(1), 490-501. <https://doi.org/10.1016/j.tourman.2012.09.009>
- Javornik, A. (2016). Augmented reality: Research agenda for studying the impact of its media characteristics on consumer behavior. *Journal of Consumer Services*, 30, 252-261. <https://doi.org/10.1016/j.jretconser.2016.02.004>
- Jung, T., tom Dieck, M. C., Lee, H., & Chung, N. (2016). Effects of virtual reality and augmented reality on visitor experiences in museum. In A. Inversini, & R. Schegg,

- (Eds.), *Information and communication technologies in tourism* (pp. 621-635). Springer. https://doi.org/10.1007/978-3-319-28231-2_45
- Krajewski, M. (2020). *Why do we need cultural institutions?* Małopolska Institute of Culture.
- Krajská organizácia pre cestovný ruch Trenčín Region. (2022). *Výročná správa 2022 [Annual report 2022]*. <https://www.trencinregion.sk/documents/pages/10/b090269.pdf>
- Loureiro, S., & Sarmiento, E. (2018). Engaging visitors in cultural and recreational experience at museums. *Anatolia*, 29(4), 581-592. <https://doi.org/10.1080/13032917.2018.1484378>
- Martinisko, P. (2022). *Rozbory činností a hospodárenia Trenčianskeho múzea v Trenčíne [Analyses of the activities and management of the Trenčín Museum in Trenčín]*. The Museum of Trenčín. https://www.tsk.sk/buxus/docs/vyroczne_spravy/VS_34059199_2022_79cca37173f4bd94cc44e8189ab8e7fd.pdf?fbclid=IwAR24AqlmTx1w9NJsSxxUfziV9pPUtvQplDV_sRe8gf28HrL0UEJByEWhv8vA
- Pangilinan, E., Lukas, S., & Mohan, V. (2019). *Creating augmented and virtual realities*. O'Reilly Media.
- Pastier, P. (2021). *Výročná správa o činnosti hospodárení neziskovej organizácie poskytujúcej všeobecne prospešné služby [Annual report on the activities and economic results of a non-profit organization providing services in public interest]*. Hrad Beckov, n.o. <https://www.hrad-beckov.sk/wp-content/uploads/2023/04/vyroчна-sprava-2022-21042023141121.pdf>
- Pastier, P. (2022). *Výročná správa o činnosti hospodárení neziskovej organizácie poskytujúcej všeobecne prospešné služby [Annual report on the activities and economic results of a non-profit organization providing services in public interest]*. Hrad Beckov, n.o. <https://www.hrad-beckov.sk/wp-content/uploads/2022/09/vyroчна-sprava-2021-27092022093511.pdf>
- Peddie, J. (2017). *Augmented reality: Where we all live*. Springer.
- Pescarin, S. (2014). Museums and virtual museums in Europe. *SCIRESt*, 4(4), 131-140. <http://dx.doi.org/10.2423/i22394303v4n1p131>
- Rhodes, G. (2015). Future museums now-augmented reality musings. *Public Art Dialogue*, 5(1), 59-79. <https://doi.org/10.1080/21502552.2015.1010839>
- Robson, C. (1993). *Real word research*. Blackwell Publishing.
- Slovenské národné múzeum. (2021). *Výročné správy o činnosti múzeí na Slovensku za rok 2021 [Annual reports on the activities of museums in Slovakia for the year 2021]*. Slovenské národné múzeum. <https://www.snm.sk/odborne-pracoviska/muzeologicky-kabinet/vyroczne-spravy-muzei-sr>
- Sobocinska, M. (2019). The role of marketing in cultural institutions in the context of assumptions of sustainable development concept – a polish case study. *Sustainability*, 11(11), 3188. <https://doi.org/10.3390/su11113188>
- Špálová, L., Štosel, M., & Wojciechowski, Ł. P. (2022). Application of virtual and augmented reality in the context of the development of art marketing communication in the space of selected cultural institutions. *European Journal of Media, Art and Photography*, 11(1), 108-115.
- Spicheva, I. D. (2014). Image communication in virtual reality culture. *Cloud-Cuckoo-Land, International Journal of Architecture Theory*, 19(32), 79-90.
- Su, D. (2008). *Museum, museology: Be cautious of the technology doctrine*. ICOM National Committee.
- Šobáňová, P., Lažová, J., Mikešová, V., Husák, J., Kocichová, I., Honzíkova, P., & Mrázková, V. (2016). *Muzeum versus digitální éra [Museum versus the digital era]*. Palacký University Olomouc.

- Wróblewski, L., & Lis, M. (2018). *Marketing strategies of cultural institutions in a city divided by a border*. WSB University. <https://doi.org/10.4018/978-1-7998-2513-5.ch009>
- Xie, J. (2022). Innovative design of artificial intelligence in intangible cultural heritage. *Scientific Programming*, 2022, 6913046. <https://doi.org/10.1155/2022/6913046>
- Yahart. (2023). *Hrady3D* (Version 15.5) [Mobile app]. Google Play. <https://play.google.com/store/apps/details?id=com.Yahart.Hrady3D&pli=1>
- Yin, R. K. (2016). *Qualitative research from start to finish*. Guilford Press.
- Yin, R. K. (2018). *Case study research and applications*. SAGE.
- Zucker, D. M. (2009). "How to do case study research". *Teaching research methods in the social sciences*. University of Massachusetts.

Contact Data:

Mgr. Marek Štosel
Constantine the Philosopher University
Faculty of Arts
Tr. A. Hlinku 1
949 01 Nitra
SLOVAK REPUBLIC
marek.stosel@ukf.sk
ORCID-ID: <https://orcid.org/0000-0002-0733-6514>

Prof. Mgr. Lucia Spálová, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
91701 Trnava
SLOVAK REPUBLIC
lucia.spalova@ucm.sk
ORCID-ID: <https://orcid.org/0000-0002-2854-2069>

DIFFERENCES IN THE PERCEPTION OF NEUROMARKETING ATTRIBUTES IN THE CONTEXT OF SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS OF CUSTOMERS

Anna Tomková – Lucia Zbihlejová

DOI: <https://doi.org/10.34135/mmidentity-2023-42>

Abstract:

The presented contribution analyzes mutual differences in the perception of the selected attributes of neuromarketing with an emphasis on the selected socio-demographic characteristics of customers. On a theoretical level, the contribution captures basic concepts from the field of neuromarketing and the customer, their personality and their behavior. The customer thinks about their already completed purchase, whether they did well with it, and whether they considered all their requirements. They decide whether they will repeat their purchase or not. The aim of the contribution within the empirical part is to find statistically significant differences from the point of view of residence and marital status of the respondents. The results of the analyses did not confirm the existence of differences in the selected attributes of neuromarketing from the point of view of residence. When using neuromarketing attributes within marital status, a higher average was recorded for unmarried respondents. They realize what neuromarketing can do and what impact it has on the business behavior of customers. The results obtained from the conducted research support the meaningfulness of investigating the issue of neuromarketing attributes, primarily in the context of selected socio-demographic characteristics of customers. The obtained data were mathematically and statistically recorded. The methods of differential statistics were used during processing, namely the Student's t-test.

Key words: Behavior. Customer. Influencing. Neuromarketing. Purchasing.

1 The Customer, Their Personality and Behavior

Every company should have a defined goal that it wants to achieve. To achieve this goal, it is necessary to draw up a marketing plan (Štefko et al., 2014). To draw up a marketing plan, it is necessary to know the environment and the market in which we do business. This strategy consists of segmentation, targeting and positioning. The company detects different needs in the market and focuses on them. It wants to satisfy these needs better than the competition. It then places its offer on the market so that the target market notices it and sees its different offers and image (Kotler, 2007).

Schiffman and Kanuk (2004) describe purchase decision-making as an individual process that deals with what the customer thinks about during the purchase and which stimuli are key to the decision. This process even includes the method of payment, but also the place of purchase. The customer decides whether they prefer online shopping, smaller shops or a large supermarket, or other characteristics depending on the selected goods.

Schiffman and Kanuk (2004) define customer behavior as an opportunity to get to know the customer more deeply and subsequently predict their future purchases. They emphasize that people buy a good or seek a service because of the meaning it holds for them rather than because of a primary purpose, such as brand image or social status. Customer behavior and reasons for choosing a certain type of product or service may differ individually depending on the customer's personality type. The prediction of customer behavior itself is therefore very difficult. Vysekalová (2011) describes the customer on the so-called models of the black box that represents the human mind. This cabinet, just like the customer's mind, is complex and difficult to understand even by marketing specialists themselves. The goal of the black box model is to understand customer behavior, which is based on the relationship

between the stimulus, which is external or internal, the black box (mind) and the customer's response.

Vysekalová (2011) states that customers are motivated to buy by two factors, motivation and purchasing decision. When investigating customer behavior and influencing it, knowledge of the customer's mental qualities, such as attention and perception, are important. Personality dispositions, which are equally influenced by marketing communication and are innate, act on the production of stifled characteristics. Customer behavior is largely linked to the type of purchase and the type of purchase decision. Customers can be further influenced by factors such as the company's marketing communication, ethical behavior and attitude towards the environment and sustainability, bad or good experience with goods or services (Pilný, 2009).

The customer's personality also depends on their approach to shopping. In consumer behavior, it has been found that we know multiple approaches to shopping. The rational approach is based on the characterization of the consumer as a rational being who decides on the basis of a rational consideration whether to buy the given product, why he buys it, what benefits he will get from it, etc. We could already see such an approach with the behavior model, which looks primarily at economic factors, i.e. income, expenses, prices and their rational reflection in accordance with the consumer. Psychological studies focus on the psychological factors involved in a given situation. They assume that certain stimuli from the public will cause a certain type of reaction in the form of certain consumer behavior (Zamazalová, 2009).

Buying behavior can be assumed in every single person, despite the fact that each of us is different. For marketers, this behavior is important and should not be underestimated (Sumeč, 2017).

As Kovařová and Birknerová (2018) point out, according to the selected demographic data, it is possible to identify and specify customers and to recognize their requests, needs, behavior, communication options, speech and perception. Based on the division of customers according to purchasing behavior, it is possible to derive groups of customers based on their preferences, gender, perception, age, education, living conditions, etc.

Inoue et al. (2017) state that potential customers are those who are on the list but have not yet purchased, which describes the classification of the most common customers into three groups. Leads are those who are on the list but have not yet purchased. Suspicious customers are contacts that match the profile of current customers and deserve special attention. Targeted advertising is a very good move in this case, as they are very similar to existing customers. Specific customer-initiated in-store conversions, such as providing personal information, require quick intervention and response.

As stated by Flešková and Dolinská (2010), we can observe different personality types in customers, which can be manifested in different forms of reaction and behavior. Different customers perceive advertising that affects them differently. Other reactions are a daily part that marketers count on. Behavior is generally understood as all mental and behavioral aspects and how people present themselves to others. Positive behavior is defined as prosocial, desirable, and ethical, while negative behavior is defined as unpleasant and unethical. Positive social behavior is about helping and not harming others, showing kindness, empathy and support without expecting compensation.

The market is driven by supply and demand, which is based on customer wants and needs and a sense of scarcity. This leads to the actual shopping, when the person decides what type of goods or services to buy, where to buy the goods, whether online or in a brick-and-mortar store, and what quantity would be adequate to buy. This whole process includes a large number of decisions that can be based on rational choices, unconscious choices, emotions and psychological mechanisms (Vysekalová, 2011; Eagleman, 2017).

Of course, companies struggle in the competitive market and try to differentiate themselves from other products, attract new customers and keep loyal customers. Flores et al. (2006) state that by using neuromarketing methods, companies can better understand their customers and know their personality and, consequently, their preferences and attitude towards goods or services.

1.1 Neuromarketing

We are constantly affected by the marketing of various companies that try to win every customer and sell them their products and services. In recent years, neuromarketing has begun to be used to influence our minds and business behavior. Using it, companies are increasingly able to get closer to the customer's thoughts and anticipate their thought processes. From the very name of the term neuromarketing, we can see that it consists of two words, but also disciplines that are connected. The customer perceives the marketing of companies through various types of advertisements, in the setting of prices, or directly in shopping centers and stores when making a purchase. Many times we do not notice these neuromarketing traps and succumb to them. Some alienate this form and compare it to manipulation and manipulative behavior of the company towards customers (Birknerová et al., 2013). De Sousa (2018) sees neuromarketing as combining psychology, neurology and economics with the aim of understanding consumer motives and emotions, and thus also how advertising and marketing methods physically affect the brain. This situation has led to the development of new technological methods that help companies read the minds of their customers and adapt their marketing strategies, products and services. Neuromarketing applications and services have the potential to benefit, especially when coupled with personal preferences, while providing marketers with more accurate data for targeting promotions and advertising.

Kozel (2011) states that neuromarketing is one of the newest research methods and that this method is based on neuroscience. Understanding the subconscious process of the consumer is useful for marketing, the most important thing is to understand their expectations, motivation to buy and expectations from the product (Uprety & Singh, 2013). According to Vasiřová and Drařová (2010), neuromarketing creates new knowledge and progress for marketers, when they can see how their customers think, how they buy and how they can influence their behavior. For her, neuromarketing is a fusion of neuroscience and marketing.

Morin (2011) is of the opinion that this is a new and unexplored field characterized by neuroscience and its study of consumer behavior with an emphasis on economics. This investigation of the human mind must, according to the author, meet the investigation of medical professionals and marketing professionals to obtain new information that can be used in further decisions.

Schneider and Woolgar (2012) argue that neuromarketing is the state-of-the-art method that researchers can use to sufficiently understand consumer behavior. In fact, understanding this behavior is the most common purpose found in most of the literature reviewed. One of the main and very important contributions of the study on the subject is the understanding of customers in their decision making during the purchase process. The most profitable industry from these techniques is marketing, namely publicity. In its study, neuromarketing tries to find advertising elements that create unpleasant feelings for the consumer when viewing the advertisement and remove them, on the contrary, it evokes such emotions in the consumer to make them buy (Senior & Lee, 2008).

Other methods of neuromarketing are also known to the public. These can function, for example, as sales promotion, develop effective marketing campaigns that contribute to compliance with laws or support us in following a healthy lifestyle (Orzan et al., 2012).

Finally, neuromarketing forms a group of interconnected knowledge, the essence of which is to learn the most information about the brain in the area used during marketing stimuli. Trying to get to know the cognitive processes that occur in them, as well as various similar vital markers, is one of its essence. Identifying the cause of the purchase problem is important and therefore neuromarketing has great potential (Senior & Lee, 2008).

2 Methodology

As part of quantitative research, we used the empirical data collection method and mathematical-statistical methods to analyze these data. We collected empirical data using the questionnaire method. The questionnaire consisted of four parts. In the first part, we collected demographic data about the respondents. In the second, we focused on the factors of Store, Seller, and Product using the NM-SSP questionnaire (Birknerová et al., 2022a).

