

Article

The Impact of the Digital World on the Buying Behaviour of Generation Z

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Abstract

Background and aim: This study examines the impact of the digital world on the purchasing behaviour of Generation Z, with a specific focus on the Slovak context. While existing literature often analyses global or non-Slovak populations, this work provides a contextually grounded analysis of how digital exposure, online marketing communications and social networks shape the purchasing preferences of Slovak Generation Z consumers. **Novelty and contributions:** First comprehensive analysis in Slovakia linking digital environment exposure, social media marketing communications, and Generation Z purchase preferences within a clearly defined national context. We integrate context-specific variables (local digital infrastructure, cultural norms, and marketing practices) to identify regionally relevant determinants of online consumer behaviour. We formulate and test hypotheses about the interactions between digital experiences and online marketing channels to produce actionable insights for Slovak marketers and e-commerce platforms. **Research problem and uniqueness:** Problem: How do specific elements of the digital environment influence the purchasing decisions of Generation Z in Slovakia, and which online channels and content types are most effective for this demographic in the local context? Uniqueness: No prior Slovak study has systematically mapped the interrelations between digital exposure, marketing communication on social networks, and purchasing preferences of Generation Z in a local setting. This work contributes to understanding culturally and economically specific factors shaping digital purchasing behaviour in Slovakia. **Methods:** Quantitative study based on a questionnaire survey with a representative Slovak sample. Hypotheses are tested using appropriate statistical analyses to explore relationships between digital exposure, social network marketing communications, and Generation Z purchasing preferences. **Expected results and practical implications:** Identification of the most influential digital channels and content types for Slovak Generation Z consumers. Practical recommendations for local brands and e-commerce platforms to optimise digital campaigns targeting Slovak youth; insights into cultural nuances in consumer behaviour within Slovakia.

Keywords: digital world; purchasing behaviour; Generation Z; digital natives; social networks; consumer; Slovak Republic



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1. Introduction

In today's modern era, when the market is evolving more dynamically than ever before, the so-called digital world is an integral part of its existence, accompanying today's

consumers of different demographic categories daily. With the growth of e-business, economic theory is being enriched by insights gained from analyses of consumer behaviour in the online space. Along with the popularity of various e-business models and the popularity of conducting purchasing activities in this space, marketing strategies have also started to evolve over time, with the main objective of captivating potential consumers through various modes of marketing communication with the help of marketing tools (Zhao & Zhang, 2023; Peña García et al., 2024).

The present paper is devoted to the analysis of the impact of the existence of the digital world on a specific demographic of individuals with the attribute of “digital natives”, i.e., Generation Z. This is a generation of individuals born between 1997 and 2013, whose defining characteristic is their everyday activity in the digital space (Yavuz Aksakal & Ulucan, 2024; Goryunova & Jenkins, 2023).

The objectives of the paper are also related to the fact that there are certain gaps in research. These include the lack of existing studies in the Slovak Republic. Furthermore, the area of investigation is limited geographically, as is the fact that the research focuses on several areas (e.g., social status, behaviour in the digital environment, marketing communication, social networks, and preferences in the digital shopping space), which means that other aspects of the purchasing behaviour of Generation Z may not yet be explored. When focusing on Generation Z, it is possible that comparisons with other generations or age groups are missing, which would increase the complexity and depth of the research, which, however, requires work on another new project in the future. We consider the fact that these gaps create space for further research and expansion of knowledge in the impact of the digital world on purchasing behaviour in the Slovak context.

The generation of consumers born between these years is also known as the “Digitally Active” generation. They grew up with access to modern media and technology and are tech-savvy (Z. Ma et al., 2024). Existing in the digital world is natural for this generation using technology, the internet and social networking from a young age (Malik et al., 2024; Gorynski, 2025). This target group consumes content more than any other age group, spending nearly 11 h a day reading, liking, and sharing material on all their devices (Adobe, 2018). They are very likely to be exposed to digital advertising on social media and check Instagram at least five times a day. This target group prefers to communicate using images as opposed to the previous generation who communicate using text and are looking for innovative content. (Djafarova & Bowes, 2021).

