

The evaluation of expected impact of modern technologies: Consumer attitudes

Vladimíra Michálková¹, Tereza Waldhauserová²

Abstract: The aim of the paper is to identify consumer expectations in terms of positive and negative impact of using modern technologies. Within the specified focus group, both benefits and risks of specific and general types and forms of digitization of this consumer segment are identified.

Keywords: consumer, digitalization, focus groups, marketing, modern technologies

JEL Classification: G32, G33, C35

1 Introduction

At the beginning of the digitization era, information and its use were defined (only) in the direction of the positive development of society and the organization. This fact stems from the fact that digital technologies have expanded over time to in many areas and in organizations as well as in the personal lives of individuals in society, which has created many new phenomena in the field of digitization.

During the decade, however, there was a great technological revolution, globalization, interconnection, overcoming the time-space discrepancy, and, above all, the speed of the spread of information. However, the development of innovation in this direction has caused the appearance of the opposite - i.e. the negative side of digitization.

Under the term digitization, we can imagine a summary of activities such as the mass deployment of technical means, new networks, software, robotization, and automation. There are many definitions, some are no longer valid, and others have been modified or modernized for the needs of modern times, but for example, the formulation by Psohlavec (1999) remains a still applicable definition.

„Digitalization is the conversion of selected measurable physical quantities of a digitized object into numerical values, their coding and storage to later generate other physical quantities to enable the later user to have physiological sensations replacing the direct perception of the original. (Psohlavec, 1999). Digitization is a process that converts and changes the recorded data into a digital (i.e. computer-readable) format. This results in preserving and securing the data and information which can be a document or a sound, image, or an object maybe forever as digitized information which can be stored safely and securely indefinitely. It is usually done by converting an analog signal into digital signals which records the information in binary coding or binary numbers in one zeroes.

This process of converting analog signals to numerical values or numbers is known as “digital convergence” or digitization. This process helps to keep the information intact and there is no loss or degradation of data which preserves the information.

In the 21st century, digitization has an immense influence on the functioning of the economy and society. A so-called digital transformation is taking place. Digitization has a major impact on our education, employment, health and leisure time. In most cases, digitization is received positively, but we often encounter negative opinions as well.

According to Colvin (2015), we need to understand a fundamental fact that is more serious than perhaps we realize, it is the fact that the very nature of work is changing, and the skills that the economy values are changing. Humanity has already experienced similar historical shifts a few times, the most famous being the Industrial Revolution. Those who did not want to accept this shift fell away. Those who accepted it as their own at least got a chance for a much better life. The same is happening this time. Today, everyone owns a computer, mobile phone or other digital device.

Veber (2018) talks about the so-called information society, where „information and its use has a positive effect the development of both organizations that focus on their collection, preservation, processing and use, as well as whole ones companies that consider information a valuable asset for their development.“

¹ University of South Bohemia, Faculty of Economics, Department of Trade, Tourism and Languages, Studentská 787/13, České Budějovice 370 05, Czech Republic, vladimira.bud@gmail.com

² University of South Bohemia, Faculty of Economics, Department of Trade, Tourism and Languages, Studentská 787/13, České Budějovice 370 05, Czech Republic, waldht00@ef.jcu.cz

According to Csiernik et.al (2006) Technology is not only transforming how people collect and share information but also altering how people interact with one another. The speed of technology has created the lure of immediate gratification and the pressure to communicate more quickly and often with larger numbers of individuals. The fact is that digitization affects not only consumers but also industry. Companies must then respond quickly and flexibly to customer requirements, which are increasingly demanding thanks to competition and the Internet. Therefore, investment in digitization is crucial for every business, regardless of its size. In short, today's times demand digital transformation.

Louis Rossetto (PEW RESEARCH CENTER JULY 3, 2018), self-proclaimed “troublemaker” and founder and former editor-in-chief of Wired magazine, summed it all up this way: “Digital technology is so broad today as to encompass almost everything. No product is made today, no person moves today, nothing is collected, analyzed or communicated without some ‘digital technology’ being an integral part of it. That, in itself, speaks to the overwhelming ‘value’ of digital technology. It is so useful that in short order it has become an integral part of all of our lives. That doesn’t happen because it makes our lives miserable.”

According to Lindsay Herbert (2017), digital transformation is all about understanding that the rules of the game have fundamentally changed. Westerman et al. (2014) add in their study that with digital transformation, communication with customers itself is also changing (and thus the customer experience is also changing).

The benefits of digitization on the one hand, but also its harm on the other, has its effects on the macroeconomic, corporate and consumer levels. The rise of the digital economy is in any case an advantage for consumers. The digital single market in the EU brings consumers a wider range of goods and services than ever before. At the same time, consumers are better informed about products and their availability. Thanks to the advancement of mobile phones, it is now not the slightest problem to make a quick purchase of anything over the Internet.