The questionnaire was created according to an own Neuromarketing methodology: Information about the store, Information about the seller, Information about the product. As part of the methodology, we investigated how the selected factors of neuromarketing affect individual socio-demographic indicators. The methodology contains 30 statements that were evaluated on a 6-point Likert scale of 0-5, where: 0 – *definitely not*, 1 – *no*, 2 – *rather no than yes*, 3 – *rather yes than no*, 4 – *yes*, 5 – *definitely yes*. The individual attributes that the methodology contained are subsequently described as:

- Store – a facility in which goods or services are sold or purchased; sale or purchase is concluded. The customer browses the available goods and services in the store with the potential intention of buying the best and most advantageous goods or services. In the store, the customer’s final decision on whether to purchase the product or service may change; therefore, it is important that the customer feels comfortable there.
- Seller – a natural person who sells products or provides services to customers. The main task is to serve the customer with the intention of selling goods and services. From the point of view of neuromarketing, the seller’s behavior and approach greatly influence the customer’s decision making during shopping.
- Product – goods and services that serve to satisfy needs and wishes. Customers can also create a strong “emotional bond” to certain products and services through neuromarketing links and popular brands.

We recorded the factors of Cognition, Emotions and Behavior in the second part of the questionnaire; where we learned how smell affects the purchase and recall of just one brand; we used the SM-CEB methodology (Sensory Marketing – Cognition, Emotions, Behavior by Birknerová et al., 2022b; Ondrijová et al., 2022). The questionnaire contains 15 items, which are evaluated on a scale of agreement from 1 – *definitely no* to 6 – *definitely yes*. It describes these three factors:

- Cognition – for respondents who score high in the given factor, it is important that the purchase of the product is accompanied by a pleasant smell, tasting the product, accompanied by suitable music, if the customer can hold the product in their own hands, its description is important for them when buying the product.
- Emotions – for respondents who score high in the given factor, music evokes pleasant emotions, it is important if they can hold, smell, taste the product, which leads to positive emotions, and also nice packaging has a positive effect on the customer.
- Behavior – for respondents who score high in the given factor, it is important to verify the quality of the product by touch, a nice song, a pleasant smell, packaging and tasting a new type of product will affect their business behavior itself.

In the third part of the questionnaire, we focused on manipulative aspects, advantages, ethical aspects and use in neuromarketing using the PNM questionnaire (Ondrijová et al.,

2022). In the questionnaire, the respondents recorded how they perceive neuromarketing in their surroundings. The PNM questionnaire is designed to assess neuromarketing. It contains 18 items which respondents evaluate on a scale of agreement from 1 – *definitely no* to 6 – *definitely yes*. The methodology is divided into the following 4 factors with a description:

- Use of neuromarketing – the factor determines the use of neuromarketing in companies.
- Advantages of neuromarketing – the factor characterizes the advantages of neuromarketing.
- Manipulative aspects of neuromarketing – explores the possibilities and scope of manipulating human thinking.
- Ethical aspects of neuromarketing – focuses on relationships and trust between the customer and the seller.

We recorded the obtained data mathematically and statistically. During data processing, we used the method of differential statistics, namely the Student’s t-test. We processed the obtained analyses in tabular form. As part of the research, 103 respondents were approached, mainly students, employed people, but also entrepreneurs. Out of the total number of respondents, 48 respondents came from the urban areas and 55 respondents came from the rural areas. As for the marital status of the respondents, 60 respondents were single and 43 respondents were married.

3 Results

As part of the research project, we conducted research using the selected methodologies, through which we performed statistical analyses to clarify the specified research problems. Within the results, we describe and verify the research hypotheses and findings acquired through the given research.

In the first hypothesis, we assumed the existence of statistically significant differences in the perception of neuromarketing attributes from the point of view of residence.

The goal of the hypothesis is to find out the existence of statistically significant differences within the selected factors of neuromarketing from the point of view of the residence of the respondents. In Table 1, we noted statistically significant differences in the selected neuromarketing factors.

Table 1: Differences in perceptions of neuromarketing attributes according to the residence of the respondents

Student’s t-test					
The two-sample t-test					
Factors	Residence	M	SD	t	Sig.
Store	urban	4.37	.770	-1.422	.156
	rural	4.60	.829		
Seller	urban	3.50	.831	-.636	.521
	rural	3.60	.682		
Product	urban	3.39	.951	-.488	.626
	rural	3.48	.957		
Cognition	urban	4.20	.752	.496	.618
	rural	4.12	.859		
Emotions	urban	4.28	.827	-.142	.885
	rural	4.30	1.053		
Behavior	urban	4.21	.888	.331	.739
	rural	4.15	1.024		

Use of neuromarketing	urban	4.03	1.097	-1.375	.172
	rural	4.31	.970		
Advantages of neuromarketing	urban	4.17	1.025	-.702	.484
	rural	4.29	.757		
Manipulative aspects of neuromarketing	urban	4.04	1.142	-1.094	.277
	rural	4.26	.966		
Ethical aspects of neuromarketing	urban	3.61	.944	.111	.910
	rural	3.59	.706		

Source: own processing, 2023

Significant differences were recorded according to the respondents' responses. We found out that the perception of neuromarketing does not relate to where the respondents live. Irrespective of the residence of the respondents, we do not show different perceptions within the attributes of neuromarketing. The assumption that there is a statistically significant difference in the perception of neuromarketing attributes from the point of view of residence was not confirmed. We consider the first hypothesis as not supported.

The aim of the second hypothesis was to determine the existence of statistically significant differences in the perception of neuromarketing attributes from the point of view of residence. In Table 2, we illustrate the statistically significant differences recorded within the factors of Product, Emotions, Behavior, Use of neuromarketing, and Advantages of neuromarketing between the single and the married respondents.

Table 2: Differences in perceptions of neuromarketing attributes according to the marital status of the respondents

Student's t-test					
The two-sample t-test					
Factors	Marital status	M	SD	t	Sig.
Store	single	4.61	.639	1.641	.082
	married	4.33	.978		
Seller	single	3.55	.652	-.133	.894
	married	3.57	.883		
Product	single	3.59	.874	1.901	.044
	married	3.23	1.020		
Cognition	single	4.24	.708	1.186	.218
	married	4.04	.926		
Emotions	single	4.47	.854	2.330	.022
	married	4.04	1.027		
Behavior	single	4.33	.856	1.944	.047
	married	3.95	1.056		
Use of neuromarketing	single	4.37	.886	2.119	.029
	married	3.92	1.175		
Advantages of neuromarketing	single	4.38	.698	1.826	.043
	married	4.04	1.080		
Manipulative aspects of neuromarketing	single	4.32	.906	1.795	.063
	married	3.93	1.203		
Ethical aspects of neuromarketing	single	3.68	.719	1.114	.247
	married	3.49	.943		

Source: own processing, 2023

We recorded statistical significance in the framework of differences in the perception of neuromarketing in five attributes. For the first Product attribute, we noted statistically significant difference within the marital status of single. We found that a single respondent searches for more information about a product rather than a married respondent, and this subsequently encourages them to make a purchase.

In the case of the second Emotions attribute, the single respondents rated it statistically significantly higher than the married ones. A single person perceives a pleasant smell in a store more than a married respondent, which stimulates them to make a purchase in the framework of neuromarketing. For married respondents, we recorded a smaller statistical significance for the emotion evoked by the packaging of the product they buy.

Within the third attribute of Behavior, again, the single respondents scored statistically significantly higher than the married respondents. For the unmarried rather than the married respondent, it is important to verify the quality by touch when purchasing.

We can confirm that the fourth attribute of the Use of neuromarketing was assessed statistically significantly higher by the singles. Neuromarketing attributes that organizations will use in the future are statistically more significant for single than for married respondents.

With the Advantages of neuromarketing attribute, we record statistical significance again on the part of the singles. Statistically more significant for the singles than for the married respondents is the shortening of the sales cycle, which can be included among the advantages of neuromarketing.

It may be summarized that, from the point of view of family status, there are statistically significant differences in the perception of the selected attributes of neuromarketing. We thus consider the second hypothesis to be supported.

4 Discussion

In the contribution, we summarized the theoretical starting points of the issue. We focused on the attributes of neuromarketing and its impact on various customer characteristics. In the introduction, we described and defined terms related to the given issue with a summary of all information on the given topic. Based on the theoretical starting points, we carried out an analysis of the given issue as part of the research. Through t-tests, we investigated statistically significant differences in the perception of the selected attributes of neuromarketing and the selected demographic indicators through established hypotheses.

We assumed the existence of statistically significant differences in the perception of the selected attributes of neuromarketing from the point of view of residence.

When examining the differences, we found that respondents' place of residence does not affect the perception of advertisements, marketing, and neuromarketing used in various advertisements. This may be due to the fact that nowadays we are exposed to advertisements from a young age through smartphones, tablets and television on every platform. Likewise, many of us often travel, study outside the place where we grow up, and we are not influenced by just that one place. We consider the established hypothesis not supported.

Based on the results of their research, Nastišin and Jackaninová (2018) recorded mutual differences in event marketing from the point of view of the residence of the respondents. When comparing the urban and the rural areas of residence, in their specifically selected research area, they found significant differences between the residents. In the urban areas, event marketing and awareness is at a higher level than among residents who come from smaller municipalities.

Behe et al. (2020) focused on neurophysiological responses in their study. EEG technology and eye tracking technology were used in the study. 22 women participated in the research and were shown pictures of the products. The products had different packaging, where the color and shape of the product changed. Products with bold colors had the greatest emotional response. They also found that the participants lost their attention if the package did not interest them that much.

We also assumed the existence of statistically significant differences in the perception of the selected attributes of neuromarketing from the point of view of family status.

In the second hypothesis, we focused on the differences between single and married respondents. As part of the researched neuromarketing factors, we noted statistically significant differences with higher scores achieved by the singles. We found that for the singles, a pleasant smell in the store is important and it causes their positive reaction quicker than it is with the married people. Single respondents are often younger than the married group, and visual aesthetics are more important to them. They place more emphasis on the packaging of the product, which can evoke positive emotions in them. When using neuromarketing, we also recorded higher values for single respondents. They realize what neuromarketing can do and what impact it has on the business behavior of customers themselves.

Knuston et al. (2007) conducted research using the fMRI method. The goal was to find out the role of emotions in purchasing behavior. Respondents had to assign prices for each product at which they would be willing to buy it. The findings led them to the neural basis of what makes consumers buy. Brain activity is associated with emotions and predicts purchasing decisions. The study found that higher brain activity was associated with a higher potential to pay. The activity also caused emotional excitement. It is emotions that play a big role in customers' decisions about their purchase.

In their study examining neuromarketing opinions on social media, Luna-Nevarez (2021) states that two of the topics of concern to consumers are the lack of regulation and standards in neuromarketing, which leads to unethical practices by companies, and the tendency of companies to use their experiments and findings on consumer manipulation through subliminal advertising. According to Hensel et al. (2017), any existing or future neuromarketing code of ethics should include five critical components: protection of research subjects, protection of vulnerable populations from marketing exploitation, full disclosure of objectives, risks, and benefits, accurate media and marketing representation, and internal and external scientific validity.

5 Conclusion

The need for neuromarketing and the meaning of this term is known and used by many companies. The scope of the influence of neuromarketing has a great impact, and we can say that it is a working tool, even in the form of research that has already been carried out. Neuromarketing affects the functioning of the organization and will continue to do so. Organizations are constantly acquiring customers through neuromarketing. Customers buy their products and services on this basis, and often organizations can influence the consumer's mind without even realizing it. Based on the research into the minds and brains of consumers, organizations set their marketing strategies in a targeted manner according to the results of the research. Subsequently, they ensure communication with their potential customer as best as possible.

The contribution theoretically examined neuromarketing and its attributes with an emphasis on the selected socio-demographic characteristics of customers. We have described basic terms from the field of neuromarketing and about the customer. The goal of the research was to determine the existence of statistically significant differences in the perception of the selected attributes of neuromarketing in the context of the selected socio-demographic characteristics of customers.

Within the hypotheses, we used the Student's t-test to obtain the most relevant answers. We found that the socio-demographic indicators affect the perception of differences within the studied neuromarketing attributes from the point of view of family status. On the contrary, according to our findings, the perception of mutual differences within the neuromarketing attributes is not influenced by the residence of the respondents.

However, respondents are still concerned about the new techniques used by modern marketing. Concerns are related to the possible invasion of privacy and unwanted influence on purchasing behavior. Addressing the problem of negative consumer perception of neuromarketing may involve several measures and approaches. Educating consumers about what neuromarketing is and how it works can help ease their fears and mistrust. Businesses should provide clear and understandable information about what data they collect and how they use it, so that consumers feel more informed and in control. Companies should follow ethical standards and principles when using neuromarketing techniques. Respect for privacy and protection of consumer data should be a priority. Transparency towards consumers and protection of their rights can help restore trust. Businesses should provide transparent information about how they collect, store and use consumer data. Responsibility for the correct and ethical use of neuromarketing should be clearly defined and demonstrated.

An important knowledge is to pay attention to a better investigation of customers, their preferences and the very perception of neuromarketing. It is necessary for organizations to recalculate the importance of indicators that can be used to attract potential customers.

Acknowledgement: The research was supported by the scientific grant project VEGA No. 1/0428/23 – Research on Customers' Subconscious Reactions Using Eye-Tracking and Other Neuromarketing Tools.

