

## **THE INFLUENCE OF DIGITAL TECHNOLOGIES ON CONSUMER BEHAVIOR**

**SANJA BIJAKŠIĆ**

University of Mostar

Trg hrvatskih velikana bb, 88000 Mostar, Bosna i Hercegovina

sanja.bijaksic@sum.ba

**ORNELA LEKO**

Faculty of Humanities and Social

Sciences of the University of Mostar

Matice hrvatske 1, 88000 Mostar, Bosna i Hercegovina

ornela.leko@ff.sum.ba

**BORIS MARTINOVIĆ**

Postgraduate doctoral programme

University of Mostar

Trg hrvatskih velikana bb, 88000 Mostar, Bosna i Hercegovina

boris.martinovic@phd.sum.ba

### **ABSTRACT**

*Due to globalization, the variances among markets are increasingly diminishing, concurrently with consumers becoming more educated and demanding to satisfy their specific needs. The accelerated development of digital technologies significantly contributes to these phenomena. Adopting digital technologies has become the predominant mode of communication between manufacturers and consumers and a means of socialization within the population. The distinctions between the offline and digital worlds are becoming less discernible. Digital technologies are shaping the individual's world and encouraging specific behaviors. They facilitate the organization of both professional and private life, ranging from scheduling meetings to orchestrating activities in one's personal life. Simultaneously, they are employed for product searches, generating insights about them, and facilitating purchases. Thus, consumer digital behavior has emerged as a phenomenon that compels researchers and organizations to engage in ongoing investigation and adaptation to garner new insights or enhance their business processes. It can be asserted that digital technologies have become an indispensable daily practice for every individual, irrespective of their lifestyle or life choices. This study aims to identify consumer behaviors through the utilization of digital technologies. The research findings will elucidate the types of content most frequently accessed by the population through digital technology.*

**KEYWORDS:** digital technologies, consumer digital behavior, marketing.

## 1. INTRODUCTION

During the past decades, digital technology and the development of social media have significantly changed how consumers worldwide live, work, and alter their purchasing habits. Modern consumers value their time and prefer to make purchases when it suits them while comparing products to find the best quality-price ratio that meets their needs. The development of social media enables consumers to connect to virtual communities, facilitating the exchange of information. Naturally, increasingly educated and demanding consumers exert pressure on companies, urging them to keep up with these changes and improve the online consumer experience. Companies that quickly recognize and adapt to these changes are the ones that can become market leaders in the future. However, companies must be aware that, regardless of the characteristics of their market segment, their approach to consumers and communication with them cannot remain the same. They cannot rely solely on traditional communication channels that were primary in the past. The approach to communication must change, and companies must urgently embrace digital transformation, enabling them to better track environmental changes, engage in more effective communication with all stakeholders, and explore new ways to position their brand [Kostić-Stanković, et al., 2020].

## 2. PREVIOUS RESEARCH

The digital revolution has significantly influenced changes in consumer behavior and digital activity, resulting in a new individual culture where consumers are not just information users but collaborators, co-creators, and consumers themselves [Solomon, 2013]. Technological advancements have changed the flexibility of businesses and the speed of digital transformation [Deloitte, 2022]. The development of modern technology provides new opportunities for both consumers and businesses. To remain competitive, companies must acquire new technologies to interact with consumers. On the other hand, the digital environment offers individuals opportunities for personal and professional development, communication with family and friends, and daily access to various services. Therefore, companies make significant efforts in recognizing the desires and needs of individuals to adapt their business processes and services offered in the digital environment. Companies that fail to accept new ways of operating in the digital environment lose their competitive edge. Consumers in the digital environment differ significantly from “traditional” consumers primarily because the online environment offers the possibility of profiling consumers, creating consumer personas, and collecting consumer feedback through reviews and comments [Mahmutović, 2021]. Understanding the desires and needs of consumers in the online environment is essential, requiring the classification of their habits. Various studies explain consumers' digital habits by classifying users using different access technologies such as general media, the internet, social networks, and online shopping [Brandtzæg, 2010; Livingstone and Helsper, 2007]. Kalmus et al. [2011] identified two motives for using digital technologies: social networking, entertainment, and connection with work and information. The same authors propose that comprehensive classifications can be used to distinguish between internet, social, accessible, and informational services [Kalmus, et al., 2011]. Landers and Lounsbury [2006] classified the use of digital technologies according to social needs, leisure time, and academic internet usage. Van Deursen and van Dijk [2014] identified a comprehensive range of seven types of consumer activities: personal development, leisure time, commercial transactions, social interactions, information, news, and gaming. Researchers have gone further by connecting categories of digital technology usage with socio-demographic variables and lifestyle, finding that people with lower levels of education in the Netherlands use the internet more frequently and for longer hours per day than those with higher