The rapid convergence and impact of social media, visual advertisements and e-commerce are creating this chain reaction of this shift in consumer shopping experience (consumer buying behavior), presenting the opportunities that were thought to be impossible before. The key to finding success and an achievement is finding a way to have an effect on these choices via such marketing appraisals that are visually attractive and developing cohesive experiences that combine social media, television and other digital platforms such as e-commerce, e-marketing, kiosks, digitized mode of payments (online transactions) (Heini Lipiäinen (2014).

According to Salomon et.al., (2013) under consumer behavior, we should not only imagine the purchase itself, but also the entire process that preceded the purchase. Where the customer searched, how he made his decision, and above all why he decided to buy the given product. It is important for a company to know how the customer behaves in order to adapt its marketing mix accordingly. However, with the advent of digitization, the behavior of consumers is also changing, and they are now influenced by various reviews, price comparisons and advertisements on social networks. Cheap Chinese e-shops are also entering the market, which import their goods to the Czech Republic mostly for free and sell cheap imitations of various products, thus posing a threat to local companies. "The rapid transmission of information affects the speed and direction of developing trends. And that's because the virtual world lets consumers participate in the creation and dissemination of new products." Like it or not, businesses must listen to consumers now more than ever if they want to succeed.

Digitization makes the process of finding the right product relatively easy for consumers thanks to various websites where they can compare prices with competitors, get recommendations or find a business with better service. Furthermore, they are most influenced by personalized advertising that is very well targeted thanks to the collection of user information data.

Agency SmarterHQ (2019) reports that 79% of consumers think businesses know too much about their purchasing activities and preferences, yet 90% of consumers are willing to provide this information for a more convenient purchase or a more favorable offer. Furthermore, 86% of consumers are in this things concerned about the misuse of their personal data. Consumers in the digital age are increasingly spoiled by personalized advertising, great customer service and the ability to make your purchase from almost any device. All this thanks to companies that literally have to compete to see who can offer a better price combination, quality and customer service. This has made consumers relatively comfortable customers, which is much easier to keep than to acquire.

According to Kumar, Rakesh et.al. (2019) several factors affect consumer behavior. It differs from person to person based on his age, income, sex, education and marital status. Age is an important demographic factor that affects consumer behavior. As people grow, their needs change. Similar changes appear in their buying decision making patterns. With age, our health related needs change and so do our other needs. Age brings changes to people's lifestyle and affects their needs and personal values. When people are young, they spend more on their lifestyle needs like fun, movies and fashion. As they grow older, their expenses on these things grow lower.

Abhijeet Pratap (2017) describes it exactly in his study describes generational differences in consumer behavior. Elderly people mostly remain indoors, however, their health related expenses can grow since an aging body is more prone to diseases. In this way, age becomes one of the fundamental demographic factors that affect consumer behavior and buying decisions. Age does not just affect buying behavior, it is also an important factor in terms of market segmentation and marketing strategy. Marketers segment their target market on the basis of age. Age determines several things and when we retire, our consumption patterns change according to the changing income level. Elderly people are less digitally inclined and therefore their consumption of digital services is lower.

2 Methods

From the literature review above, it is clear that the question of digitization and its influence on modern consumers is not a simple area. Therefore, for the purposes of our pilot research, we first conducted qualitative data collection using the FOCUS GROUP technique with semi-structured sets of questions. The goal was not to reach a consensus or find a single solution, the goal was to get the participants' opinion on the topic of discussion. The individual information was then collected into a final document using the transcription from the recorded recordings. The focus groups method was chosen as the main method intended for qualitative research of a structured discussion on the topic - finding out the effects of digitization on groups of students of the Faculty of Economics of the University of South Bohemia.

The aim of the implementation of the focus group on 4-5.10- 2022 in four groups of students of the field of marketing research was to find out the opinions and attitudes of students of different age groups on the subject of DIGITALIZATION. School classrooms were chosen as a suitable pleasant and familiar environment. The moderator/educator introduced the focus group participants to its course, rules and emphasized the anonymity of answers or discussion contributions. Each question area was timed for 10-15 minutes of structured discussion. The entire course of the focus group was recorded. On the basis of the previous discussion, the moderators processed 5 areas of questions below on the subject of digitization:

Thematic areas of semi-structured questions:

1. How many times do you come across an element or a tool of digitization in your normal day?
2. How much does it affect you personally? How to perceive it? Is it beneficial? What exactly? Is there a limit somewhere when it bothers you? What specifically bothers you?
3. Do you perceive any personalization in the communication with you, do you perceive the communication of content that is adapted directly to you? What content, when, and where do you get it in your normal day?
4. When was the last time a communication influenced your decision-making about something? Was it a rational decision or an emotional one?
5. Digitization represents a natural development, it is supposed to benefit people - do you see it as useful for humanity, now and in the future? What does it bring to the future?