Bibliography

- Behe, B. K., Fernandez, R. T., Huddleston, P. T., Minahan, S., Getter, K. L., Sage, L., & Jones, A. M. (2013). Practical field use of eye-tracking devices for consumer research in the retail environment. *HortTechnology*, 23(4), 517-524. <https://doi.org/10.21273/HORTTECH.23.4.517>
- Birknerová, Z., Frankovský, M., & Zbihlejšová, L. (2013). Differences in the perception of Machiavellian manifestations between male and female managers. *Journal of Management and Business: Research and Practice*, 5(2), 52-64.
- Birknerová, Z., Miško, D., & Tomková, A. (2022a). PPP výskum neuromarketingu v koncepcii s neurolingvistickým programovaním [PPP research on neuromarketing in concept with neurolinguistic programming]. University of Prešov.
- Birknerová, Z., Miško, D., & Ondriješová, I. (2022b). Zmyslový marketing ako atribút neuromarketingu v kontexte obchodného správania [Sensory marketing as an attribute of neuromarketing in the context of business behaviour]. University of Prešov.
- De Sousa, J. C. (2018). *Neuromarketing and big data analytics for strategic consumer engagement: Emerging research and opportunities*. IGI Global.
- Eagleman, D. (2017). *Možek: váš príbeh [Brain: Your story]*. BizBooks.
- Flešková, M., & Dolinská, V. (2010). *Aplikovaná psychológia pre ekonómov a manažérov [Applied psychology for economists and managers]*. Iura Edition.
- Flores, J., Baruca, A., & Saldivar, R. (2006). Is neuromarketing ethical? Consumers say yes. Consumers say no. *Journal of Legal, Ethical and Regulatory Issues*, 17(2), 77-91.
- Hensel, D., Iorga, A., Wolter, L. Ch., & Hattke, J. (2017). Conducting neuromarketing studies ethically-practitioner perspectives. *Cogent Psychology*, 4(1), 1320858. <https://doi.org/10.1080/23311908.2017.1320858>
- Inoue, Y., Funk, C. D., & McDonald, H. (2017). Predicting behavioral loyalty through corporate social responsibility: The mediating role of involvement and commitment. *Journal of Business Research*, 75, 45-56. <https://doi.org/10.1016/j.jbusres.2017.02.005>

- Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., & Loewenstein, G. (2007). Neural predictors of purchases. *Neuron*, 53(1), 147-156. <https://doi.org/10.1016/j.neuron.2006.11.010>
- Kotler, P. (2007). *Moderní marketing [Modern marketing]* (4th ed.). Grada Publishing.
- Kovaľová, J., & Birknerová, Z. (2018). *Determinanty obchodného správania z pohľadu obchodníkov a zákazníkov [Determinants of business behaviour from the perspective of retailers and customers]*. University of Prešov.
- Kozel, F. A., Rao, U., Lu, H., Nakonezny, P. A., Grannemann, B., McGregor, T., Croarkin, P. E., Mapes, K. S., Tamminga, C. A., & Trivedi, M. H. (2011). Functional connectivity of brain structures correlates with treatment outcome in major depressive disorder. *Frontiers in Psychiatry*, 2. <https://doi.org/10.3389/fpsy.2011.00007>
- Luna-Nevarez, C., & McGovern, E. (2021). The rise of the virtual reality (VR) marketplace: Exploring the antecedents and consequences of consumer attitudes toward v-commerce. *Journal of Internet Commerce*, 20(2), 167-194. <https://doi.org/10.1080/15332861.2021.1875766>
- Morin, Ch. (2011). Neuromarketing: The new science of consumer behavior. *Society*, 48(2), 131-135. <https://doi.org/10.1007/s12115-010-9408-1>
- Nastišin, L., & Jackaninová, D. (2018). Event marketing a jeho úloha pri podpore cestovného ruchu – analýza prípadovej štúdie mesta Bardejov [Event marketing and its role in tourism promotion – case study analysis of the city of Bardejov]. *Journal of Global Science*, 3(2), 1-6. https://www.jogsc.com/pdf/2018/2/event_marketing.pdf
- Ondrijová, I., Birknerová, Z. & Tomková, A. (2022). *Neuromarketing v teórii a praxi [Neuromarketing in theory and practice]*. Bookman.
- Orzan, G., Zara, I. A., & Purcarea, V. L. (2012). Neuromarketing techniques in pharmaceutical drugs advertising. A discussion and agenda for future research. *Journal of medicine and life*, 5(4), 428-432. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539849/>
- Pilný, J. (2009). *Marketing I*. Faculty of Social and Economic Studies, Jan Evangelista Purkyně University in Ústí nad Labem.
- Schiffman, L., & Kanuk, L. (2004). *Nákupní chování [Buying behaviour]*. ComputerPress.
- Schneider, T., & Woolgar, S. (2012). Technologies of ironic revelation: Enacting consumers in neuromarkets. *Consumption Markets & Culture*, 15(2), 169-189. <https://doi.org/10.1080/10253866.2012.654959>
- Senior, C., & Lee, N. (2008). A manifesto for neuromarketing science. *Journal of Consumer Behaviour*, 7(4-5), 263-271. <https://doi.org/10.1002/cb.250>
- Sumec, P. (2017, December 7). *Štyri druhy nákupného správania zákazníkov [Four types of customer buying behaviour]*. <https://darencurtis.sk/blog/inspiracie/styri-druhy-nakupneho-spravania-zakaznikov/>
- Štefko, R., Fedorko, R., & Bačík, R. (2014). The significance of internet marketing tools in terms of building a positive image of an higher education institution. In K. S. Soliman (Ed.), *24th international business information management association conference* (pp. 1764-1772). International Business Information Management Association.
- Uprety, N., & Singh, B. (2013). Neuromarketing – a tool of selling to the brain. *International Journals of Marketing and Technology*, 3(8), 98-107. <https://www.indianjournals.com/ijor.aspx?target=ijor:ijmt&volume=3&issue=8&article=009>
- Vasiľová, M., & Dražová, K. (2010). Neuromarketing ako moderná cesta k pochopeniu spotrebiteľského správania [Neuromarketing as a modern way to understand consumer behaviour]. In P. Drábik (Ed.), *Aktuálne výzvy marketingu a ich uplatnenie v praxi:*

vedecké state [Current challenges of marketing and their application in practice: Scientific states] (pp. 176-183). Ekonóm.

Vysekalová, J. (2011). *Chování zákazníka: jak odkrýt tajemství „černé skříňky“ [Customer behaviour: How to uncover the secret of the “black box”]*. Grada Publishing.

Zamazalová, M. (2009). *Marketing obchodní firmy [Marketing a business company]*. Grada Publishing.

Contact Data:

PhDr. Mgr. Anna Tomková, PhD.

University of Prešov

Faculty of Management and Business

Konštantínova 16

080 01 Prešov

SLOVAK REPUBLIC

anna.tomkova@unipo.sk

ORCID-ID: <https://orcid.org/0009-0005-9357-0938>

Assoc. Prof. Mgr. Lucia Zbihlejová, PhD.

University of Prešov

Faculty of Management and Business

Konštantínova 16

080 01 Prešov

SLOVAK REPUBLIC

lucia.zbihlejova@unipo.sk

ORCID-ID: <https://orcid.org/0000-0002-4787-1378>

THE POTENTIAL OF AI TOOLS IN FORMAL EDUCATION

Norbert Vrabec – Klára Zubková

DOI: <https://doi.org/10.34135/mmidentity-2023-43>

Abstract:

The paper deals with the use of Artificial Intelligence (AI) tools in formal education. The first part of the paper presents a theoretical framework, defining key concepts and examining the current state of AI use in education in Slovakia and other countries. This analysis provides a deeper insight into current trends and challenges in the implementation of AI in educational processes. The second part of the article focuses on a systematic search for AI tools that have the potential to be used in the educational process. The given tools are subjected to a content analysis to assess their applicability and benefits in the educational context. The results of this paper have the potential to contribute significantly to a better understanding of the benefits of AI in the context of formal education. It can also be used as a basis for developing effective strategies for implementing AI in educational processes and enriching research using advanced technologies in pedagogy.

Key words: AI Tools. Artificial Intelligence. Formal Education. Pedagogy. Teachers. Teaching.

1 Introduction

Artificial intelligence (AI) is being assigned an increasingly important role in all spheres of human activity, and education is no exception. This paper focuses on using AI tools in formal education to provide a deeper insight into the current state and potential benefits of this dynamic link between technology and education.

The first part of this paper is devoted to the theoretical aspect, where the key concepts are defined, and the current state of AI applications in education is analysed in Slovakia and the international context. This analysis aims to identify current trends and challenges faced in the implementation of AI in educational processes. The second part of our work will deal with a systematic search for AI tools that show the potential to be effective tools in teaching and learning. These tools will be subjected to a thorough qualitative content analysis to assess their practical applicability and potential benefits in specific educational contexts.

The results of this study have the ambition to significantly expand our understanding of the potential of AI within the educational process at the formal level. Thus, this paper could serve as a basis for developing effective strategies for implementing AI in educational processes, thus opening up new perspectives in the field of pedagogy and research on the use of modern technologies in education.

1.1 Artificial Intelligence and Education

We came across the term Artificial Intelligence as early as the 1950s. John McCarthy first used it at a conference where the first form of AI was presented. It was a program called Logic Theorist, which was programmed to mimic human problem-solving abilities (Anyoha, 2017). However, AI is only coming into the mainstream nowadays. AI is a discipline within computer science and engineering that concentrates on constructing smart devices capable of executing activities that conventionally necessitate human-like intelligence. These activities encompass visual comprehension, speech interpretation, decision formulation, and language translation. AI entails the development of algorithms and software that can acquire knowledge from data and subsequently generate forecasts or decisions. Additionally, it encompasses the fabrication of tangible systems, like robots, that can engage with the physical environment and execute tasks independently (Wang, 2019). In short, we can AI described as the capacity of a system to accurately interpret external information, assimilate knowledge from that

information, and employ these insights to accomplish particular objectives and activities through adaptable adjustments (Haenlein & Kaplan, 2019).

It is becoming a phenomenon that affects the daily lives of a larger and larger population. The field of education is no exception. AI is slowly making its way into formal education, provided in educational institutions such as schools in the first place. It encompasses gaining knowledge, expertise, and proficiencies through a structured curriculum delivered by qualified educators or trainers. Formal education generally meets criteria and directives, frequently culminating in acquiring academic degrees or certifications. It aims to give individuals a thorough comprehension of diverse topics and fields, equipping them for potential career prospects or further educational pursuits (Johnson & Majewska, 2022).

AI has significantly impacted the educational process at various levels. Its integration brings many positives and challenges that schools have to deal with. Based on the research “Artificial Intelligence in Education: A Review” (2020) the integration of AI in education has significantly influenced various aspects, including administration, teaching and learning within educational institutions. AI has the potential to enable the customization and personalization of educational content to suit students’ unique requirements and abilities, consequently enhancing the quality of the learning process. Furthermore, AI has improved the effectiveness and efficiency of educators, leading to an overall improvement in the quality of instruction. In summary, the research suggests that AI has contributed to greater efficiency and effectiveness in administrative functions within education, ultimately enhancing the quality of both teaching and learning experiences (Chen et al., 2020).

1.2 Current State of the Issue

The use of AI tools in education is being discussed by more and more researchers and experts. Compared to foreign countries, Slovakia is at a visibly lower level of elaboration of the chosen topic. The most popular AI tool involved in formal education is ChatGPT due to its easy access and quick implementation among the general public. Based on this, a guide entitled *Počúvať Kecalka: 69 GPT promptov pre učiteľov [Listen to the Chatterbox: 69 GPT prompts for teachers]* (2023) was created by educators from the Faculty of Mass Media Communication at the University of Ss. Cyril and Methodius in Trnava. The authors acknowledge that AI will significantly influence education and bring many opportunities. They point out that the primary goal of using AI tools is to improve teaching and to get more free time for activities that are more fun for us. They created the guide to remove the stress associated with the unknown and show ways in which educators can benefit from the technology (Murár et al., 2023). It contains 11 chapters devoted to dividing the prompts into those focused on students and working with them and those focused on simplifying the teacher’s work administratively.

In the publication *101 Creative Ideas to Use AI in Education* (2023), the authors acknowledge educators’ wide range of emotions and reactions. They say that integrating AI into education has brought both enthusiasm and concern. Various viewpoints and stances are openly and extensively discussed in publications and panel debates. This publication brings together a collection of perspectives on where they currently stand as a collective on AI’s potential use and application in education. AI could make a difference and potentially introduce new educational and developmental prospects for students and educators. This publication results from an open call to educators and students to work collaboratively and find innovative ways to use AI tools such as ChatGPT or Midjourney for creative purposes in learning, teaching, and academic research. They know the importance of AI’s critical and ethical use in education settings and in general (Nerantzi et al., 2023). Nineteen countries have joined the call, but Slovakia is not one of them. Ninety-eight individual authors and three collaborators participated in this collection. Up to 71 articles focus on work with ChatGPT.

They create different activities that can enrich the teaching process or focus on higher motivation and engagement of students.

Authors in *Artificial Intelligence and the Future of Teaching and Learning* (2023) discuss the concept of AI as “automation based on associations” and expound upon how it entails identifying patterns within data, subsequently automating decisions regarding teaching and other facets of the educational system. They acknowledge the swift progression of AI and its capacity to enhance education through diverse means. Nonetheless, they are aware of challenges and the ethical factors that must be carefully considered when integrating AI into educational settings. The document delves into the possible influence of AI on the educational process, emphasizing its potential to improve teaching and learning and the concurrent challenges and ethical concerns related to its implementation. The publication explores the definition of AI, its prospective advantages, and the responsibilities associated with entrusting decisions to a computer system. It also presents a shared perspective on an ideal and attainable educational system that harnesses automation while safeguarding and preserving human agency, accompanied by essential principles and protective measures. The publication offers examples of how AI has the potential to improve teaching and learning across various educational environments, including K-12 education (the term “K-12” is commonly used to refer to the entire span of compulsory education in the United States, which typically lasts for 13 years). However, it must provide a comprehensive manual on the practical use of AI tools in education. Instead, its primary emphasis lies in discussing the prospects and hindrances of AI in the educational sphere. It also puts forth suggestions on assessing the effectiveness of AI systems and tools from various perspectives, encompassing aspects like data security, adherence to high-quality learning standards, and the ability to be inspected and comprehended (Cardona et al., 2023).

Given the low number of Slovak publications of a similar character, we need to elaborate a selection of AI tools that can be used in formal education, especially for teachers in Slovakia. We want to give space to tools other than ChatGPT (even though most AI tools are based on ChatGPT).

2 Methodology

The study’s primary purpose is to explore the structure and potential of the text-based AI tools that can be used in formal education. This study conducted a systematic review of 32 AI tools that teachers and students can use to ease the process of teaching and learning. A systematic review generates the current state of knowledge and applies a systematic and transparent approach to the synthesis of the data regarding AI tools.

The AI tools pool was created by searching the electronic database TopAI.tools (n.d.), which contained 5,272 records during the implementation of the content analysis. All the tools included in this systematic review are publicly available.

We included AI tools that met the following criteria: (1) text-based input and output processing through AI tools and (2) dedicated to the broad field of education and learning. We excluded AI tools that did not meet the criteria listed above. Search terms comprised “Quiz”, “Interactive lessons and courses”, “Courses”; “Personalised learning”, and “Productivity tools for students”. 60 AI tools have been identified that met the search criteria. We then applied exclusion criteria. From the total number of 60 AI tools, we excluded duplicate entries and items that were not primarily focused on education or learning. In the end, we included 32 AI tools that best met the criteria for inclusion in the research sample. As part of the qualitative content analysis of individual tools, we focused on examining the following categories:

- Tools for the generation of quizzes and test questions: These tools aim to facilitate the creation of diverse quizzes and test questions through artificial intelligence technologies and innovative approaches to learning.
- Tools for generating interactive lessons and courses: These tools aim to support creating and delivering learning materials with interactive and personalised elements to enhance student learning and engagement.
- Tools for personalised learning: These personalised learning tools aim to improve the effectiveness of learning by adapting the content and pace of learning to each learner’s individual abilities and preferences.
- Productivity tools for students: These tools help students manage their time, stay organised and increase efficiency in the learning process.

We mainly focused on the description of the functionality of the tools and pricing policy. The search and contents analysis of the tools were conducted on November 10, 2023.

3 Results

In today’s digital age, where technological advances are playing an increasingly important role in education, AI-based tools provide new and innovative ways to support teaching, the creation of learning materials, learning or increase the productivity of the students. This chapter presents a systematic analysis of 32 text-based AI tools that can help with all mentioned. Our methodology included a thorough evaluation of the features of these tools, their pricing models, their ability to integrate with pedagogical principles, and planned future changes or innovations.

We focused our analysis on four categories of tools: Quizzes and Questions Generation, Interactive Lessons and Courses Generation, Personalised Learning, and Productive Learner Tools. Each category represents a specific approach to using AI within an educational environment. In this chapter, we present the findings obtained through the qualitative content analysis and provide insights into the diversity and adaptability of these AI tools in modern education.