education levels [Van Deursen and van Dijk, 2014]. Gender analysis shows that adult women are more likely to use internet communication tools [Zillien and Hargittai, 2009], confirmed by later studies of Lemenager et al., [2020] showing increased usage of digital technologies for browsing information and social networking by women during the COVID-19 pandemic. The same authors found that during the pandemic, the male population increased the volume of online gaming usage. Similarly, studies indicate that women are more likely to buy groceries online than men [Naseri and Elliott, 2011; Saphores and Xu, 2020] and that consumers with higher levels of education and income tend to have a greater inclination towards online food purchasing [Saphores & Xu, 2020]. Earlier studies among younger participants (adolescents) suggest that females (girls) spend more time on social media and smartphones, while males (boys) engage more in online gaming [Twenge & Martin, 2020]. Overall, males tend to use digital technologies more for online gaming [Kim et al., 2016], while the time spent on digital technologies among adolescents has doubled, with the average American teenager spending up to nine hours daily on digital technologies for entertainment purposes [Twenge, et al., 2019; Common Sense Media, 2015]. The World Health Organization acknowledges the potential of digital health technologies to improve health as a supplement to traditional health services [WHO, 2021]. Individuals with developed digital skills are more inclined to explore digital health measures to enhance their health and well-being [Hao et al., 2024]. Given the diversity in content consumption habits through digital technologies as indicated by various global studies, the authors decided to explore consumer behavior in Bosnia and Herzegovina with the following objectives: 1) To investigate content consumption on digital technologies; 2) To examine significant differences in content consumption on digital technologies, both in general and in frequency, with regard to gender of respondents.

### 3. METHODOLOGY

The research was conducted in April 2024 and included 280 participants from Bosnia and Herzegovina. It was an online survey, with the questionnaire prepared and hosted on the SurveyMonkey platform. The survey link was distributed via email and communication applications such as Viber and WhatsApp. The authors developed the questionnaire used in the research based on similar studies. It consisted of two parts. The first part focused on the online content participants search for and consume: communication (6 options), entertainment (6 options), daily organization (7 options), informing (4 options), hobbies/free time activities (3 options), transactions (7 options), and education (4 options). Participants had the option to add other content not provided by the authors. To indicate the frequency of searching and consuming specific content, participants were presented with the following categories: 0 - Never use; 1 - Several times a year; 2 - Several times a month; 3 - Several times a week; 4 - Several times a day. The second part included questions related to participant characteristics: gender, age, education, devices for internet access, time of day, and duration of internet usage during the day. Necessary conditions for participation in the research were internet usage, and an elimination question was included at the beginning of the questionnaire: "Do you use the Internet?"

- *Characteristics of the sample*

The sample comprised 210 (75.0%) women and 70 (25.0%) men. The age distribution is as follows: 72 (25.7%) are between 15 and 25 years old, 99 (35.4%) are between 26 and 40 years old, 99 (35.4%) are between 40 and 60 years old, and 10 (3.6%) respondents are over 60 years old. More than half of the respondents have completed higher education (163 respondents, 58.2%), 42 (15.0%) have completed further education, and 75 (26.8%) state that high school is

their highest level of education. By occupation, most of the sample consists of employed individuals (198, 70.7%), and 20.4% are students or pupils.

Analysis was conducted in two ways: investigating consumption habits of individual items (consumes, does not consume) and the frequency of consumption of individual items. To examine differences in the frequency of consumption of individual items, an aggregated result was formed by summing individual responses, where a higher score indicates more frequent consumption.