Several different characteristics of Generation Z have been identified in the literature. Members of this group are eager consumers of technology and desire a digital world (Maloni et al., 2019; Ameen et al., 2023). As true digital natives and the only generation raised solely under the influence of technology, Generation Z has become very accustomed to interacting, sometimes exclusively, in the digital world (Dokoupilová et al., 2024). Due to their frequent use of technology, they have underdeveloped social and relationship-building skills, putting them at increased risk of isolation, insecurity, and mental health issues such as anxiety and depression (Solomons et al., 2025). Their technological habits lead them to have a limited ability to concentrate, and they quickly become ‘bored’ when they perceive monotony and repetition. Generation Z prioritizes convenience and quick results, while also being characterized by a pragmatic approach to decision-making. Because this generation grew up in a period of social, political, and economic uncertainty, it is characterized by increased caution and an emphasis on emotional, physical, and financial security. Generation Z is often described as educated, socially and environmentally conscious, but more stressed with a higher propensity for depression compared to older generations (Rice & Potts, 2024). Individuals have high expectations of themselves that largely end up unfulfilled (Lancaster, 1966).

The present paper contains a body of key knowledge from different economic disciplines. It is about concepts such as consumers and consumer behaviour and the factors influencing consumer behaviour. Relevant disciplines deal with modern aspects of consumer existence in the digital world, which are directly related to concepts such as digital marketing and its tools. The paper focuses on Generation Z consumers, which is one of the categories of today's breakdown of individuals in society depending on the interval of years in which they were born. The findings from the literature described below include the perceptions of different sub-issues by different experts in the field. Since the aim of the paper is to identify the effects of the digital world on Generation Z in the Slovak environment, it was necessary to draw on a comprehensive database of scholarly articles and publications to accurately define the modern perception of Generation Z as a consumer. As can be seen from the bibliographic map depicted in Figure 1, the Slovak Republic is not one of the countries where the issue of the digital world has been extensively addressed by authors.

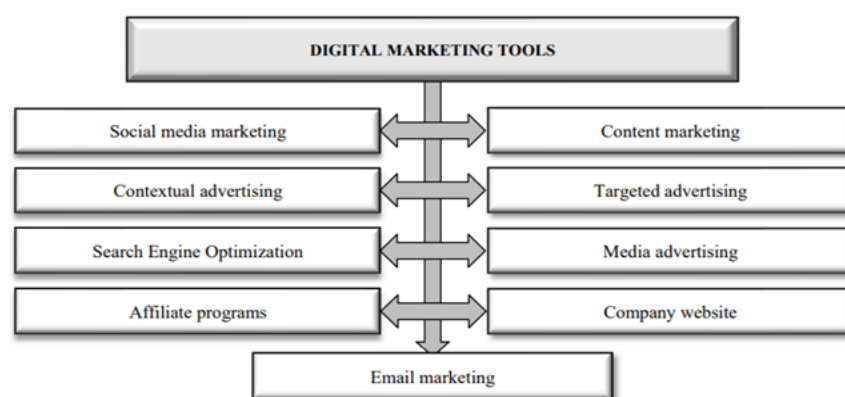


Figure 1. Digital marketing tools.

1.1. Literature Review

As stated in the author's publication (H. Liu et al., 2024), the theory of consumer behaviour in deterministic situations, as set out, for example, by Debreu in 1959–1960 or Uzawa in 1960, is “a jewel in a glass case”. It is the product of a long process of refinement from the utilitarian theorists of the 19th century through Slutsky and Hicks-Allen to the economists of the last 25 years. It has been stripped of all irrelevant postulates, so that it now serves as an example of how to achieve the minimum results from the minimum assumptions. This provoked a response from Johnson in 1958, who suggested with a touch of sarcasm that the determinacy of the sign of the substitution effect (the only substantive result of the theory of consumer behaviour) could be derived from the assumption that goods are goods. People will buy these goods, and it is the seller's job to sell them to him. Ultimately, the customer will decide to buy what suits him best (Agnihotri et al., 2023).