First, we will look at the category “Tools for generating quizzes and test questions”. In this category, we found out the diversity of functions. We identified tools with various features, from generating quizzes to preparing test questions in multiple formats and with different content customisation options. The most popular type of quizzes are the ones with multiple-choice possibilities. The second most popular quiz type is “True or False”; about 50% of our tools offer this option. We have observed a variety of approaches to pricing, including tools with freemium models, free versions, paid plans with different pricing levels, and special offers for educational institutions. 37.5% of the tools in this category are free, although the Dunno tool and Quiz Wizard state the possibility of introducing payment. Only one tool doesn’t provide any free option.

Table 1: Tools for generation of quizzes and test questions

Name of the AI tool	Description of functionality	Pricing policy
Quizbot	Quizbot can prepare questions in different types, such as Multiple-Choice, Fill-in-the-blanks, True-false, Matching, and Bloom’s Taxonomy at levels using any text, link or video.	Quizbot does not offer a freemium pricing model. There are paid versions of premium plans, which range in price from \$15 to \$612.
Quiz Makito	Quiz Makito generates interactive quizzes across diverse subjects using advanced AI. The platform focuses on gamified quizzes with one correct answer.	Free

ClassPoint AI	ClassPoint AI is a tool that streamlines the generation of quiz questions from PowerPoint. It supports various question formats, including multiple choice and short answer, and incorporates Bloom’s Taxonomy Levels for cognitive diversity.	The tool offers Basic plan for free, Pro plan for \$8 and special offer for schools.
Quizwhiz	QuizWhiz is a free AI tool that creates multiple-choice questions and quizzes from provided text, either from InPut text or PDF files with one correct answer.	Quizwhiz provides a freemium version – from \$0 to \$18 per month.
Quizgecko	Quizgecko rapidly generates quiz questions, flashcards, and notes from the provided text. Users can produce different question formats, such as multiple-choice, true, or false, short answer essay, and fill-in-the-blank, and they can upload files like PDFs, DOCs, and PPTs for quiz development. The platform also features automatic grading and intelligent reporting.	The tool offers free trial and after that it is paid from \$18 to \$500 per month. Free version is still available but without using the AI.
Quiz Wizard	Quiz Wizard is a tool designed to assist in the generation of multiple-choice questions, flashcards, and comprehensive theory sheets covering diverse subject matters.	Currently, Quiz Wizard is completely free of charge, although this provision might undergo modifications in the future.
Questgen	Questgen produces diverse evaluations, including multiple-choice queries, true/false inquiries, higher-order questions, and Bloom’s taxonomy quizzes. Users can edit and adjust the generated worksheet and export it in plain text or JSON format.	The tool offers free trial and after that it is paid from \$15 per month or \$150 per year.
DUNNO	Dunno facilitates the creation of interactive quizzes and intellectual games derived from diverse texts or subjects. Upcoming updates will introduce features such as flashcards, quiz results, true or false challenges, and many more games.	The application is offered free, giving each user three credits for quiz generation. The authors plan to implement premium plans, incorporating additional credits and enhanced features.

Source: own processing, 2023

Quiz Makito generates interactive quizzes across diverse subjects using advanced AI. The platform focuses on gamified quizzes with one correct answer.

QuizWhiz is a free AI tool that creates multiple-choice questions and quizzes from provided text, either from InPut text or PDF files with one correct answer.

Quizgecko rapidly generates quiz questions, flashcards, and notes from the provided text. Users can produce different question formats, such as multiple-choice, true or false, short answer essay, and fill-in-the-blank, and they can upload files like PDFs, DOCs, and PPTs for quiz development. The platform also features automatic grading and intelligent reporting.

Questgen produces diverse evaluations, including multiple-choice queries, true/false inquiries, higher-order questions, and Bloom’s taxonomy quizzes. Users can edit and adjust the generated worksheet and export it in plain text or JSON format.

Dunno facilitates the creation of interactive quizzes and intellectual games derived from diverse texts or subjects. Upcoming updates will introduce features such as flashcards, quiz results, true or false challenges, and many more games.

The application is offered free, giving each user three credits for quiz generation. The authors plan to implement premium plans, incorporating additional credits and enhanced features.

This section focuses on the second category, “Tools for generating interactive lessons and courses”. In this classification, we discovered a range of functionalities among the tools.

There is 62.5% of the tools provide various types of options for interactive lessons. The most common option is generating lesson plans, which supply 80% of the tools we mentioned. Besides that, there is a wide range of various capabilities of the tools, for example, generating worksheets (37.5%), constructing presentations (25%), or project generator (25%). 37.5% of the tools are focused mainly on generating the courses. They primarily offer AI guides support for making the whole course. We have seen a variety of pricing strategies that include freemium models, free versions, subscription-based plans at varying prices, and exclusive offers tailored for educational institutions. Ultimately, free tools form 25% of all the tools. The most common pricing option is freemium (75%).

Table 2: Tools for generating interactive lessons and courses

Name of the AI tool	Description of functionality	Pricing policy
TinyTap AI	TinyTap AI produces interactive instructional modules applicable to both classroom and remote learning. It constructs presentations on user-selected subjects, incorporating relevant questions to reinforce comprehension.	Free
MyLessonPal	The tool makes worksheets, lesson plans, scripts, activities, projects, quizzes, and tests customized to their distinct requirements and the appropriate academic levels.	Free
AI Lesson Plan	The platform encompasses various lesson plan formats, including 5E, Madeline Hunter, and Bloom’s Taxonomy. It can generate rubrics, worksheets, homework assignments, and assessments.	AI Lesson Plan offers a free trial, after that Basic plan for \$229 and for Business \$599 per year.
Teachermatic	The platform can make lesson plans, activities, worksheets, and additional materials. It also includes a multiple-choice quiz maker, scheme work generator, class question generator, rubric generator, and glossary generator.	Teachermatic offers a free trial; after that, the Standard plan is for £99/year (£9 99 per month), and the Professional plan is for £180/year (£18 per month). They also provide licenses for organizations.
Chat2course	This tool facilitates the creation of entire courses through a chat interface that enables communication between the teacher and an intelligent assistant.	Chat2course works on tokens. The tool provides 30 000 tokens for free; after that tokens are paid (100k tokens for \$10, 110k for \$11, etc.)
Education CoPilot	The tool generates templates for various educational materials, including lesson plans, prompts, educational handouts, student reports, and project outlines. It also provides supplementary tools such as a PowerPoint generator, idea generator, project generator, and an email generator for communication with parents.	Education CoPilot offers a free trial; after that, it is \$9 per month for teachers and a special offer for schools.
Coursable.io	Coursable serves as a personalized AI study companion, simplifying the initiation of learning new subjects by creating customized courses derived from authorized study resources available on the internet.	The tool offers a free trial; after that, it is \$10 per month for students, \$25 per month for teachers, and a special offer for schools.
AI Course Creator	The platform provides AI-guided support for formulating precise and inclusive course structures and offering title suggestions. Users have the flexibility to incorporate distinctive content elements like questions, images, and videos, enabling the creation of interactive quizzes and surveys.	AI Course Creator offers a Basic plan for free, a Premium plan for \$29 and Premium Plus for \$49 per month.

Source: own processing, 2023

This part of the analysis concerns the third category, “Tools for personalised learning”. Similar to the previous categories, this one brings a variety of uses and functions of the tools. All these tools are designed to help students learn effectively according to their cognitive capabilities. More than half of the selected tools (62.5%) offer an AI assistant to help with learning, note-taking, comprehension or conversation-based feedback. Students can track their progress in 50% of the tools. Like the categories before this one, there are different payment models. Only one tool is entirely free (TutorAI), and only one is paid without any option to try it for free (Khanmigo). The remaining tools are divided into equal proportions of 37.5% freemiums and 37.5% free trials. These tools can potentially improve efficiency and contribute to a better learning experience for students, mainly in the context of the school as well as the home learning environment.

Table 3: Tools for personalised learning

Name of the AI tool	Description of functionality	Pricing policy
MAGMA Tutor	Magma formulates individualized learning trajectories, facilitating users in monitoring their advancement towards proficiency.	Magma Tutor offers free plan, but also Premium plan for CHF 10 and special offer for business or schools.
TutorAI	TutorAI generates personalized learning paths, providing educational materials like notes, tutorials, and interactive quizzes. The platform supports learning across various subjects, allowing users to customize their educational experience and track their progress.	Free
Jagoda	Jagoda.ai is an AI-powered online tutoring tool that provides personalized assistance in various subjects. It adapts to individual learning styles, offers tailored feedback, and promotes self-directed learning with comprehensive explanations and practice exercises.	The tool offers a Basic plan for free, a Starter plan for \$12.99, and a Learning Champion plan for \$24.99 monthly.
Khan Academy Khanmigo	The Khanmigo AI tool delivers tailored tutoring services for students as a tutor and handles valuable insights for educators across diverse subject domains.	The tool costs \$4 per month or \$44 per year.
Learnmate	Learnmate enables users to establish study objectives, manage assignments, and collaborate effectively. The platform includes an AI writing tool and an assignment management tool, contributing to enhanced productivity and learning efficiency.	Learnmate offers a free trial; after that, there is a Basic plan for \$6.99, a Standard plan for \$9.99 and a Premium plan for \$19.99 per month.
Adaptiv.me (Ada)	Adaptiv Academy is a platform delivering personalized online courses based on individual abilities and knowledge. Users can explore specific courses, monitor their progress, and receive reminders for learning sessions via the mobile app. The platform also features referral programs for earning rewards.	The tool offers a Free plan, a Beginner Pack for \$9, an Advanced Pack for \$29 and a Pro Pack for \$99 per year.
Hello AI	Hello AI is a chatbot assistant app designed to enhance productivity, facilitate learning, and optimize user potential. It provides instant 24/7 support for tasks like planning travel, solving math problems, and generating start-up ideas.	Hello AI offers a free trial; after that, there is a 1-week subscription for \$4.99, a monthly subscription for \$9.99, and yearly for \$69.99.

Whiteboard	The tool generates interactive summaries, time-stamped vital information, and instant answers to questions. Students can use it to watch lectures, ask questions, collaborate, and prepare for classes while transforming PDFs into interactive learning materials and creating flashcards.	The tool offers a free trial; after that, there is a Plus plan for \$10, a Group plan for \$8 per month and a special demo offer for businesses and schools.
------------	---	--

Source: own processing, 2023

The last category we focus on is “Productivity tools for students”. We also found in this category that the tools offer a variety of possibilities for their use. These tools aim to increase student productivity by processing and navigating through notes, generating summaries of the notes, or facilitating the work of sharing notes. Compared to the other categories, this one offers the most tools that are free of charge. Only one tool provides a free trial, and one offers a unique way of booking the demo first. We see the potential of using these tools, especially in the home environment, in connection with the preparation for classes and self-learning.

Table 4: Productivity tools for students

Name of the AI tool	Description of functionality	Pricing policy
Note-Rack	Note Rack allows easy note-sharing and collaboration on group projects and features a powerful search function. It integrates ChatGPT for personalized study assistance and real-time answers based on the information in the notes.	Free
StudyNinja	StudyNinja.ai streamlines study routines with goal setting, task management, and document sharing. AI Tutor provides personalized study assistance and promotes active learning for various scenarios like homework organization, collaborative learning, efficient study planning, AI-assisted learning, and document management.	The tool provides a Free plan, a Standard plan for \$9.99 and an Ultimate plan for \$19.99.
Notion AI	Notion AI automates tasks, generates summaries, analyzes notes, and offers writing assistance with features like spell check and language translation.	The tool provides Free plan, Plus plan for \$10 and Business plan for \$18 per month. There is also a special offer for the organizations.
Mano AI	Mano AI automates daily tasks with a shortcut feature and helper agents. It can automate up to 26 tasks and offers custom prompts for various functions, from summarizing articles to answering questions.	There is a need to book a demo with the company.
Active Recall	Active Recall AI enhances exam preparation by generating quizzes and assignments from uploaded study materials, and the tool tailors questions to improve understanding.	Free
LectoMate	Lectomate transforms lecture files into various study materials, including summaries, flashcards, and mind maps.	LectoMate offers a free trial; after that, there is a Premium plan for \$4.99 and a Platinum plan for \$8.99.
Monic.ai	Monic.ai creates interactive and practical study materials from uploaded materials, including assessments, flashcards, and summaries. With support for over 60 languages, it employs advanced AI models for quick analysis, offering diverse resources and learning techniques such as spaced repetition and simulated exams.	There is Monic Basic plan for free or Monic Pro plan for \$14 per month.

StudyCards App	The Studycards app facilitates memorization through swiping and listening to cards, featuring a text-to-speech engine and customizable decks with AI assistance. Supporting multiple languages and an eyes-free mode enables easy sharing and accessibility for individuals with various conditions.	Free
----------------	--	------

Source: own processing, 2023

4 Discussion

The systematic review of 32 text-based AI tools categorised into four main types-quizzes and test question generation, interactive lessons and courses generation, personalised learning, and productivity tools for students-reveals a diverse landscape of functionalities and pricing models.

The tools feature various functions in the quiz and test question creation category, with multiple-choice quizzes being the most popular. Pricing strategies range from freemium models to free versions to paid plans, most falling into the freemium category. This variety of features and pricing highlights the flexibility and accessibility of AI tools for creating quizzes.

For creating interactive lessons and courses, the tools offer options such as lesson plans, worksheets, presentations, and entire courses. Freemium models are prevalent, allowing users to explore basic features for free before opting for premium plans. The tools address different aspects of educational content creation and offer teachers and educators various options based on their specific needs.

The personalised learning tools category emphasises the role of AI in tailoring the learning experience to the individual needs of learners. Standard features include AI assistants, progress tracking, and personalised learning paths. Pricing models vary, with some tools offering free plans while others provide free trials or subscription-based plans.

Productivity tools for students focus on increasing student efficiency through note-taking, summarising, and sharing. Tools in this category vary in pricing models, with a significant percentage being completely free. Features range from note sharing to assignment management and study assistance.

5 Conclusion

Integrating AI into formal education is a dynamic and transformative development with the potential to improve teaching and learning processes. In this paper, the theoretical foundations of AI are reviewed, its current status in education worldwide and Slovakia is investigated, and a systematic review of 32 text-based AI tools for formal education is conducted.

The findings highlight the diversity of AI tools, from quiz generators to personalised learning assistants. These tools offer various features and pricing models, highlighting their adaptability to different learning needs. While international perspectives emphasise the broad impact of AI in education, the study underlines the need for further research and documentation in the Slovak context.

As AI continues to evolve, educators, researchers, and policymakers should work together to exploit its potential effectively. Future research should focus on local studies, ethical considerations, and pedagogical integration of AI in education. This collaborative effort can contribute to developing evidence-based strategies for using AI tools to enhance the quality of formal education.

Acknowledgement: This paper was elaborated within a national project supported by the Cultural and Educational Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic (KEGA) No. 025UCM-4/2023, titled 'Risks and Opportunities of (Online) Education in the Times of Technological Interference'.