Data were statistically analyzed in IBM SPSS Statistics 25 (IBM SPSS Statistics for Windows, version 25.0. Armonk, NY: IBM Corp. Released 2017). Results are expressed as number (n) and percentage (%), and mean (M) and standard deviation (SD). The chi-square test and the t-test for independent samples were used to test the statistical significance of the differences. Level  $P=0.05$  was taken as the limit of statistical significance. P values that could not be expressed to three decimal places are shown as  $p<0.001$ .

#### 4. RESEARCH RESULTS

Nearly three-quarters of respondents, precisely 73.2%, indicate that they use the Internet on multiple devices, while 71 respondents (25.4%) state they do so only on a mobile device, and four respondents only on a computer. Most respondents cannot specify when they use the Internet the most, noting that they use it throughout the day (196 respondents, 70%). The others report their usage as follows: 11 (3.9%) in the morning, 20 (7.1%) in the afternoon, 50 (17.9%) in the evening until midnight, and 3 (1.1%) after midnight. When looking at the duration of Internet usage per day, the results are as follows: 53 (18.9%) use the Internet for up to half an hour, 101 (36.1%) use it for one to two hours, and 126 (45.0%) report using it for more than two hours.

- *Content consumption among respondents*

Analysis of specific content in the “Communication” category shows respondents consume the most available content through digital technologies. All respondents use free communication services such as WhatsApp, Viber, Messenger, etc., for sending/receiving messages, while the fewest respondents write comments on published articles or posts (Table 1).

In the “Entertainment” category, a more significant variation in the consumption of available content is observed. Almost all respondents use digital technologies to watch short video clips and music videos, listen to music, etc. More than half of them watch longer video content, post photos or short video clips on social networks, and watch sports content. Only a third of respondents use digital technologies to play video games or post their own content (Table 1).

In the “Daily Organization” category, the most commonly used applications and sites are those for weather forecasts, online dictionaries, spell checkers, calendars, to-do lists, business organizers, etc. The least used are applications for monitoring health status (Table 1).

For “Informing”, respondents most often use digital technologies to read or watch news to stay informed about important current events (Table 1). They also usually search for products they want to buy and read their reviews. They relatively frequently read reviews of restaurants, cafes, and clubs. The fewest respondents state that they search for jobs through digital services.

When considering activities respondents do as “Hobbies”, it was found that they most often use digital technologies for photography and photo editing, adding effects, cropping photos, etc., and least often for running their own blog or vlog (Table 1).

The results obtained for the options in the “Transactions” category show that the majority of the offered applications are used by between 50% and 80% of respondents. The most frequently used are applications for online shopping and applications for bill payments via the Internet or mobile banking. The least used are applications for online betting (Table 1).

The results show that in the “Education” category, respondents most often use digital technologies for reading online educational content, while they least often use them for attending online courses and education (Table 1).

Table 1. Consumption of specific content among respondents

	Does not consume		Consumes	
	n	%	n	%
<b>Communication</b>				
Services of sending/receiving messages via free communication services such as WhatsApp, Viber, Messenger, etc.	0	0.0	280	100.0
Video call services via free communication services such as WhatsApp, Viber, Messenger, etc.	26	9.3	254	90.7
SMS messages and calls via the service of the mobile operator.	23	8.2	257	91.8
Voice messages/phoning via free communication services such as WhatsApp, Viber, Messenger, etc.	17	6.1	263	93.9
Writing comments on published articles or posts.	180	64.3	100	35.7
E-mail communication.	21	7.5	259	92.5
<b>Entertainment</b>				
Watching short video content, videos, video clips, listening to music, etc.	5	1.8	275	98.2
Watching sports events - matches, competitions, races, etc.	115	41.1	165	58.9
Playing video games – online or offline	187	66.8	93	33.2
Watching longer video content - movies, TV series, documentaries.	62	22.1	218	77.9
Posting your own video content and clips.	184	65.7	96	34.3
Posting photos or short video content on social networks.	90	32.1	190	67.9
<b>Daily organization</b>				
Calendar, “to-do” list, business organizer etc.	78	27.9	202	72.1
Device and/or applications for monitoring exercise – fitness trackers, counters for steps, calories, heart rate, etc.	130	46.4	150	53.6
Applications for monitoring health status.	185	66.1	95	33.9
Recipes, ideas and tips for food preparation.	67	23.9	213	76.1
Dictionary, spell checker (e.g. Google Translate, Grammarly).	44	15.7	236	84.3
Lifestyle bloggers who, for example, travel or visit restaurants, deal with fashion, etc.	107	38.2	173	61.8
Weather apps and sites.	21	7.5	259	92.5
<b>Informing</b>				
Reading or watching the news, informing about important current events.	7	2.5	273	97.5
Searching and browsing for products you want to buy and reading reviews of those products.	25	8.9	255	91.1