One view of marketing is about making the consumer aware that he wants a certain product, even though he may not want it initially. Therefore, it is important for marketers to understand how consumers behave when exposed to advertising methods and messages (Al Hamli & Sobaih, 2023). Consumers try to make rational decisions when making purchases. This is a process that is influenced by a number of factors such as cultural, social and psychological factors: needs and wants (first, the consumer tries to identify what commodities they would like to consume), choice (they then select the commodities that will bring them the most benefit from the whole offer), budget estimation (they then estimate the funds available for purchase) and price analysis (finally, they analyse the current prices of the commodities and decide which ones to buy (Reich & Azar, 2024; Salem & Nor, 2020). Research on consumer behaviour allows for a better understanding of not only what peo-

ple buy, but also their purchase motivations and purchase frequency (Baabdullah & Ansari, 2020). One of the underlying assumptions of this research is that people often buy products not for their main function, but for their subjectively perceived value (Hung et al., 2014). Consumer perception of a product is often subjective as it is influenced by a variety of personal, psychological and situational factors (Kannan & Li, 2017). Nowadays, consumer theory is already taking on new dimensions in terms of analysing consumer behaviour in the online space. Digital marketing can be understood as the activities, processes and institutions facilitated by digital technologies to create, communicate and deliver value to customers and other stakeholders (Gündüzyeli, 2024; Zhang & Luo, 2024).

According to (Sak et al., 2025), digital marketing differs from traditional marketing in several key aspects. It aims to reach consumers online through various channels such as websites, social media, search engines and email. This allows it to reach a much wider audience and target campaigns to specific groups of people based on their interests and behaviours (Puthussery, 2020). Digital marketing has several advantages over traditional marketing. It is cheaper, allows for a higher return on investment and delivers better results. In addition, it allows for building relationships with consumers and engaging them in conversation, leading to a more loyal client base (Kenton, 2023). Consumers are an essential part of the functioning of the market, as they bring revenue to businesses, without which their functioning would become impossible (Chakrabarty, 2024). A consumer is defined as one who acquires goods not for the purpose of resale, but for the purpose of final consumption (Salkova et al., 2023). The category of potential consumers also plays an important role. These are customers who are at the very beginning of the purchase decision process, i.e., they have not decided to make a purchase (Rodrigues et al., 2021). It should be the priority of the retailer to keep the customer's interest up to the point where he is willing to make a purchase and to use different communication channels (Kisielevska, 2025). Prospective customers, given the right business decision making and customer service, have great potential to become loyal customers (Lim et al., 2023).

According to (S. Ma & Chen, 2023), the following key facts are important for successful customer outreach: building a strong relationship with the customer, high emphasis on customer service and simplifying accessibility (web, app, payment methods). Consumer behaviour, its dynamics and elasticity with respect to social, cultural, psychological and other factors, is a fundamental element of marketing overall as a discipline (Noh et al., 2023). Thus, it is a complex multidisciplinary marketing activity that involves the investigation of the purchase decision-making process in the pre-purchase stages and the associated perspectives, emotions, attitudes and final decisions of consumers (Aliami, 2022). The course of the decision-making process influences the final customer decision. According to (useinsider, 2025) there is a wide range of factors that can largely influence this course, such as current trends, market changes, demographic conditions, consumer lifestyles, buying habits, and so on. The authors (Martínez-Ruiz & Gómez-Cantó, 2016) consider these factors as external and internal. Internal factors include psychological factors, motivational, perception and attitudes. These factors influencing consumer behaviour are important in deciding the target groups to whom the company wants to sell the products. It is impossible to reach all groups of consumers with the same advertisement, design or any other parameter of products, so a company should also consider its capabilities and abilities when targeting and try to get to know the potential target groups better (Kotler et al., 2007). The external factors are mainly due to changes in the market environment and include cultural and social influences, marketing, purchasing power and consumer willingness (Barbosa et al., 2020). The purchasing decision process is an important and topical issue. Generally, this process is defined as the time course of making a purchase from the actual emergence of the need to the evaluation of the investment made or the purchase of goods. The author

(Figueiredo et al., 2025) defines the sequence of its steps as follows: identifying the need, searching for information, evaluating alternatives, making the purchase, and evaluating the decision. These steps are also applicable in digital marketing. This type of marketing has a greater capacity for segmentation and different communication, which makes it more economical compared to traditional marketing. It is important to note that it differs from traditional marketing because it uses the Internet as a tool to build relationships with customers in an original way in accordance with the individual needs and desires of each consumer (Pasaribu et al., 2022). The differences are mainly related to the mode of communication, namely the media through which the marketer communicates with consumers.