Bibliography

- Anyoha, R. (2017, August 28). *The history of artificial intelligence*. <https://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/>
- Cardona, M., Rodríguez, R., & Ishmael, K. (2023). *Artificial intelligence and future of teaching and learning: Insights and recommendations*. U.S. Department of Education, Office of Educational Technology. <https://www2.ed.gov/documents/ai-report/ai-report.pdf>
- Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *California Management Review*, 61(4), 5-14. <https://doi.org/10.1177/0008125619864925>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264-75278. <https://doi.org/10.1109/ACCESS.2020.2988510>
- Johnson, M., & Majewska, D. (2022). *Formal, non-formal, and informal learning: What are they, and how can we research them?* Cambridge University Press & Assessment Research Report. <https://www.cambridgeassessment.org.uk/Images/665425-formal-non-formal-and-informal-learning-what-are-they-and-how-can-we-research-them-.pdf>
- Murár, P., Vrabec, N., Kubovics, M., Farkaš, T., Piatrov, I., Zábojník, R., & Kabát, M. (2023). *Počúvať Kecaľka: 69 GPT promptov pre učiteľov [Listen to the Chatterbox: 69 GPT prompts for teachers]*. Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.
- Nerantzi, C., Abegglen, S., Karatsiori, M., & Martínez-Arboleda, A. (Eds.). (2023). *101 creative ideas to use AI in education, A crowdsourced collection*. University of Calgary.
- TopAI.tools. (n.d.). *Find the perfect AI tool for every task*. <https://topai.tools/>
- Wang, P. (2019). On defining artificial intelligence. *Journal of Artificial General Intelligence*, 10(2), 1-37. <https://doi.org/10.2478/jagi-2019-0002>

Contact Data:

Prof. Mgr. Norbert Vrabec, PhD.
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 norbert.vrabec@ucm.sk
 ORCID-ID: <https://orcid.org/0000-0003-2612-4856>

Mgr. Klára Zubková
 University of Ss. Cyril and Methodius in Trnava
 Faculty of Mass Media Communication
 Nám. J. Herdu 2
 917 01 Trnava
 SLOVAK REPUBLIC
 zubkova1@ucm.sk
 ORCID-ID: <https://orcid.org/0009-0009-4600-1352>

THE ARTIFICIAL INTELLIGENCE BEHIND THE PODCAST MICROPHONE: AI-GENERATED CONTENT IN PODCASTING

Kateřina Vrzalíková

DOI: <https://doi.org/10.34135/mmidentity-2023-44>

Abstract:

This paper presents a comprehensive literature review, the main aim of which is to gather information on the ways in which artificial intelligence is currently being used in content generation in the podcast industry, what tools can be used to do so, and how the merging of the two fields has evolved. Based on the structure and role specification of the podcast host, AI tools that could fulfill these roles were identified. The paper specifically focuses on podcast production in the early stages, i.e. the conception, development and curation of raw content, for which advanced technologies for Automatic Speech Recognition (ASR), Speech Synthesis (TTS) and Generative Pre-trained Transformer (GPT) are specific. This review is based on systematic research in databases, academic journals, conference proceedings, and other relevant sources related to artificial intelligence, the podcasting industry, and a generalization of their results. In particular, the Google Scholar database for scholarly articles and Google search engines were used to collect information on these tools. Finally, individual research on AI-generated content in the time range between 2006 – 2023 was construed using a neutral interpretation. The final selection includes 14 relevant studies in the field of AI and podcasting interfacing and 48 selected AI tools that can mostly be used individually and separately in the entire podcast production process. The contribution of this literature review is the structured consolidation of information, promotion of interdisciplinary research, and provision of state of the art in the field.

Key words: AI-Generated Content. Artificial Intelligence. Automatic Speech Recognition. Generative Pre-Trained Transformer. Podcast Host. Podcasting. Text-to-Speech.

1 Introduction

By the fall of 2023, over 4 million podcasts had been published (Podcast Index, n.d.). Streaming via the Internet, have become a popular tool in the media context for the distribution of information and entertainment content, allowing listeners and viewers to consume the content on demand. Like their quantity, listenership is growing at a rapid pace. This has been especially since the covid pandemic and the associated global health emergency between January 2020 and May 2023 (Newman & Gallo, 2020).

Like any other medium, the podcast evolves and responds to new trends. Therefore, the rise of artificial intelligence could not have missed this. The origins of artificial intelligence (AI) date back to the 1950s, when the first concepts and ideas about how a machine could mimic human intelligence began to take shape. Specifically, 1956 is considered the “birth” of artificial intelligence. This year, the Dartmouth Workshop was held at the Dartmouth College in New Hampshire. This meeting, officially called the “Dartmouth Summer Research Project on Artificial Intelligence”, was organized by John McCarthy, Marvin Minsky, Nathan Rochester (1955, in McCarthy, 2006), and Claude Shannon. During this conference, the discipline of *artificial intelligence* was defined for the first time and the main goals of research in this field were set. John McCarthy designed the term artificial intelligence for this workshop and has since become the standard name for the discipline. The first confluence of AI and podcast episodes is difficult to date precisely, as the development and integration of AI into various media and technologies has been a gradual process. In media and content, AI was first applied in areas such as recommendation algorithms (e.g., YouTube and Spotify) or automated transcription (Hutson, 2023). Gradually, advanced technologies for deep learning (e.g., GPT), automatic speech recognition (ASR), and speech

synthesis (TTS), which are key elements of AI in podcasting, have emerged. These technologies enable text generation and other natural language processing tasks to convert spoken words to text, and vice versa (Cambre et al., 2020). It takes off the workload that, in most cases, would have to be done by the podcast host alone.

This literature review first discusses the traditional roles of podcast hosts, and then selecting AI tools that can fill those roles. Special attention is devoted to the stages of conception, development, and curation of raw content, from which episode ideas, scripts, and the actual recording of each episode come. The review concludes with selected chronologically ordered studies and experiments on AI-generated podcast content.

The Role of the Podcast Host and His/Her AI Replacement

The later mentioned Joseph Nathan Cohen (2021) lists 4 stages of podcast creation: conception and development, curation of raw content, post-production and distribution. This division will be used for a deeper specification of AI-generated content. However, for the purposes of this part, a more detailed list is used. Ian Faison (n.d.) provides an extensive job description of the podcast moderator. The list contains (the relevant AI tools are added in brackets) creating and overseeing the podcast schedule (Trello, Asana, Moday.com), organising and scheduling recording sessions (Doodle, Clara, Calendly), ensuring the readiness and functionality of all equipment (SparkCognition's SparkPredict, Uptake, IBM Maximo Asset Performance Management, iZotope Spire, iZotope RX, Nest, Descript and Auphoric), recording episodes and publishing show notes (Spotify for Podcasters, Otter.ai, Sonix), promotion of new episodes (Headliner, chatbots and virtual assistants, Curata, Buffer and Hootsuite) and analysing feedback from listeners (Buzzsprout, IBM Watson Analytics, MonkeyLearn, Clarabridge and Pandora's Podcast Genome Project).

AI-Generated Content in Podcasting

Joseph Nathan Cohen (2021) lists 4 stages of podcast creation: conception and development, curation of raw content, post-production, and distribution. For the purposes of this article, the focus is on the conception, development and raw content curation phases. Each phase of conception and development consists of brainstorming regarding content and creating plans. In this stage, the creator brainstorms episode topics, guests, and other segments. Once these ideas have brainstormed, they focus on logistics such as assembling a team, sourcing materials, recording options, and other necessary steps to create the final episode. After the episode plan is put together, the creator edits and organizes the raw audio. Episodes are often based on original content created by the podcaster and his or her guests, including monologues, interviews, or dramatic performances. Some podcasts include real audio from events, such as press conferences or speeches, that are not directly produced by the podcaster. Occasionally, they may rely on archived audio from public broadcasts or libraries. The creator may add music and sound effects to create atmosphere and enhance the impression with listeners.

Text-to-Speech (TTS)

This is known as speech synthesis, or “synthetic” speech generation, and text-to-speech, or TTS. Some use actual speech synthesis systems, but interestingly, these are usually not state-of-the-art systems, as they sound too natural and can mislead the listener. Speech synthesis has advanced considerably in recent years and it is no longer the case that state-of-the-art systems sound explicitly mechanical and robotic (Taylor, 2011). Among the most well-known tools for TTS is Talkr, which converts blog posts into podcasts. Feedpod, Utrrr, Godcast, MyVocal AI, Audiobot, Myqueue, Suno AI Bark, NarrationBox or SpeechGen work on a very similar basis.

In October 2022, people could listen to the first AI-created podcast in the form of a conversation between host Joe Rogan and the now-deceased visionary Steve Jobs. The transcripts are created using advanced language models and the episodes are created using incredibly realistic voices by play.ht. For example, for the Steve Jobs episode, the AI was trained based on both his biography and all the recordings of him that could be found on the internet. This allowed the AI to faithfully portray his personality (Yalalov, 2022). Listeners could suggest guests and presenters for future episodes (Podcast.ai, n.d.).

Generative Pre-Trained Transformer (GPT)

The example of ChatGPT should suffice to explain GPT technology. It is an advanced language processing model based on the GPT-4 architecture developed by the OpenAI research team. Based on one of the state-of-the-art technologies in machine learning for natural language processing, this model has been trained on a large dataset, allowing it to generate coherent, relevant and often detailed answers to diverse queries. With over a billion parameters, GPT-4 is one of the largest natural language processing models available (Achiam, n.d.). Based on trends, current events, or specific areas of interest to the podcaster, the platform can suggest original and timely topics for further exploration. Once a topic is chosen, ChatGPT can serve in the scripting and writing process. If a podcaster needs help structuring an episode, formulating ideas, or writing monologues and other segments, ChatGPT can offer suggestions (Trust et al., 2023).

Shortly after the announcement of PodcastAI, in early 2023, Futuri launched the innovative RadioGPT™. A revolutionary solution for radio content that is driven by artificial intelligence. It combines GPT-3 technology with Futuri's TopicPulse AI to create localised radio content that is 100% AI generated. RadioGPT™ monitors current social media trends and creates scenarios for broadcasts, which are then transformed into audio experiences by AI presenters (Harless, 2023).

Software Speech Recognition (ASR)

The final system is ASR. Software Speech Recognition (ASR) is a technology that allows computer systems to convert the human voice into text form with the help of various algorithms from artificial intelligence and machine learning. Once the voice command is processed and analyzed, the computer responds appropriately for the user. Its importance is growing thanks to popular voice assistants such as Alexa and Siri (Shaip, 2022). Leading tools that can also be used for podcasting include Google Cloud Speech-to-Text, IBM Watson Speech to Text, Amazon Transcribe, Microsoft Azure Speech Service, Nuance Dragon, Mozilla DeepSpeech, CMU Sphinx and Kaldi.

As mentioned in a paper by Ulrike Glavitsch and colleagues (2014), ASR is neither efficient nor reliable enough to transcribe arbitrary speech files independently of the speaker. They discuss this because of the use of their SpeechIndexer technology to search and retrieve podcasts from radio and TV station archives. This technology allows for the alignment of audio and text files, making specific sections of speech easily accessible with manual correction. Becca Dingman and her team (2021) attempted to design a podcast platform for the deaf using ASR technology. However, even in this research, the team struggled with transcription errors. In contrast, a group led by Damian Spina (2017) at RMIT University reported on the extraction of audio summaries to support efficient retrieval in spoken documents. Their paper investigated the presentation of search results for audio/speech documents, such as podcasts, through a communication channel that contains only audio. The study found that audio summaries generated from noisy automated speech recognition (ASR) transcripts were not less preferred than those generated from error-free manual transcripts and

curated metadata. Content-based audio summaries were preferred over synthetic summaries extracted from manually generated metadata when the original audio was used.

Further AI Studies and Experiments in Podcast Content

In 2006, Andreas Bischoff introduced Pediaphon, a service that converts Wikipedia articles into audio formats for easier consumption on small devices. The service, which has fulfilled over 11,400 requests since its inception, faces challenges such as bandwidth limitations and usability issues. Meanwhile, control systems engineers at Hagen University are adopting this technology to produce audio tutorials from textual content (Bischoff, 2006). In the same year, the University of Washington introduced an automated podcast solution that streamlined the recording and distribution of lectures, which was well-received by students. Surveys and usage data revealed students primarily used these podcasts to supplement their notes and revisit lectures. Experts believe the full potential of mobile podcasting benefits will emerge as mobile information consumption and production increase (Aldrich et al., 2006). Giulio Mori and his team (2007) developed a web-based system in 2010 that transforms text documents into structured audio podcasts, particularly aiding blind users. The system's interface is screen-reader friendly, and it utilizes heuristics to identify section titles, creating distinct podcast segments. Future enhancements aim to support additional document formats and further testing with visually impaired users. A year later, in a study led by Maria Buzzi (2011), the educational benefits of structured podcasts for blind users were explored with 18 participants. The findings revealed that these podcasts aided information retrieval, reducing time by around 24%, and were favored by the users. Future research aims to expand the test group and compare the experiences of both blind and sighted users. Aäron van den Oord and his team (2016) introduced WaveNet in September 2016, a groundbreaking generative audio model inspired by the PixelCNN architecture. WaveNet, working directly with raw sound, achieved unprecedented levels of naturalness in text-to-speech (TTS) tasks, as judged by human evaluators, and was built on databases used for Google's TTS systems. The model's capabilities were tested in various tasks, including multi-speaker speech generation, TTS, and music audio modeling. Yuzi Yan and a team (2021) from the Department of Electronic Engineering introduced AdaSpeech 3, an advanced adaptive text-to-speech (TTS) system designed for natural and spontaneous speech, incorporating features like filled pauses and varied rhythms. Using a multi-speaker TTS model, pitch and duration predictors, AdaSpeech 3 surpassed the performance of other adaptive TTS systems, including its predecessors. Future improvements aim to refine the spontaneous speech synthesis by integrating elements like repetition and discourse markers. In 2021, Saniya Sofi discussed advancements in Natural Language Processing (NLP) with a focus on text summarization and synthetic audio generation, inspired by Google Duplex's success in natural conversation. Extractive summarization techniques, particularly those based on deep learning, proved effective in gleaning contextual information from various text types like legal documents and movie scripts. For audio generation, the Tacotron 2 model surpassed the Voice Cloner architecture, producing high-quality audio summaries (Zahoor & Sofi, 2021). Mark Carrigan (2021) discussed the rising importance of podcasts, audiobooks, and text-to-speech technology in research, especially during the COVID-19 pandemic, which amplified screen time and digital interactions. This digital shift made listening a key method of engaging with scholarly ideas, challenging the conventional dominance of reading in academia. However, concerns arise that listening might be perceived as less valuable than reading, and the current reliance on digital media might be questioned. Philippe Laban's team (2022) from the University of California introduced "NewsPod", an automated news podcast aiming to engage more Americans in in-depth news beyond just headlines. Using a unique question-and-answer style, syntactic markup language, and incorporating breaks, NewsPod offers a less monotonous and

interactive news experience, but current systems for answering questions need further refinement. While the project showed promising results in extending user engagement, there are concerns about potential biases, factual inaccuracies, and lack of editorial judgment in the system. In 2023, Heete Sakhai's team (2020) discovered that synthetic voices trained on spontaneous data exhibited a more genuine spontaneous speaking style than those trained on read data. Features unique to spontaneous speech enhance this perception of naturalness. The study suggests using spontaneous training data combined with read data, noting that different synthesis techniques might necessitate varying data approaches for optimal results.