	Does not consume		Consumes	
	n	%	n	%
Looking for jobs through digital services.	138	49.3	142	50.7
Reading reviews of restaurants, cafes, clubs you plan to go to (e.g., Trip Advisor).	68	24.3	212	75.7
<b>Hobbies</b>				
Photography and photo processing, adding effects, cutting photos, etc.	86	30.7	194	69.3
Reading electronic books or listening to audio books.	157	56.1	123	43.9
Running your own blog and vlog.	256	91.4	24	8.6
<b>Transactions</b>				
Applications for online betting.	253	90.4	27	9.6
Applications or sites for ordering ready-made food.	147	52.5	133	47.5
Applications for paying bills via the Internet or mobile banking.	67	23.9	213	76.1
Applications for booking accommodation (hotels, apartments, etc.).	96	34.3	184	65.7
Applications for buying travel tickets.	124	44.3	156	55.7
Applications for online purchase of tickets for cinema, concerts, matches, festivals, etc.	119	42.5	161	57.5
Applications for online shopping - buying various products via the Internet.	57	20.4	223	79.6
<b>Education</b>				
Reading educational online content.	29	10.4	251	89.6
Searching scientific databases.	81	28.9	199	71.1
Browsing different tutorials.	58	20.7	222	79.3
Attending online education and courses.	130	46.4	150	53.6

Source: Authors

Frequency analysis of consuming various types of content using digital technologies among respondents who highlighted consuming specific content shows that content related to everyday organization is consumed the most. In contrast, content related to hobbies is consumed the least (Table 2). Respondents using digital technology frequently use digital technologies to consume entertainment content and engage in online transactions.

Table 2. Ranking of content categories according to frequency of consumption

	M (SD)	Ranking
Communication	17.73 (3.27)	2
Entertainment	15.84 (4.16)	3
Daily organization	18.02 (4.79)	1
Informing	9.42 (2.66)	5
Hobbies	6.94 (2.05)	7
Transactions	14.13 (4.49)	4
Education	8.46 (2.78)	6

Source: Authors

- *Content consumption with regard to the gender of the respondents*

The analysis of the consumption of specific content on digital technologies with regard to the gender of the respondents shows significant differences in all categories except for the “Communication” category.

In the “Entertainment” category, it was found that more men use digital technologies to watch sports events and play video games. At the same time, women are more active in posting photos or short video content on social media. Significant differences were found in several subcategories in the “Daily Organization” category, all favoring women. Women use digital technologies more for task management, tracking exercises, searching for recipe ideas and cooking tips, following lifestyle bloggers, and as a dictionary and spell checker than men. In the “Informing” category, it was observed that more women use digital technologies to read or watch the news, search for products they want to buy, and read reviews about them.

Furthermore, photography and photo editing, adding effects, cropping photos, and similar activities are more commonly performed by women than men. Online betting applications are more prevalent among men, while online shopping applications are more popular among women. In the “Education” category, a significant difference was found in the option of searching scientific databases – it was noticed that this is practiced more by women.

Table 3. Consumption of certain contents with regard to the gender of the respondents