Digital marketing uses modern internet-connected technologies for its marketing communication, which means that through the collection of browsing data, known as cookies, companies can carry out targeting at the individual level virtually passively (Chaney et al., 2017). Information about products and services thus reaches potential customers incomparably more efficiently and quickly in digital marketing than in traditional marketing. The latter, even when businesses try to target potential prospects, does not achieve the same effectiveness. To maintain and optimize the digital marketing function, businesses use a set of modern online tools fulfilling different purposes. In general, the goal of digital marketing is to maximize the effectiveness of advertising messages for a specific customer segment (Bartanus, 2023; Chernenko et al., 2022). The ability and flexibility of businesses to respond to the current market situation almost instantaneously is needed. To achieve this level of flexibility in the modern era, enterprises use a set of digital tools and software solutions that help to enhance the performance of promotion. According to (Tancharoenwong, 2018), the ultimate effect of using tools is to gain and maintain attention, interact with recipients (customer communication) and engage in the senses. The tools that can be used in digital marketing are shown in Figure 1.

These are the most popular and widely used tools in digital marketing (Savitri et al., 2022).

It can be stated that they represent the means, techniques and platforms that organizations use to promote their products and services in the online environment. Their goal is to reach a target audience, build relationships with customers and increase sales or brand awareness. Their classification can be expanded to include the dimension of the goals that are to be achieved when using them. They are shown in the following Table 1.

The main objective of a social media marketing campaign is to build brand awareness and trust, and it is also an effective sales channel. It is most often implemented on well-known social networks. The most common forms of marketing on social networks are so-called paid content in the form of images, short videos (reels), stories, etc. (Alshakhsi et al., 2024; Wang et al., 2022). Such forms of promotion are the main reason why social networks are provided to users for free (Bettiga & Noci, 2024). In the case of contextual advertising, it is a more targeted way of advertising compared to traditionally displayed online advertising. It displays ads relevant to the content of a given page to website visitors (López García et al., 2019). A key aspect of such advertising is its relevance to the page content being displayed or the user's past online behaviour (Veglis & Giomelakis, 2020). Search engine optimization describes a wide variation in techniques that companies use to increase traffic to their homepages and improve their rankings in web browser search results. The better ranking a page has, the more likely it is to be viewed and opened by users and to make a purchase decision (Sakas et al., 2023; Bowie et al., 2014). Affiliate marketing is an advertising model consisting of rewarding third parties for generating traffic and leads to a seller's homepage (Vidal, 2021). Affiliate entities are typically rewarded for sales generated because of the program, not for so-called click-through, i.e., erroneous clicks on an advertisement or impressions of the advertisement itself (Sharma, 2024). Content market-

ing includes any marketing communication with the market through modern technology for the purpose of impressing the customer. It represents a process whose main purpose is to create and distribute relevant online content to engage, attract and initiate interaction with a potential customer to make a sale of the provided good or service (Ihnatenko, 2022; Ahmed et al., 2019). Targeted advertising is an effective media strategy to reach the target audience in the digital environment using the right tools. The data that are collected for the purpose of targeted advertising are mainly demographic (age, gender), geographic (country, city, region) and social (work, interests, hobbies, communities) (Jongmans et al., 2022). Media advertising represents any marketing communication through available media channels. Over the last decade, its popularity has grown at a rapid pace, resulting in a decline in the popularity of traditional advertising communication, except for its most well-known forms such as billboards, posters, print advertisements, etc., although these have also suffered a decline in popularity (Dwivedi et al., 2021).

Table 1. Digital Marketing Tools by Goals.

Goal	Tools	Example Platforms
Brand Awareness	Website	WordPress, Wix, Web flow
	Social media	Facebook, Instagram, TikTok, LinkedIn
	Content Marketing	Blogs, videos (YouTube), podcasts, infographics
	Influencer Marketing	Collaborations with influencers on IG, TikTok, YouTube
	Online PR	Articles in online media, blogs, PR portals
Sales Support	PPC Advertising	Google Ads, Meta Ads, TikTok Ads
	SEO	Google Search, Arefs, SEMrush
	Affiliate Marketing	Dog net, Amazon Associates
	Remarketing/Retargeting	Google Display Network, Meta Ads
Customer Relationship and Loyalty	E-mail Marketing	Mailchimp, Sensible, HubSpot
	Social media	Interactions via comments, messages, groups
	Content Marketing	E-books, newsletters, expert articles
	CRM and Automation	HubSpot, Active Campaign, Salesforce
Analysis and Optimization	Web Analytics	Google Analytics, Google Search Console
	Social Media Analytics	Meta Business Suite, TikTok Analytics, LinkedIn Analytics
	UX Analytics	Hotjar, Crazy Egg

Source: Own processing.