2 Methodology

This literature review focuses on collecting and analysing the available data and literature to determine how artificial intelligence is currently being used for more than just content generation in the podcasting industry, and what tools can be used to do so. The study began with a systematic review of databases, academic journals, conference proceedings, and other relevant sources related to artificial intelligence and the podcasting industry. In particular, the Google Scholar database for scholarly articles and the Google search engine were used to gather information about these tools. When selecting sources, preference was given to peer-reviewed articles, but grey literature, i.e. reports from industry organisations and other materials that contained relevant information, was not excluded. Sources were also included that addressed tools and technologies that enable AI to generate or edit content in podcasts. Papers published between 1955 and 2023 were searched to answer the questions of how AI came to be, briefly what podcasts are, how AI and podcasts come to be linked, what the different roles of a podcast moderator include and what AI tools can be used to fill them, how AI generates podcast content, and what studies and experiments have been conducted in this field between 2006 and 2023. After gathering the necessary sources, a thorough content analysis of each source was conducted. This led to the creation of a summary of key points and information, especially those related to specific methods, tools and applications of AI in the podcasting industry. With the information gathered from these various sources, a synthesis was made to create a comprehensible and overarching overview of how AI is currently being used in the podcasting content industry. From this, key trends, challenges, opportunities and recommendations for future research were identified. The final section of this review presents the main findings of how AI is currently being used to generate content in the podcasting industry, and the specific tools and technologies that are currently being used to do so.

3 Results

Research results have shown that artificial intelligence (AI) has a significant impact on the podcast industry. AI offers innovative ways to improve and optimize podcast content. Artificial intelligence can help at various stages of podcast production, from brainstorming topics to scripting and post-production. AI-based tools, such as ChatGPT, can assist podcast creators in generating topics, scripting, and editing content. Additionally, AI can support content personalization for different listener segments. In podcast promotions, tools such as Hootsuite use AI to analyze audience behavior on social platforms. These tools can determine the optimal time to publish posts, ensuring a maximum reach. MonkeyLearn, a tool that automatically analyzes comments, reviews, and other textual feedback, can also be used to analyze listener feedback. Thus, podcast creators can better understand their listeners. In 2022, the first podcast created by artificial intelligence was released. This podcast featured a conversation between Joe Rogan and Steve Jobs, and was created using advanced language models and highly realistic voices from text-to-speech software. In addition to ChatGPT,

Hootsuite, and MonkeyLearn, there are other tools and technologies, such as play.ht, which is a text-to-speech software used to create AI-generated podcasts, or the Podcast.ai platform, which is connected to podcasting and uses AI. Various studies have discussed the impact of AI on podcasting, the growing role of podcasts, and the use of structured podcasts through text-to-speech systems. These findings provide a comprehensive overview of the current state of AI integration in the podcasting industry, and the tools and technologies used in the industry.

4 Discussion

Artificial intelligence (AI) has become an increasingly important tool in the podcasting industry. Although AI offers many opportunities to improve and optimize content, it still faces several challenges. The main challenges associated with the use of AI in podcasting are in several key areas. The first and probably the biggest challenge is the quality of the generated content. Although AI is capable of generating content, it sometimes lacks depth and human touch. This can result in the creation of content that is less engaging or relevant to listeners. Furthermore, ethical issues arise, particularly regarding the authenticity and veracity of information. If AI generates interviews or quotes, questions about authenticity can be raised. Another issue is loss of personal touch. Podcasts often stand out because of their personal stories and experiences, and AI can easily lose this personal dimension. Ultimately, although AI technology continues to advance, technical limitations remain. Current AI systems may have limited ability to recognize and respond appropriately to the nuances of human voices or emotions.

The future of artificial intelligence (AI) in podcasting promises several key trends and developments. The first is the greater integration of AI with human creators. AI is expected to serve as a complementary tool for human creators who will use its capabilities in editing, scripting, or listener analysis. In this way, AI can help creators produce higher-quality and more effective content. The second major direction is enhanced personalization. AI has the potential to analyze listener preferences and offer content that is more relevant to them based on this data. This means that future podcast episodes could be even more tailored to individual listener needs, which could increase their appeal and relevance. Another aspect is the growing ethical issue associated with the use of AI in podcasting. To address these issues, guidelines can be created to ensure transparency and authenticity of the generated content. This is important for maintaining the credibility of podcast episodes and the relevant content for listeners. Finally, the development of AI technology is expected to continue in the future. This may include addressing some of the current technical limitations of AI and improving the quality of the generated content. Future developments in AI could bring about innovations that will further strengthen the role of this technology in podcasting.

5 Conclusion

For many years, technology has raised concerns among ordinary workers, especially in areas dominated by repetitive activities, such as production, administration, or accounting. However, in recent years, the technological wave seems to be coming to areas that were considered exclusively human, such as the arts and media. Its actors - journalists, writers, and podcast hosts - face a new challenge. Artificial Intelligence (AI). Curiosity was considered when AI-generated news emerged. Many media experts agree that while AI can put together a simple weather report or sports scores, the ability to tell stories with depth and emotion remains the prerogative of humans. However, with the advent of algorithms capable of analyzing and mimicking human speech, commentary, and even humor, their views have

begun to change rapidly. Now, we are witnessing another turning point: attempts to replace podcast hosts with AI. Why would this idea make sense? Podcasts are conversations that are sometimes accompanied by music or sound effects. What if we could have AI that could analyze thousands of hours of conversation, identify what makes a conversation interesting, and then create a custom conversation without the need for human interaction? Podcasts can be produced much faster, cheaper, and consistently. In addition, AI can be programmed to adapt to listeners' individual preferences, which can lead to hyperpersonalized experiences. However, there are concerns about what might be lost. Podcasts are popular because of their authenticity. It is a platform on which individuals can express their thoughts, feelings, and stories without the filter of traditional media. Can a machine truly emulate humanity? Although this development is still in its early stages, media professionals must engage in this discussion. The potential benefits of automation must be weighed against the potential loss of what makes the media so specific: humanity, emotions, and spontaneity.

This literature review highlights the transformative role of artificial intelligence (AI) in the podcasting industry. Several online sources, such as articles from Wired and Hubspot magazines, discuss the potential changes that AI could bring to podcasting and video content. For example, the first-ever AI-created podcast, in which Joe Rogan interviewed Steve Jobs, suggests that AI is no longer just being used for post-production, but also for content creation in the podcasting industry. Reference was made to various studies and articles that look at advances in text-to-speech synthesis (TTS). Of note is the AdaSpeech 3 project from Tsinghua University, which focuses on adaptive text-to-speech for spontaneous styles. This suggests that TTS technology is evolving to produce more natural and spontaneous speech patterns, making it more suitable for various applications, including podcasting. Several tools and applications of artificial intelligence are mentioned, indicating their growing importance in various stages of podcast production. IBM's Watson and Siemens' Mindsphere are highlighted, indicating their importance in AI solutions. Tools such as Descript, which offer AI-based podcast editing, are also mentioned, further highlighting the integration of AI into content creation and editing.

In addition to podcasting, this review looks at the impact of artificial intelligence on other media forms. In particular, Futuri recently launched RadioGPT™, the world's first AI-driven localised radio content. This suggests that the radio industry, like podcasting, is also undergoing a transformation through AI integration. Selected research papers and studies indicate a strong interest in AI and its applications by the academic community. For example, a conference paper from the New York ACM SIGUCCS conference discusses the expansion of classroom boundaries through automated podcasting, and it was written in 2006. This underscores the educational potential of AI-driven content. Although AI brings many new possibilities, it is essential to maintain a critical perspective and defend the integrity and authenticity of the media. For now, whether the podcast world is ready to embrace this new era remains an open question. Numerous citations and references indicate a keen interest from academia and industry in harnessing the potential of AI in these areas.

Acknowledgement: This study was supported by The Internal Grant System of Metropolitan University Prague (MUP IGS), project No. E103-109/2023.

Bibliography

- Achiam, J. (n.d.). *Pioneering research on the path to AGI*. <https://openai.com/research/overview>
- Aldrich, D., Bell, B., & Batzel, T. (2006). Automated podcasting solution expands the boundaries of the classroom. In A. Nagorski, G. Brouillette, & C. Rhodes (Eds.),

- SIGUCCS'06: Proceedings of the 34th annual ACM SIGUCCS fall conference: Expanding the boundaries.* Association for Computing Machinery (pp. 1-4). <https://doi.org/10.1145/1181216.1181217>
- Bischoff, A. (2006). Podcast based m-learning with pediaphon – a web based text-to-speech interface for the free wikipedia encyclopedia. In M. Huba (Ed.), *Virtual University VU'06 – Proceedings: 7th international conference* (pp. 173-176). Slovak University of Technology.
- Buzzi, M. C., Buzzi, M., Leporini, B., & Mori, G. (2011). Educational impact of structured podcasts on blind users. In C. Stephanidis (Ed.), *Universal access in human-computer interaction. Applications and services – 6th international conference* (pp. 521-529). Springer. https://doi.org/10.1007/978-3-642-21657-2_56
- Cambre, J., Colnago, J., Maddock, J., Tsai, J., & Kaye, J. (2020). Choice of voices: A large-scale evaluation of text-to-speech voice quality for long-form content. In R. Bernhaupt, F. Mueller, D. Verweij, & J. Andres (Eds.), *Proceedings of the 2020 CHI conference on human factors in computing systems (CHI'20)* (1-13). Association for Computing Machinery. <https://doi.org/10.1145/3313831.3376789>
- Carrigan, M. (2021, December 17). *An audible university? The emerging role of podcasts, audiobooks and text to speech technology in research should be taken seriously.* https://eprints.lse.ac.uk/113251/1/impactofsocialsciences_2021_12_17_an_audible_university_the_emerging.pdf
- Cohen, J. N. (2021). *Podcast post-production.* City University of New York.
- Dingman, B., Tigwell, G. W., & Shinohara, K. (2021). Designing a podcast platform for deaf and hard of hearing users. In J. Lazar, J. H. Feng, & F. Hwang (Eds.), *ASSETS'21: Proceedings of the 23rd international ACM SIGACCESS conference on computers and accessibility* (Article No. 59). Association for Computing Machinery. <https://doi.org/10.1145/3441852.3476523>
- Faison, I. (n.d.). *Podcast roles and responsibilities.* *caspian studios.* <https://www.caspianstudios.com/caspian-blog/podcast-roles-and-responsibilities>
- Glavitsch, U., Küpper, D., Stamm, T., & Szakos, J. (2014). Podcast archives: Access through speechindexer technology. *Archiving Conference*, 11(1), 197-200. <https://doi.org/10.2352/issn.2168-3204.2014.11.1.art00044>
- Harless, B. (2023, February 23). *Futuri launches RadioGPT™, the world's first ai-driven localized radio content.* <https://futurimedia.com/futuri-launches-radiogp/>
- Hutson, O. (2023, May 9). *How will AI affect the podcast industry?* <https://www.ranieriandco.com/post/how-will-ai-affect-the-podcast-industry>
- Laban, P., Ye, E., Korlakunta, S., Canny, J., & Hearst, M. (2022). NewsPod: Automatic and interactive news podcasts. In G. Jacucci, S. Kaski, C. Conati, S. Stumpf, T. Ruotsalo, & K. Gajos (Eds.), *IUI'22: 27th international conference on intelligent user interfaces* (pp. 691-706). Association for Computing Machinery. <https://doi.org/10.1145/3490099.3511147>
- McCarthy, J., Minsky, M. L., Rochester, N., & Shannon, C. E. (2006). A proposal for the Dartmouth summer research project on artificial intelligence. *AI Magazine*, 27(4), 12. <https://doi.org/10.1609/aimag.v27i4.1904>
- Mori, G., Buzzi, M. C., Buzzi, M., & Leporini, B. (2007). Structured audio podcasts via web text-to-speech system. In M. Rappa (Ed.), *WWW'10: Proceedings of the 19th international conference on world wide web* (pp. 1281-1284). Association for Computing Machinery. <https://doi.org/10.1145/1772690.1772902>
- Newman, N., & Gallo, N. (2020). *Daily news podcasts: Building new habits in the shadow of coronavirus.* Reuters Institute. <https://doi.org/10.60625/risj-25y1-wm88>

- Oord, A. V. D., Dieleman, S., Zen, H., Simonyan, K., Vinyals, O., Graves, A., Kalchbrenner, N., Senior, A., & Kavukcuoglu, K. (2016). WaveNet: A generative model for raw audio. *arXiv preprint arXiv:1609.03499*. <https://doi.org/10.48550/arXiv.1609.03499>
- Podcast Index. (n.d.). *Podcast index*. <https://podcastindex.org/stats>
- Podcast.ai. (n.d.). *About*. <https://podcast.ai/about>
- Sahkai, H., Piits, L., Ermus, L., Hein, I., Mihkla, M., Kiissel, I., Suluste, K., Männisalu, E., Altrov, R., Pajupuu, H., & Pajupuu, J. (2020). Turning podcasts into a training corpus for conversational text-to-speech synthesis. In R. Skarnitzl, & J. Volín (Eds.), *Proceedings of the 20th international congress of phonetic sciences* (pp. 3176-3180). Guarant International.
- Shaip. (2022, August 30). *Pochopení procesu sběru zvukových dat pro automatické rozpoznávání řeči [Understanding the process of collecting audio data for automatic speech recognition]*. <https://cs.shaip.com/blog/audio-data-collection-for-automatic-speech-recognition/>
- Spina, D., Trippas, J. R., Cavedon, L., & Sanderson, M. (2017). Extracting audio summaries to support effective spoken document search. *Journal of the Association for Information Science and Technology*, 69(9), 2101-2115. <https://doi.org/10.1002/asi.23831>
- Taylor, P. (2011). *Text-to-Speech synthesis*. University of Cambridge. <https://doi.org/10.1017/CBO9780511816338>
- Trust, T., Whalen, J., & Mouza, C. (2023). Editorial: ChatGPT: Challenges, opportunities, and implications for teacher education. *Contemporary Issues in Technology and Teacher Education*, 23(1), 1-23. <https://www.learntechlib.org/primary/p/222408/>
- Yalalov, D. (2022, October 11). *The first-ever AI-created podcast features an interview with Steve Jobs by Joe Rogan*. <https://mpost.io/the-first-ever-ai-created-podcast-features-an-interview-with-steve-jobs-by-joe-rogan/>
- Yan, Y., Tan, X., Li, B., Zhang, G., Qin, T., Zhao, S., Shen, Y., Zhang, W. Q., & Liu, T. Y. (2021). AdaSpeech 3: Adaptive text to speech for spontaneous style. *arXiv preprint arXiv: 2107.02530*. <https://doi.org/10.48550/arXiv.2107.02530>
- Zahoor, S., & Sofi, S. A. (2021). Automatic podcast generation. *Journal of University of Shanghai for Science and Technology*, 23(10), 22-28. <https://doi.org/10.51201/jusst/21/09700>

Contact Data:

Mgr. Kateřina Vrzalíková, MSc.
 Metropolitan University Prague
 Faculty of Media Studies
 Učňovská 100/1
 190 00 Prague 9
 CZECH REPUBLIC
 vrzak2ax@student.mup.cz
 ORCID-ID: <https://orcid.org/0000-0002-9734-9297>

THE ROLE OF HUMAN CAPITAL IN THE CONTEXT OF DIGITAL ECONOMY TRANSFORMATION

Rastislav Zábajník

DOI: <https://doi.org/10.34135/mmidentity-2023-45>

Abstract:

In the context of the current trend of digital economy transformation, human capital emerges as a key factor supporting economic growth and innovation processes. This paper focuses on the dynamics of these processes, examining how human capital influences the implementation of new technologies and artificial intelligence, particularly in the context of the business environment. The aim of this study is to analyze and provide a comprehensive view of selected factors that, in the context of human capital, shape economic growth and innovations in the process of digital economy transformation, with a particular emphasis on its current challenges and opportunities. Based on the analysis of current trends and reflection on academic literature, this paper highlights the significance of the economic transformational potential of human capital, especially in the area of digitalization and artificial intelligence (AI). The conclusion and discussion include a set of innovative proposals for education and development of human capital, with a focus on new challenges associated with the concept of Industry 4.0 and artificial intelligence (AI).