3 Research results

The question of the first thematic area: How many times a day do you encounter some element or a tool of digitization in your everyday life? The moderator added in the discussion: Imagine the imaginary axis of your day and describe each one for yourself, how many times do you encounter something like this, where, and with what?

In the answers to this question, the most frequent answers were several times a day, many times, all the time, all the time, or countless times. Some even stated that the questions should be: when will I not encounter this?

Students then began to mention specific types of digital tools, in addition to mobile phones, for example, applications, videos, online games, e-recipes, electronic systems in education, transport, etc. In this context, they further commented on what daily activities they use the tools, so in addition to studying, they noted: travel, rest, or shopping.

The key question of the second discussion circle: How much does it affect you personally? How do you perceive it? Is it beneficial? What exactly? Is there a limit somewhere when it bothers you? What specifically bothers you?

The moderator added: If you imagine that imaginary axis - when specifically will it help you? When do you care? When does it annoy you? (where is the focus on negative and positive?)

Regarding the question of the benefit of digitization or the influence and effect on everyone in the group, the answers related to awareness or attitude coincided with the majority of those interviewed. The positive benefits prevailed, simpler, immediate, and faster access to information, but also the opportunity to educate and be inspired. They perceived very

strongly targeted and personalized advertisements, censorship on social networks, monitoring of user intentions or misuse of personal data for marketing purposes as negative.

The third question was aimed at personalization: Do you perceive any personalization in communication with you, do you perceive the communication of content that is tailored directly to you? What content, when, and where do you receive it in your typical day?

In the answers to this question, concepts such as advertising appearing purposefully in various marketing formats were repeated, both with a positive and negative impact, sometimes bordering on harassment and ubiquity. Censorship on social networks, monitoring or misuse of personal data for marketing purposes, the untrustworthiness of sources and unverified information resonated strongly in the discussion, and the aforementioned concerns about loss of attention and worsening concentration, especially due to the so-called scolding of dopamine reels of several seconds, were also interesting.

The fourth circle was related to the influence and influencing of decision-making: When was the last time some communication influenced your decision-making about something? Was it a rational decision or an emotional one? The moderator added: When was the last time something made you go shopping, enter a store, open an e-shop on a computer or mobile phone, make a purchase decision, or change your original decision? What specifically influenced you?

On the question of being influenced by advertising, most of the participants in the discussion agreed that they are influenced by advertising when shopping online, in such a way that they mostly act emotionally, sometimes even impulsively. They are influenced more by the persona of the influencer than by written or photographic advertising. In addition, some mentioned the recent stage of the and the related influence of information from the media. They usually choose to visit a physical store to get advice on choosing or choosing the right product. In addition, some mentioned the recent stage of the market and the related influence of media information. They typically prefer visiting physical stores to receive advice on selecting the right product.

The fifth circle pandemic situation (COVID-19) is related to the opinion on the benefits of digitization in general: digitization represents a natural development, and it is supposed to benefit people - do you see it as useful for humanity, now and in the future? What will it bring to the future? The moderator added: where do you encounter digitization? What does it bring you? What does it bring to humanity?

Most of the students agreed that digitization in the future will be beneficial, it will bring about the acceleration of production or the simplification of technological processes, for example, but there will be a need for greater human awareness of how to deal with it.

The results of this focus group became the impetus for the preparation of a proposal for a quantitative questionnaire survey with the following proposed questions:

Rate individual tools or elements of digitization according to importance: Smart technologies (e.g. mobile phone, smartwatch, tablet, computer, laptop, camera, camcorder); Applications for everyday life (eg calendar, notes, reminders, alarm clock, weather); Communication and sharing, social networks (e.g. Skype, Microsoft Teams, Google Meet, Facebook, Instagram, Tik Tok, Youtube); Photos, video, and audio recordings, Internet search engines; online games; digital platforms

On what occasion do you encounter digitalization elements or tools?

What do you see as a positive benefit of digitization?

What phenomena within digital tools bother you?

Rate the consequences of digital media based on their harmfulness.

What do you see as the usefulness of shopping online?

What factors are the strongest motivation for you to make either an online or a physical purchase?

In what areas do you think the development of digitization tools would have the greatest benefit in the future?