Websites represent a communication channel between consumers and retailers, as well as a sales platform through which transactions between the parties involved take place.

Nowadays, a website represents an extremely versatile marketing tool, as it contains a portfolio, information about the goods and services provided, the manufacturer itself, contact details, or a so-called chatbot (Păvăloaia et al., 2020).

Email marketing is a form of direct marketing which, using electronic mail, represents a method of communication between the consumer and the e-shop, which in the past has provided its email address for marketing purposes (Schroth, 2019). The best-known form of email marketing is the so-called newsletter, which informs the user about news in the form of new products, discounts, sales and so on (Rattanapon et al., 2023).

The above tools in the digital world have different impacts on different consumers. Their age plays a significant role. People are classified into so-called generations according to their age. In terms of marketing, businesses are interested in these generations primarily for targeting reasons. The following are mentioned in the literature: generation Z (18 to 27 years) (Dobre et al., 2021). Generation Y (28 to 43 years), generation X (44 to 59 years) and baby boomers (60 years and older) (Voyado, 2025). To each of the named generations there are also characteristic features in terms of consumer behaviour, tendencies and purchasing preferences. Because the paper is preferentially focused on Generation Z consumers, we define the characteristics of this generation in more detail.

Generation Z is referred to as the digitally active generation. Thus, it is becoming a significant purchasing force among consumers and in the business industry. Many individuals from this generation have lower incomes compared to older generations and have no offspring, which implies a different spending pattern and overall demand for different goods and services (Cabeza-Ramírez et al., 2022). Generation Z has stricter views on shopping than other generations due to the amount of up-to-date information they draw from media sources (Priporas et al., 2017). This generation shows the highest level of criticality towards product quality. When shopping, they demand products with low negative environmental impact. They are willing to spend more on sustainable products of higher quality (Yilmaz et al., 2024). Generation Z prefers more careful financial management and shows higher sensitivity to price factors in purchasing decisions. Although Generation Z prefers a higher quality, more expensive and more sustainable product, they seek more prudent financial management based on the experience of older generations (Putri, 2024). At the same time, they use social media not only for seeking relaxation or entertainment, but also for obtaining information, inspiration, researching shopping options and forming relationships with brands present on social media. Generation Z harbours scepticism about advertising and seeks authentic, transparent and trustworthy communication with the entities they buy from. They place a high value on online reviews and recommendations from those close to them. Trust in the retailer and its moral and ethical correctness have been shown to influence the purchasing tendencies of these consumers (Tirocchi, 2024).

Traditional advertising does not have a significant effect on Generation Z's buying behaviour. Consumers prefer marketing communication via the Internet and social networks, but Facebook and Twitter (X) do not have a great influence on them compared to video advertising on Instagram (Koufogazos, 2023). Generation Z seeks authenticity, directness and transparency in their shopping experience, which is why influencer marketing has the highest success rate (Akbar & Gunawijaya, 2022; Sauro & Lewis, 2012). This generation seeks recommendations from popular influencers whose views and values they share. This sets the stage for interest in influencer-recommended products (Abebe et al., 2022).

The aim of this paper is to evaluate the influence of the digital world on the purchasing behaviour of consumers belonging to Generation Z in a study conducted in the conditions of the Slovak Republic. Since no similar research has been published in the Slovak Republic, we will try to fill this gap through our findings.

The following bibliometric map (Figure 2) shows that a lot of emphasis is currently being given to the digital world. We have looked at which country the most scholars are working on digital world issues.