Key words: Business Environment. Competitiveness. Digital Economy. Digital Skills. Employment. Human Capital. Innovations. Leadership. Lifelong Learning. Social Skills. Sustainable Growth. Transformation.

1 Introduction

In the context of the rapidly changing global economic environment of Industry 4.0, the digital economy and the process of its transformation are becoming the basis for sustainable development of society in its broader understanding. This dynamic development brings with it fundamental changes in the structure of the business environment, in the structure and settings of the labor market, as well as in the overall vision of strategy and legislative policy at the level of individual governments. An integral part of this process is the increasing importance of human capital as the main engine of growth and development.

Human capital, defined as the sum of knowledge, skills, and competencies possessed and utilized by the workforce, has become one of the most important factors determining success in the digital economy. In the context of digital transformation, the role of human capital is further emphasized, as technological progress and innovations are increasingly dependent on the abilities and knowledge of people.

This research paper focuses on the role of human capital in the context of the transformation of the digital economy. Its objective is to analyse how human capital manifests in the digital environment, how it can contribute to the efficiency and innovation of the digital economy, and what are the main challenges and opportunities associated with its development and utilization.

This paper endeavors to provide a comprehensive view of this issue, reflecting current knowledge and trends contained in the academic literature in the context of the examined problem. Its goal is to contribute to a better understanding of the dynamics of digital transformation and to provide suggestions for future research in this subject area.

2 Methodology

The chosen research methodology primarily relies on qualitative research methods in the form of content analysis of selected information sources, focusing on current trends in the

development of the digital economy in the context of human resources, applying methods of analysis, comparison, and synthesis of knowledge, as well as interconnected thought processes of induction and deduction.

In the initial step, attention was given to the critical reflection of domestic and international professional literature to identify the main theories, concepts, and research findings related to the issue of human capital in the process of digital economy transformation. This process helped deepen knowledge in the context of the theme and identify key aspects, which are subsequently elaborated within the study. Subsequently, we compared the various findings and information. Primarily based on analysis, comparison, and synthesis of knowledge, the relationships of interaction between the issue of human capital and the transformation process of the digital economy were evaluated. The comprehensive process of examining the issue in domestic and international literature offered the opportunity to develop a comprehensive view of the studied issue with an interdisciplinary overlap.

2.1 Literature Review

The analysis of the role of human capital in the context of the transformation of the digital economy is a significant topic that has been thoroughly examined in recent years. According to Arntz et al. (2016), digitalization leads to a significant change in the skill requirements of workers. While some jobs may be threatened by automation, there are also new opportunities that require more sophisticated and specific skills. In line with this premise, Bessen (2019) argues that technological changes increase the value of human capital, as jobs requiring a high level of knowledge and skills become increasingly important. Brynjolfsson and McAfee (2016) state that in the digital economy, the key factor for success is the ability to innovate and adapt to new technologies, which requires considerable human capital. The digital economy requires a new type of human capital that combines technical skills with creativity, adaptability, and the ability to solve complex problems.

Based on the mentioned sources, it is clear that human capital plays a crucial role in the context of the transformation of the digital economy. Its significance is increasing in relation to technological advancement and digitalization, becoming indispensable for successful adaptation to new economic conditions.

In the context of the transformation of the digital economy, it is important to define the essence of human capital. Human capital is generally understood as the sum of knowledge, skills, abilities, and other attributes possessed by individuals, which can be utilized to produce value (Becker, 2015). According to Hanushek and Woessmann (2016), human capital includes not only formal education and professional skills but also abilities associated with creativity, problem-solving, critical thinking, and social skills. These so-called soft skills are increasingly important in the digital economy, where technological changes are rapid and job requirements are constantly evolving. Schleicher (2018) also emphasizes that in today's world, continuous learning and improvement are essential, meaning that human capital is dynamic and can change over time. This is particularly important in the digital economy, where technological advancements rapidly evolve, and workers must be able to adapt to new technologies and work processes.

The concept of human capital and its significance in economic development has been the subject of many theories and research studies. Perspectives on human capital have evolved over time and reflected changes in the economic and social context. The first significant theory of human capital, developed by Becker (2015), understands human capital as investments in education and professional training that lead to increased productivity and income of individuals. This theory laid the foundation for many later studies and research in the field of human capital. Later, research on human capital began to focus on broader aspects, including so-called soft skills, such as creativity, critical thinking, and social skills.

For example, Hanushek and Woessmann (2016) emphasize that these skills are just as important as formal education and professional skills. Currently, there is a wide range of theories that try to explain how human capital is created and used in various contexts, including the digital economy. For instance, Bessen (2019) examines how technological progress and automation affect the demand for different types of human capital.

Miller and Morris (1998) explore the dynamic between intellectual capital, human capital and organizational skills, situating this connection within the Skandia intellectual capital model framework, initially proposed by Edvinsson (Edvinsson & Malone, 1997). This relationship is visually represented in Figure 1, which shows how various components of an organization’s capabilities are linked to its intellectual capital (Grimaldi & Hanandi, 2013).

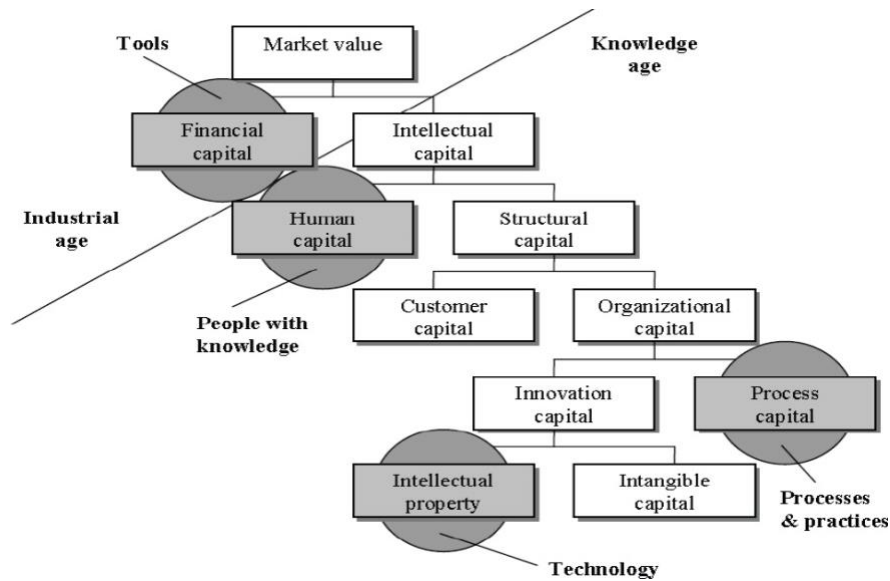


Figure 1: Relationship between organizational capabilities and intellectual capital
 Source: Miller & Morris (1998)

The development and utilization of human capital are influenced by a number of factors that are often interconnected and mutually influential. These factors include education, health status, social and economic conditions, as well as technological changes and political decisions. According to Hanushek and Woessmann (2016), education is one of the most important factors affecting the development of human capital. Quality education can significantly increase the knowledge and skills of individuals, thereby increasing their productivity and income. The health status of individuals also significantly influences their human capital. Case and Deaton (2010) emphasize that health problems can limit the ability of individuals to work and learn, which can have a negative impact on their human capital. Social and economic conditions, including income inequalities and access to resources, also affect the development and utilization of human capital. Technological changes and innovations also play a key role. According to Bessen (2019), technological progress can increase the demand for certain skills and decrease the demand for others, which can have a significant impact on human capital. Political decisions and policies, such as those related to education, healthcare, or labor rights, can also significantly influence the development and utilization of human capital.

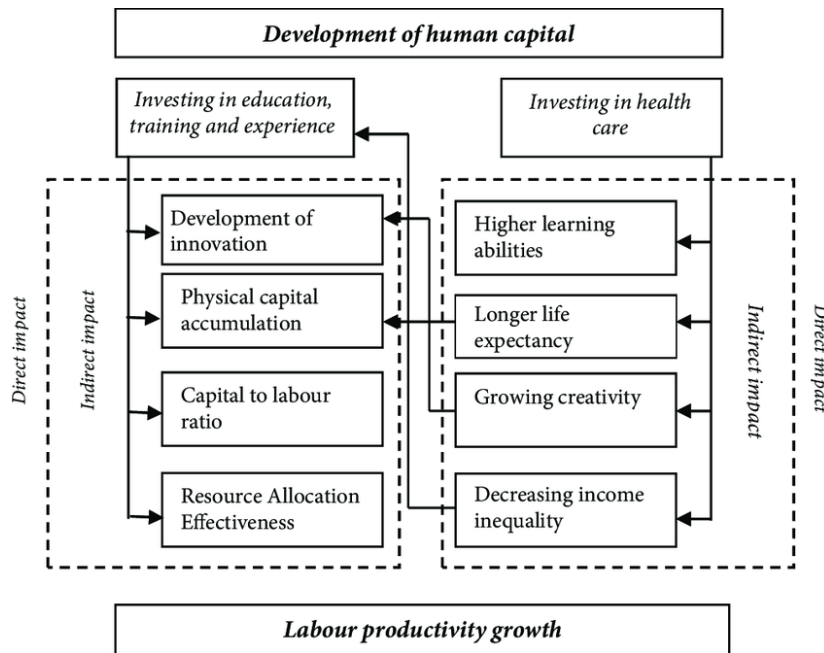


Figure 2: The model of human capital development impact on labour productivity
 Source: Mačiulytė-Šniukienė & Matuzevičiūtė (2018)

Human capital in the digital economy is a substantial topic that involves a comprehensive analysis of both technological advancement and human resources. In relation to this topic, the literature focuses on several key areas:

- Digitalization and Human Capital: Many experts address the question of how digitalization affects human capital, especially in terms of the need for new skills and knowledge in the digital economy (Brynjolfsson & McAfee, 2016).
- Digitalization and Employment: There are concerns that automation and AI might lead to job losses, but some authors argue that these technologies also create new job opportunities that require a new kind of human capital.
- Education and Training: As skill requirements change, educational systems must adapt to prepare people for work in the digital economy. This is a key topic in the literature on human capital.
- Political and Social Implications: The topic of human capital in the digital economy also has political and social implications, including issues of fairness, equality, and social mobility.

The topic of skills and competencies required in the digital era is extremely important in today’s rapidly changing technological society. In the literature, this topic is examined from multiple perspectives, including education, the labor market, and policy, which include:

- Digital Skills: There is a strong consensus that digital skills are crucial for success in the current economy. For example, the literature on this topic includes studies that analyze how digital skills affect access to work and mobility.
- Critical Thinking and Problem Solving: Technology is changing the nature of work, which elevates the importance of critical thinking and problem-solving skills. Many works focus on how these competencies can be supported and developed.
- Social and Emotional Skills: Some authors emphasize that in the digital era, social and emotional skills are equally important, such as the ability to collaborate and adapt (Fitzpatrick, 2021).
- Policy and Education: Literature also addresses how policies and educational systems can better support the development of these skills and competencies (Cedefop, 2020).

The transformation of the economy, often driven by rapid technological progress and changes in the global business environment, brings new challenges and opportunities for leadership. In this context, leaders are required to be flexible, innovative, and capable of leading change, not only within their organizations but also in the broader social and economic environment. One of the main areas where the transformation of the economy impacts leadership is digitalization. Digitalization changes the way organizations operate and how they communicate with their customers and employees. This means that leaders must not only understand new technologies but also be able to lead their teams in an environment where digital skills and flexibility are key. This may include managing virtual teams, supporting digital literacy, and using digital tools to foster collaboration and innovation.

The transformation of the economy also means that organizations need to be more adaptable and innovative to survive and thrive in a rapidly changing environment. This means that leaders must be able to support and lead innovation in their organizations. This can involve creating a culture that values experimentation and learning, supporting diversity and inclusion that can foster creative thinking, and ensuring that employees are engaged and motivated to contribute to innovation. Furthermore, in the context of the transformation of the economy, leaders are increasingly recognizing the importance of sustainable and socially responsible business.

This means that leaders must be able to lead their organizations not only with a focus on profitability but also on their social and environmental impact. This can include creating strategies for sustainability, managing stakeholder interests, and ensuring transparency and accountability. In the context of the transformation of the economy, leaders must be able to lead change at many different levels. This can include creating a vision for the future of their organizations, supporting employees in transitioning to new ways of working and doing business, and actively shaping the economic and social environment in which their organizations operate.

3 Discussion

The discussion on the role of human capital in the context of the transformation of the digital economy then focuses on several key areas, including the impact of digitalization on jobs and skills, the role of education and training, and the political and social consequences of these changes.

It can be stated that digitalization is changing the nature of jobs and the skills needed in the labor market. Some jobs are automated and some skills become obsolete, while other jobs and skills become more important. In this context, human capital – the knowledge, skills, and abilities of workers – is a key factor in determining how individuals and companies can adapt and thrive in the digital economy (Brynjolfsson & McAfee, 2016).

Another key aspect is the role of education and training. As skill requirements change, education systems must adapt to prepare people for work in the digital economy. This may include an increased emphasis on STEM areas (science, technology, engineering, and mathematics), as well as on “soft” skills, such as creative thinking and the ability to learn and adapt (Cedefop, 2020).

Finally, the transformation of the digital economy also has social and societal consequences. For example, there are concerns that digitalization may lead to greater inequality, as some groups gain while others lose. Similarly, there are questions about fairness and social mobility, as well as the need to ensure that all people have access to the opportunities and benefits of the digital economy (Piketty, 2020). To understand and effectively respond to these challenges, society certainly needs further research and discussion on the role of human capital in the context of the transformation of the digital economy.