	Men		Women		p
	n	%	n	%	
<b>Communication</b>					
Services of sending/receiving messages via free communication services such as WhatsApp, Viber, Messenger, etc.	70	100.0	210	100.0	-
Video call services via free communication services such as WhatsApp, Viber, Messenger, etc.	63	90.0	191	91.0	0.812
SMS messages and calls via the service of the mobile operator.	65	92.9	192	91.4	0.706
Voice messages/phoning via free communication services such as WhatsApp, Viber, Messenger, etc.).	67	95.7	196	93.3	0.470
Writing comments on published articles or posts.	25	35.7	75	35.7	1.000
E-mail communication.	66	94.3	193	91.9	0.512
<b>Entertainment</b>					
Watching short video content, videos, video clips, listening to music, etc.	69	98.6	206	98.1	0.794
Watching sports events - matches, competitions, races, etc.	53	75.7	112	53.3	0.001
Playing video games – online or offline.	34	48.6	59	28.1	0.002
Watching longer video content - movies, TV series, documentaries.	58	82.9	160	76.2	0.245
Posting your own video content and clips.	21	30.0	75	35.7	0.383
Posting photos or short video content on social networks.	34	48.6	156	74.3	<0.001
<b>Daily organization</b>					
Calendar, “to-do” list, business organizer etc.	43	61.4	159	75.7	0.021

	Men		Women		p
	n	%	n	%	
Devices and/or applications for monitoring exercise – fitness trackers, counters for steps, calories, heart rate, etc.	29	41.4	121	57.6	0.019
Applications for monitoring health status.	23	32.9	72	34.3	0.827
Recipes, ideas and tips for food preparation.	27	38.6	186	88.6	<0.001
Dictionary, spell checker (e.g. Google Translate, Grammarly).	52	74.3	184	87.6	0.008
Lifestyle bloggers who, for example, travel or visit restaurants, deal with fashion, etc.	23	32.9	150	71.4	<0.001
Weather apps and sites.	64	91.4	195	92.9	0.694
<b>Informing</b>					
Reading or watching the news, informing about important current events.	66	94.3	207	98.6	0.047
Searching and browsing for products you want to buy and reading reviews of those products.	59	84.3	196	93.3	0.022
Looking for jobs through digital services.	39	55.7	103	49.0	0.334
Reading reviews of restaurants, cafes, clubs you plan to go to (e.g., Trip Advisor).	51	72.9	161	76.7	0.520
<b>Hobbies</b>					
Photography and photo processing, adding effects, cutting photos, etc.	40	57.1	154	73.3	0.011
Reading electronic books or listening to audio books.	30	42.9	93	44.3	0.835
Running your own blog and vlog.	6	8.6	18	8.6	1.000
<b>Transactions</b>					
Applications for online betting.	14	20.0	13	6.2	0.001
Applications or sites for ordering ready-made food.	32	45.7	101	48.1	0.730
Applications for paying bills via the Internet or mobile banking.	53	75.7	160	76.2	0.936
Applications for booking accommodation (hotels, apartments, etc.).	47	67.1	137	65.2	0.771
Applications for buying travel tickets.	39	55.7	117	55.7	1.000
Applications for online purchase of tickets for cinema, concerts, matches, festivals, etc.	37	52.9	124	59.0	0.364
Applications for online shopping - buying various products over the Internet.	48	68.6	175	83.3	0.008
<b>Education</b>					
Reading educational online content.	60	85.7	191	91.0	0.213
Searching scientific databases.	42	60.0	157	74.8	0.018
Browsing different tutorials.	53	75.7	169	80.5	0.395
Attending online education and courses.	33	47.1	117	55.7	0.213
*Chi-square test					

Source: Authors

Differences in the frequency of consumption of specific content categories based on gender were found for the “Communication” category, with women using these contents more

frequently (Table 4). For other categories, no significant differences were found between women and men. However, it is possible to observe that women use all kinds of content, except educational content, slightly more often. Both women and men usually consume educational content equally.

Table 4. The frequency of consumption of different types of content with regard to the gender of the respondents.

	Man	Woman	P*
	M (SD)	M (SD)	
Communication	15.65 (3.01)	18.45 (3.06)	<0.001
Entertainment	14.83 (3.13)	16.47 (4.67)	0.293
Daily organization	17.00 (2.58)	18.09 (4.91)	0.665
Informing	9.22 (2.31)	9.49 (2.79)	0.617
Hobbies	6.75 (.96)	7.00 (2.34)	0.841
Transactions	12.00 (1.63)	16.00 (5.42)	0.084
Education	8.46 (2.95)	8.46 (2.76)	0.995
* t test for independent samples			