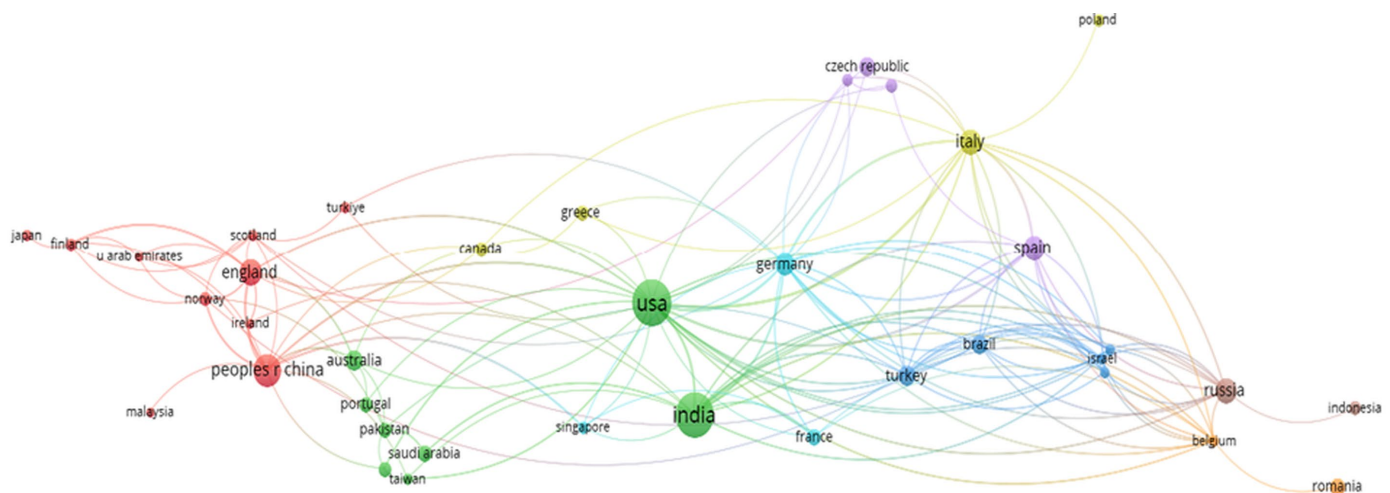


Figure 2. Frequency of addressing the digital world vs. generation in terms of countries. Source: authors' research in the VosViewer 1.6.2031 program.

1.2. Reliability and Validity of the Research Instrument

To strengthen the scientific rigor of the study, the reliability and validity of the questionnaire were examined.

Reliability. Internal consistency was assessed using Cronbach's alpha for each thematic block of the questionnaire (digital world habits, shopping behaviour, advertising, social networks, and consumer preferences). All constructions achieved acceptable reliability coefficients above the threshold of 0.70, indicating that the items within each dimension consistently measured the same underlying concept. Items with lower item–total correlations were reviewed, and no removal was necessary, as their contribution did not significantly reduce internal consistency.

Validity. Several types of validity were evaluated:

Content validity was ensured through the derivation of questionnaire items from established literature in consumer behaviour, digital marketing, and Generation Z research.

Construct validity was examined using exploration factor analysis (EFA), which confirmed that items loaded strongly (>0.60) on their respective factors, supporting the dimensionality of the instrument.

Convergent validity was confirmed by average variance extracted (AVE) values above 0.50, indicating that each construct explained more variance than measurement error.

Discriminate validity was verified by comparing the square root of AVE with inter-construct correlations, confirming that constructs were sufficiently distinct from each other.

Criterion validity was supported by significant correlations between relevant constructions and behavioural outcomes (e.g., frequency of online shopping, preference for influencer marketing), which align with theoretical expectations.

Overall, the reliability and validity analyses confirmed that the survey instrument is a robust and scientifically reliable tool for investigating the purchasing behaviour of Generation Z in the digital environment (Table 2).

Table 2. Reliability and Validity of Constructs.

Construct	Cronbach's Alpha	Validity Findings	Interpretation
Digital world habits	0.82	Factor loadings > 0.60; AVE > 0.50 data	Reliable and valid construct
Shopping behaviour	0.79	Factor loadings > 0.60; AVE > 0.50	Reliable and valid construct
Advertising effectiveness	0.85	Factor loadings > 0.60; AVE > 0.50	Reliable and valid construct
Social networks	0.81	Factor loadings > 0.60; AVE > 0.50	Reliable and valid construct
Consumer preferences	0.87	Factor loadings > 0.60; AVE > 0.50	Reliable and valid construct

Source: Own processing.