Human capital is a key concept in economics and management, relating to the value of the knowledge, skills, abilities, and other attributes that people bring to the work environment. According to prominent economist Becker, who is often considered the father of the human capital concept, human capital includes all the abilities and knowledge that increase an individual's ability to create economic value (2015). These abilities and knowledge can be formal (such as the result of education or training) or informal (such as acquired through experience or self-learning).

Many experts also emphasize that human capital is more than just a sum of individual skills. It also includes social relationships and networks that people create, and the culture or norms that influence how these skills are used and valued.

Human capital is important for individuals as well as for organizations and societies as a whole. For individuals, human capital can affect their employability, income, and career progression. For organizations, human capital can affect their productivity, innovation capability, and competitiveness. For societies, human capital can affect economic growth, social cohesion, and overall quality of life. However, it is important to note that human capital is not static. It is constantly evolving in response to changes in technology, economic structure, and social and cultural trends. Therefore, the continuous development of human capital – through education, training, and lifelong learning – is key for individuals, organizations, and societies that want to be competitive and thrive in today's rapidly changing world (Piketty, 2020).

Human capital is a key concept in economics, sociology, and education, and its theories have been the subject of many studies and research over time. This section of the discussion focuses on the evolution of these theories and their significance for social and economic policy. Origins of human capital theories – the first theory of human capital appeared in the 18th century in the works of Adam Smith, who argued that the knowledge and skills of workers contribute to their productivity and thus to economic growth (Smith, 2010). Subsequently, the theory of human capital in the 20th century. In the 20th century, the theory of human capital began to be more elaborated. Gary Becker and Theodore Schultz, Nobel laureates in economics, expanded the concept of human capital to include education and training, emphasizing their importance for economic growth. Modern theories of human capital – nowadays, theories of human capital focus not only on education and professional skills, but also on social and emotional skills, as well as health and volunteer activities. These aspects can also contribute to productivity and economic growth (Heckman, 2020).

Human capital represents the sum of knowledge, skills, and attributes that people use in the performance of work and that contribute to their productivity and economic performance. This concept is a key element in modern economic theories and is considered one of the main drivers of economic growth. Factors influencing human capital are diverse and come from various areas, including education, health, social environment, and political institutions. Education is among the most significant factors influencing human capital. As Becker (2015) emphasized, investment in education can significantly contribute to increased productivity and economic growth. This is confirmed by other studies that have shown that countries with higher levels of education tend to achieve higher economic growth. Health is another key factor influencing human capital.

Studies show that healthy people are more productive and are more likely to invest in their own education and training (Bloom et al., 2004). In addition, health status can also affect social and emotional abilities, which are also part of human capital. The social environment, including family relationships, cultural values, and social networks, also significantly influences human capital. For example, families and communities can provide important resources for education and training and can support or limit opportunities for the development of human capital. Political institutions and policies are another important factor

that influences human capital. Government policies in the fields of education, health, and social policy can create conditions that support or limit the development of human capital (Acemoglu & Restrepo, 2017).

The digital economy represents a new context in which human capital becomes a significant factor for achieving competitive advantage. As Pikkety (2020) states, we are entering the fourth industrial revolution, characterized by the introduction of new technologies and digital transformation of all sectors of the economy. In this context, human capital becomes key to success in the digital economy. This is because it is necessary to have people with the required digital skills and knowledge who can utilize new technologies and contribute to innovation and economic growth (Brynjolfsson & McAfee, 2016). Education and professional training are fundamental factors for the development of human capital in the digital economy. Current educational systems must be able to prepare people to work with new technologies and equip them with the necessary digital skills. It is also important to provide people with opportunities for lifelong learning and adapting to the rapidly changing technological environment (Bughin et al., 2018).

Besides technical skills and knowledge, in the digital economy, it is necessary to increase the emphasis on so-called soft skills, such as critical thinking, creativity, problem-solving ability, and effective communication. These skills are equally important for working with technology and for working in a digitally connected world (Poláková et al., 2023). However, human capital in the digital economy also brings challenges, such as the risk of digital divide, where some groups of people lack access to digital skills and technologies, which can lead to social and economic inequality (Bawden, 2008).

The digital era brings significant changes in the requirements for skills and competencies needed in the job market. With the advent of new technologies, there is an increased demand for digital skills and competencies necessary for the utilization and development of these technologies. One of the key aspects of the digital era is the ability to work with digital technologies, often referred to as digital literacy. This skill includes the ability to use digital tools and platforms, as well as the ability to understand and interpret digital information (Bawden, 2008). In addition, digital literacy also encompasses the ability to behave safely and ethically in the digital environment. Along with digital literacy, there is an increasing demand in the digital era for people with advanced technical skills, such as programming, data handling, or cybersecurity. These skills are crucial for the development and implementation of new technologies, and therefore for economic growth and innovation (Bessen, 2019).

Despite the growing importance of technical skills, the significance of so-called soft skills cannot be overlooked. In the digital era, abilities such as critical thinking, creativity, communication, problem-solving, and adaptability are becoming increasingly important. These skills are essential for success in the rapidly changing and uncertain environment of the digital era (Poláková et al., 2023). The digital era is characterized by rapid technological progress, which means that skills and competencies that are relevant today may be outdated tomorrow. Therefore, it is crucial to be prepared for lifelong learning and continuous improvement of one's skills and competencies (Bughin, 2018).

The transformation of the economy, whether it is the transition from the industrial to the digital era or the shift towards more sustainable and inclusive models, requires effective leadership. Leadership in this context is key for managing change, supporting innovation, and creating a vision for the future. One of the key aspects of leadership in the context of economic transformation is the ability to see and understand the changes occurring in the economic environment. This means being at the forefront of technological trends, understanding their impact on various sectors, and being able to anticipate what changes may come. Leadership in this context requires vision, strategic thinking, and the ability to

communicate this vision to others. In addition, leadership in the context of economic transformation requires the ability to manage change and innovation. This means being capable of creating a culture that supports experimentation, learning, and adapting to new situations. A significant part of this process is the ability to manage risk and uncertainty, which are integral parts of the innovation processes (Bughin et al., 2018).

Last but not least, leadership in the context of economic transformation means being capable of leading people. This involves the ability to motivate and inspire people, guide them through changes, and create an environment where they feel valued and engaged. In this context, emotional intelligence and the ability to build strong relationships are key (Bessen, 2019). To conclude the discussion, it can be added that leadership in the context of economic transformation is a complex task that requires a wide range of skills and competencies. Leaders must not only be able to see and understand the changes occurring in the economic environment, but they also need to be able to manage change, innovation, and people in this dynamic and often uncertain context.

4 Conclusion

In the context of analyzing the examined issues, attention was primarily given to the key role of human capital in the process of transforming the digital economy. Currently, in an era of rapid technological development and digitalization, it can be stated that human capital is the cornerstone of sustainable growth and innovation. The analysis and evaluation of the issues indicate that the process of the efficiency of digital transformation is closely linked with the value and contribution of human capital. Highly qualified, well-trained, and motivated individuals are capable of effectively utilizing new technologies, leading to increased productivity, innovation, and improved competitiveness.

This study also emphasizes the need to update the overall vision, goals, and strategies focused on the development of human capital. Investments in education, professional training, and lifelong learning are essential to prepare the workforce for the challenges and opportunities brought by the digital economy. While the digital economy brings numerous benefits, it is important to remember that these benefits can be fully utilized only if society, for example, at the level of the education system and the business environment, is able to provide support for the development of the desired competencies and skills. Without this, we risk creating a “digital divide”, where only a small part of society truly benefits from the advantages of the digital economy.

In the final considerations, it is important to emphasize that in the context of the digital economy, the role of human capital becomes even more important. A society and economic environment that can effectively develop and utilize their human capital will have a significant competitive advantage in the future. Conversely, those who are unable to keep up with changes face the risk of decline. In this context, it is necessary to pay increased attention to policies and strategies focused on the development of human capital and its effective use in the digital economy.

Based on the analysis conducted, it is clear that human capital plays a key and irreplaceable role in the context of transforming the digital economy. This finding has a significant impact on the needs of practice and the perspective of future sustainable development.

Lifelong learning and professional training, reflecting the requirements of the business environment and the labor market, can be considered a decisive factor in the sustainable growth of the digital economy. Current and future generations must be prepared for the constantly new challenges in the context of innovative technologies. This means that educational systems must be flexible and adaptable, aiming for the continuous development

and updating of skills and competencies required in Industry 4.0. In an era of rapid technological changes, continuous learning and improvement are necessary to maintain competitiveness in the job market.

It is important to emphasize the utilization of innovative technologies themselves to support and develop human capital. New technologies, such as artificial intelligence (AI), big data analytics, and innovative forms of teaching, can be effectively used to support the development of competencies, increase productivity, and efficiency. Finally, it is crucial to create an inclusive environment and broad accessibility to innovative technologies. This means ensuring the availability of technology and education regardless of an individual's background, age, or social status. By creating conditions for equal opportunities, the emergence of a "digital divide" can be prevented and it can be ensured that the opportunity to benefit from the advantages of the digital economy is available to all members of society.

Bibliography

- Acemoglu, D., & Restrepo, P. (2017). *Robots and jobs: Evidence from US labor markets*. NBER working paper No. 23285. National Bureau of Economic Research. <https://doi.org/10.3386/w23285>
- Arntz, M., Gregory, T., & Zierahn, U. (2016). *OECD social, employment and migration working papers No. 189. The risk of automation for jobs in OECD countries*. OECD. <https://doi.org/10.1787/5jlz9h56dvq7-en>
- Bawden, D. (2008). Origins and concepts of digital literacy. In C. Lankshear, & M. Knobel (Eds.), *Digital literacies: Concepts, policies and practices* (pp. 17-32). Peter Lang Publishing.
- Becker, G. S. (2015). *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Bessen, J. E. (2019). *AI and jobs: The role of demand*. NBER working paper No. 24235. National Bureau of Economic Research. <https://doi.org/10.3386/w24235>
- Bloom, D. E., Canning, D., & Sevilla, J. (2004). The effect of health on economic growth: A production function approach. *World Development*, 32(1), 1-13.
- Brynjolfsson, E., & McAfee, A. (2016). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.
- Bughin, J., Hazan, E., Lund, S., Dahlström, P., Wiesinger, A., & Subramaniam, A. (2018). *Skill shift: Automation and the future of the workforce*. McKinsey Global Institute. <https://www.mckinsey.com/featured-insights/future-of-work/skill-shift-automation-and-the-future-of-the-workforce#>
- Case, A., & Deaton, A. (2020). *Deaths of despair and the future of capitalism*. Princeton University Press.
- CEDEFOP. (2020). *Skills forecast: Trends and challenges to 2030*. Publications Office. <https://doi.org/10.2801/4492>
- Edvinsson, L., & Malone, M. S. (1997). *Intellectual capital: The proven way to establish your company's real value by measuring its hidden values*. Judy Piatkus.
- Fitzpatrick, G. (2021). Future digital challenges: Social-emotional skills as critical enablers for good technical design work. In *Human-computer interaction – INTERACT 2021* (pp. 34-38). Springer International Publishing. https://doi.org/10.1007/978-3-030-85623-6_4
- Grimaldi, M., & Hanandi, M. (2013). Evaluating the intellectual capital of technology transfer and learning public services. In *International Journal of Engineering Business Management*, 5. <https://doi.org/10.5772/56002>

- Hanushek, E. A., & Woessmann, L. (2016). *The knowledge capital of nations: Education and the economics of growth*. MIT Press.
- Heckman, J. J. (2000). Policies to foster human capital. *Research in Economics*, 54(1), 3-56. <https://doi.org/10.1006/reec.1999.0225>
- Mačiulytė-Šniukienė, A., & Matuzevičiūtė, K. (2018). States impact of human capital development on productivity growth in EU member. *Business, Management and Education*, 16(1), 1-12. <https://doi.org/10.3846/bme.2018.66>
- Miller, W. L., & Morris, L. (1998). *Fourth generation R&D: Managing knowledge, technology, and innovation*. John Wiley & Sons.
- Piketty, T. (2020). *Capital and ideology*. Harvard University Press.
- Poláková, M., Suleimanová, J. H., Madzík, P., Copuš, L., Molnárová, I., & Polednová, J. (2023). Soft skills and their importance in the labour market under the conditions of Industry 5.0. *Heliyon*, 9(8), e18670. <https://doi.org/10.1016/j.heliyon.2023.e18670>
- Schleicher, A. (2018). *World class: How to build a 21st-century school system*. OECD Publishing.
- Smith, A. (2010). *The Wealth of Nations*. Wiley.

Contact Data:

Mgr. Rastislav Zábajník, PhD.
University of Ss. Cyril and Methodius in Trnava
Faculty of Mass Media Communication
Nám. J. Herdu 2
917 01 Trnava
SLOVAK REPUBLIC
rastislav.zabojnik@ucm.sk
ORCID-ID: <https://orcid.org/0000-0001-7357-2905>

EDITORIAL POLICY

“*Marketing Identity*” is a reviewed book of conference proceedings published annually by the Faculty of Mass Media Communication University of Ss. Cyril and Methodius in Trnava, Slovakia. The conference proceedings present the most significant theoretical, research and professional contributions to the international scientific conference “Marketing and Media Identity” in order to provide the included works with wider scientific and professional recognition.

The papers are written exclusively in English; all of them are reviewed and selected by the Scientific Committee of the conference proceedings. The Editors of “*Marketing Identity*” fully respect the principles of academic writing in order to ensure that both form and content of the published texts comply with the set criteria. They actively participate in domestic and foreign academic events, contributing to scientific and research progress and expansion of existing set of knowledge from the fields of marketing communication, media studies and related topics and issues.

In case a published text (or a manuscript intended for publication) violates the principles of ethical or professional approach to citing works of other authors, eventually, if entire texts or their parts are proven to be plagiarisms or authors' own works already published in the past or simultaneously in other specialised publications, the authors and co-authors take on the full responsibility. The editors of “*Marketing Identity*” consistently mind the need to avoid similar situations. Final versions of all accepted manuscripts are checked in detail to make sure that the professional procedures and ethical principles associated with academic writing and referring to works of other authors have been respected.

Publishing in “*Marketing Identity*” is free of charge, i.e., not liable to any form of payment or voluntary financial gift.

MARKETING IDENTITY: AI – THE FUTURE OF TODAY

Conference Proceedings from the Annual International Scientific Conference „Marketing and Media Identity: AI – The Future of Today“, 14th November 2023, Trnava, Slovakia.

Editors: Mgr. Monika Prostináková Hossová, PhD.
Mgr. Matej Martovič, PhD.
JUDr. PhDr. Martin Solík, PhD.

Publisher: University of Ss. Cyril and Methodius in Trnava, Slovakia

Faculty of Mass Media Communication
University of Ss. Cyril and Methodius in Trnava
Nám. J. Herdu 2
917 01 Trnava
Slovak Republic



Pages: 457

© University of Ss. Cyril and Methodius in Trnava, Slovakia, 2023

Trnava, 2023

ISBN 978-80-572-0415-2

ISSN 2729-7527

ÜCM FMK

ISBN 978-80-572-0415-2
ISSN 2729-7527
Trnava 2023