4 Conclusions

This contribution was devoted to finding out the impact of digitization on students of the Faculty of Economics in the field of marketing research, taking into account the specifics of the consumption behavior of this generation. This paper aimed to bring a deeper understanding of the group in students' opinions and attitudes toward digitization. Firstly, the theoretical part of the paper focused on the area of digitization and concepts in general, and the greatest attention was focused on the factors of positive or negative effects of digitization. On the one hand, there are benefits of digitization, however, on the other hand, its harmfulness has an impact on the macroeconomic, corporate, and consumer levels.

Using the qualitative focus group method, it was found that almost all participants in the discussion identified with the topics of the structured discussion. It turned out that while for some of the participants, it was important to be aware of the handling of the elements of digitization, for others it was more important to be aware of the influence of digitization. On the other hand, none of the discussed topics was evaluated by any of the participants as absolutely inappropriate, which means that to a certain extent, they have encountered or are encountering the individual factors and influences of digitization at least in a certain way and have formed a personal opinion or attitude towards it.

As the reflection found, a certain narrowing of the elements of digitization to mobile phones, applications, and social networks was the alpha and omega of the interview participants, to which they returned several times in other circles as well. An important insight is that, although some of the statements proved to be strongly resonant, they were very often preceded by other factors that influenced the participants' opinions with priority: disruption of attention, lack of concentration, and personalization. However, it was less about positive personalization in the sense of the authenticity of digitalization elements, but rather the negative benefit of personalized marketing from the perspective of the participant/consumer and the feared invasion of privacy from the perspective of the user of social networks.

From the point of view of the purchase decision-making process, the participants perceive the advantages of online purchases as speed, and availability of products and services, yet they broaden their view to include a certain risk of online purchases in terms of product quality and features. At the same time, the discussion also pointed out that all recommendations did not have the same weight, and in addition to the price, the credibility of recommendations from friends, families, influencers, or reviews, which were rather a secondary source, played an even greater role, while a very critical distance was often kept from them. This was mainly caused by the participants' skepticism regarding the possible manipulation of such sources. Even choosing the wrong influencer to spread the review can damage trust to a critical extent. On the other hand, trust was strengthened especially in brick-and-mortar stores, mainly in connection with the strengthening of trust in the purchase process and advice.

The aforementioned doubts regarding online reviews and recommendations create a question for further research, namely how generationally hidden advertising in online reviews and recommendations is recognized, or to what extent it is allowed to be influenced when shopping. For an even deeper insight into consumer behavior, it would be advisable to carry out research focused on behavior in already specific areas. At the same time, quantitative research is also offered, which will determine when the price becomes so high for consumers from Generation Z that they start to pay much more attention to, for example, reviews and recommendations, for which the price has proven to be a significant determinant. However, such research should again take place with a separate focus on individual categories.

The resulting findings of the qualitative structured discussion will be used in the future as a basis for processing a quantitative investigation of this issue.

Acknowledgement

This publication was created with the support of the GAJU 129/2022/S project 'Economic and financial imbalances at the enterprise, regional and national level'.

References

- Abhijeet,P.(2017). Effect of Demographic Factors on Consumer Behavior: Age, sex, *Income and Education*, (2017, July).
- Bullock, A. N., & Colvin, A. D. (2015). Communication technology integration into social work practice. *Advances in Social Work*, 16(1), 1-14.
- Colvin, G. (2015). *Lidé jsou podceňováni: Co ani nejchytřejší počítače nikdy nebudou umět*. Londýn: Nicholas Brealey Publishing, 232.
- Csiernik, R., Furze, P., Dromgole, L., & Rishchynski, G. M. (2006). *Information technology and social work- the dark side or the light side?* *Journal of Evidence-Based Social Work*, 3(3/4), 9-25
- Herbert, L. (2017). *Digital transformation: Build your organization's future for the innovation age*. Bloomsbury Publishing.
- Kumar, Rakesh & Kumar, Ramesh. (2019). Impact of various demographic factors on consumer behaviour – an empirical study of elektronik products in rural Himachal (India). *Indian Journal of Economics and Business*. 19. 109-127.
- Pilný, I. (2016). *Digitální ekonomika*. BizBooks.
- Psohlavec,S.(1999). *Digitalizace–co tím myslíte*. Ikaros [online] 3.11 (1999).
- Solomon, M.& Bamossy, G. & Askegaard, S.. (2002). *Consumer Behaviour: A European Perspective*. Edinburgh Gate: Pearson Education Ltd. 36-49.
- Solomon, M. et al., 2013. *Consumer behaviour: European Perspective*. Fifth edition. Harlow: Pearson Education, 701.
- Thaler, Richard H., 2015. *Misbehaving: the making of behavioral economics*. New York: W. W. Norton & Company, 432.
- Veber, J. (2018). *Digitalizace ekonomiky a společnosti: Výhody, rizika, příležitosti*. Praha: Management Press, 198.