Source: Authors

## 5. DISCUSSION

The results of the conducted research indicate the versatility in consumer behavior regarding the use of digital technologies across various categories, aligning with previous classifications and usage habits [Livingstone and Helsper, 2007; Brandtzæg, 2010; Van Deursen and van Dijk, 2014]. Furthermore, respondents utilize digital technologies for various activities throughout the day [Rodrigues et al., 2021], as confirmed by 70% of the participants in this study. This finding suggests that communication is continuous, and companies must always be “vigilant” to maintain a competitive advantage. An interesting point is the time spent on the internet, with 45% of the participants in this research stating that they spend more than two hours online. Through analysis of the offered content in individual categories, it can be concluded that respondents utilize all types of content. For instance, most respondents use digital technologies for online shopping and Internet banking, indicating a well-developed market and businesses or individuals who have digitalized their operations, enabling such consumer activities.

In contrast, the research results in the category of everyday organization indicate less frequent use of health status tracking applications (men 32.9%, women 34.2%), which may suggest the continued presence of traditional communication habits with healthcare providers and simultaneously presents an opportunity for the digitalization of the healthcare sector. Considering gender, the results of this research indicate higher activity among women in digital technologies across almost all categories, such as posting photos, tracking exercises, managing tasks, searching scientific databases, and online shopping. Men are more oriented towards online gambling, which aligns with the findings of previous research on gender-specific digital technology usage habits [Kim et al., 2014; Salmensalo et al., 2020].

## 6. CONCLUSION

The development of digital technologies provides the groundwork for transforming human lives. As individuals spend hours daily on digital platforms, continuous research into digital consumer behavior is essential for companies to adapt their business processes and maintain competitiveness. The research results are practical and expected. They indicate extensive use of digital technologies in terms of time and access to the devices: 70% of respondents use the internet throughout the day and 73.2% of participants use the internet across various devices. Consumers, whether searching for information, reading educational content, communicating with friends, or making purchases, compel companies to embrace new trends and rapidly develop their digital processes and services. Analysis of consumption across different categories via digital technology indicates that respondents primarily consume content related to everyday organization, while hobbies are least consumed. The most commonly used content in everyday organizations can be a solid foundation for computer and mobile device manufacturers to enhance their products and services. Results concerning content consumption via digital technologies by gender show that women lead in consuming more content across various categories. Women utilize digital technologies for task management, exercise tracking, recipe searching, following lifestyle bloggers, and social media communication. The findings also indicate higher online shopping consumption by the female population, consistent with previous research.

Conversely, men tend to consume digital technologies more for online gaming, betting, and watching short video clips, while similar preferences are observed between men and women in “Communication” content category. Focusing on the purposes for which people use the internet in association with psychographic characteristics should prompt consideration and examination of the specific needs of different user groups, which can provide valuable material for digital user segmentation by companies. Furthermore, considering the types of content consumed by women on digital technologies, companies should contemplate their future promotional programs. Devising promotional campaigns that appeal to women, emphasizing features such as online shopping, could confer a competitive advantage for the company.

It would be beneficial in future research to set longer timeframes for digital technology consumption, such as three, five, or more hours, to compare data with European or global trends regarding time spent on digital technologies (e.g., American teenagers spending over nine hours daily on the internet). The study compared respondents' attitudes by gender. In contrast, other respondent characteristics were not considered, warranting exploration of potential differences based on other characteristics in future research, primarily age but also gender and age combinations. Moreover, increasing the sample size to investigate consumer digital behavior further is necessary to draw more valuable conclusions.

## REFERENCES

- [1] Brandtzæg, P.B. (2010). Towards a unified Media-User Typology (MUT): a meta-analysis and review of the research literature on media-user typologies. *Computers in Human Behavior*, 26 (5), p. 940–956, 2010.
- [2] Common Sense Media. (2015). The Common Sense Census: Media use by Tweens and teens. [https://www.commonsensemedia.org/sites/default/files/uploads/research/census\\_researchreport.pdf](https://www.commonsensemedia.org/sites/default/files/uploads/research/census_researchreport.pdf), accessed: (25. May 2024).

- [3] Deloitte, (2022). Banking & Financial Services Consumer Behavior, <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/strategy/in-consulting-strategy-bfs-consumerbehavior-062016-noexp.pdf>, accessed: (23 May 2024)
- [4] Hao, J; Junqiang, D; Weiguang, P; Yingying, Y. (2024). Associations between digital literacy, health literacy, and digital health behaviors among rural residents: evidence from Zhejiang, China. *International Journal for Equity in Health*, 23 (68), p. 2-20. 2024.
- [5] Kalmus, V; Realo, A; Siibak, A. (2011). Motives for Internet Use and Their Relationships with Personality Traits and Socio-demographic Factors. *Trames-Journal of the Humanities and Social Sciences*, 15 (4) 385–403, 2010.
- [6] Kostić-Stanković, M.; Bijakšić, S.; Čorić, N. (2020) Influencer marketing as a way of promoting a brand via social networks, *CroDiM*, Vol. 3, No. 1, 146-158
- [7] Koss, V; Azad, S; Gurm, A; Rosenthal, E. (2013). This Is for Everyone. *The Case for Universal Digitisation*. Booz & Co. London, UK.
- [8] Kim, N. R.; Suk-Hyung, H. S.; Young-Seok, K. et. al. (2016). Characteristics and Psychiatric Symptoms of Internet Gaming Disorder among Adults Using Self-Reported DSM-5 Criteria. *Psychiatry Investig*, 13(1), p. 58-66, 2016.
- [9] Lemenager, T; Neissner, M; Koopmann, A; Reinhard, I; Georgiadou, E; Müller, A; Hillemacher, T. (2021). COVID-19 lockdown restrictions and online media consumption in Germany. *International Journal of Environmental Research and Public Health*, 18 (1), p. 14, 2021.
- [10] Landers, R.N; Lounsbury, J.W. (2006). An investigation of Big Five and narrow personality traits in relation to Internet usage. *Computers in Human Behavior* 22 (2), p. 283–293, 2006.
- [11] Livingstone, S; Helsper, E. (2007). Gradations in digital inclusion: children, young people and the digital divide. *New Media & Society* 9 (4), p. 671–696, 2007.
- [12] Mahmutović, K. (2021). *Digitalni marketing: strategije, alati i taktike*, University of Bihać, Faculty of Economics Bihać, Bihać.
- [13] Naseri, M.B; Elliott, G. (2011). Role of demographics, social connectedness and prior internet experience in adoption of online shopping: applications for direct marketing. *Journal of Targeting Measurement and Analysis for Marketing*, 19 (2), p. 69–84, 2011.
- [14] Rodrigues, A. L.; Cerdeira, L.; Machado-Taylor, M. L; Alves. H; (2021). Technological Skills in Higher Education—Different Needs and Different Uses, *Education Sciences*, 11, 326, 2021.
- [15] Salmensalo, M; Ruotsalainen, H.; at. al. (2022). Associations between digital gaming behavior and physical activity among Finnish vocational students. *Journal of Public Health*, 32 (4), str. 53-63, 2024.
- [16] Solomon, M.R; Russell-Bennett, R; Previte, J. (2013). *Consumer Behaviour: buying, having, being*. 3. ed., Pearson Australia.
- [17] Saphores, J.D.; Xu, L. (2020). E-shopping changes and the state of e-grocery shopping in the US evidence from national travel and time use surveys. *Research in Transportation Economics*. 87, str. 10-11, 2020.
- [18] Twenge, J. M; Martin, G. N. (2020). Gender differences in associations between digital media use and psychological well-being: Evidence from three large datasets. *Journal of Adolescence*, 79, str. 91–102, 2020.
- [19] Twenge, J. M.; Spitzberg, B. H; Campbell, W. K. (2019). Less in-person social interaction with peers among U.S. adolescents in the 21st century and links to loneliness. *Journal of Social and Personal Relationships*, 36 (6), p.1892-1913, 2019.
- [20] Van Deursen, A. J.; Van Dijk, J. A. (2014). The digital divide shifts to differences in usage. *New Media & Society*, 16 (3), p. 507–526, 2014.

- [21] Zillien, N; Hargittai; E. (2009). Digital distinction: status-specific Internet uses. *Social Science Quarterly* 90 (2), p. 274–291, 2014.
- [22] World Health Organization. (2018). Digital health. World Health Organization, Geneva, <https://iris.who.int/bitstream/handle/10665/344249/9789240020924-eng.pdf>, Accessed: (27. May 2024).