2. Materials and Methods

The methodology is based on the aim of the paper. To achieve the most accurate and relevant results, we have opted for a combination of qualitative and quantitative approaches. To collect relevant data, we used the method of inquiry in the form of a questionnaire. The questionnaire sent out was anonymous and people over 18 years of age could participate in its completion. We distributed the questionnaire through electronic means between 15 January 2025 and 30 April 2025. The questionnaire was preferentially distributed among university and high school students, who were given the questionnaire to fill out through social networks, by sharing it in online groups created for this purpose, and through high school teachers who provided the questionnaire to their students for elaboration. We followed the following Formula (1) (Hu et al., 2022) to identify the minimum research sample:

$$n = \frac{Z^2 \cdot p \cdot (1 - p)}{c^2} \quad (1)$$

where

- Z value from statistical tables,
- p shares of the character,
- c permissible range of errors,
- n sample size.

After plugging the above values into Formula (1), we obtain the following result concerning the minimum research sample.

$$n = \frac{1.96^2 \cdot 0.5 \cdot (1 - 0.5)}{0.05^2}$$

$$n = 384.16$$

The result of the formula indicates a value of 384.16, which implies that a sample size of 385 respondents is necessary for the purpose of the research. However, for data relevance, we need 385 complete questionnaires only from respondents falling into category Z.

The evaluation of the questionnaire is supported by testing the stated hypotheses. To evaluate the impact of the digital world on the purchasing behaviour of Generation Z, several points of interest have been defined for the dependency analysis:

- time spent on social networks and frequency of online shopping,
- gender and effectiveness of advertising,

- gender and the intensity of the impact of the digital world,
- income and types of online platforms used,
- we also work with hypotheses on which to support our findings, working status and sustainability and ethical behaviour,
- gender and time spent online.

We defined the hypotheses in terms of the above categorical variables as follows:

1. There is a statistically significant relationship between the time spent on social networking sites and the frequency of online shopping.
2. There is a statistically significant relationship between gender and effectiveness of ads.
3. There is a statistically significant relationship between gender and the intensity of influence of the digital world.
4. There is a statistically significant relationship between the amount of income an individual earns, and the type of platforms used.
5. There is a statistically significant relationship between employment status and the importance of sustainability and ethics to consumers.
6. There is a statistically significant relationship between daily time spent on social media and the gender of the Generation Z consumer.

The verification of the established hypotheses was carried out using IBM SPSS Statistics software 26. The hypotheses were tested for the existence of dependence of the categorical variables under study and, if proven, proceeded to determine its intensity. To test the hypotheses, the following tests were used:

Pearson's Chi-Square test: this test was used in the cross-analysis to determine whether there is a dependence between the selected categorical variables.

Cramer's V: This is a coefficient that allows us to quantify the strength of the relationship between two categorical variables. We interpret the results based on the p -value, which determines the significance of the test as follows:

- $p\text{-value} < 0.05$ = The dependence between the categorical variables is statistically significant,
- $p\text{-value} > 0.05$ = The relationship between the categorical variables is statistically insignificant.

If a statistically significant dependence between categorical variables is found, the strength of this dependence is interpreted as follows:

If the value is between 0 and 0.3, this indicates weak dependence.

If the value is between 0.3 and 0.8, it is a moderately strong dependence.

If the value is between 0.8 and 1, it is a strong dependence. If $p \leq \alpha$, we reject the null hypothesis because a lower p -value means that the null hypothesis is less likely.

Fisher's Exact Test: this test is used when the conditions for the Chi-square test are not met, namely if more than 5% of all values in the contingency table are less than 5, or if there are zeros in the table. Fisher's test calculates p -values based on the probability of all possible combinations in the contingency table having the same or more extreme marginal sums than the observed values (Elkatmış, 2024). In addition to the above, we also used multivariate analysis—logistic regression for higher interpretability. This analysis allows us to determine which demographic, and digital factors significantly influence the likelihood of frequent online shopping among Generation Z consumers.

3. Results

A total of 422 questionnaires were obtained from the survey. Of these, 403 were Generation Z respondents, 13 responses were Generation Y respondents, 4 were Generation X

respondents, and 2 were Baby Boomers. Because the aim of this paper is to assess the impact of the digital world on the purchasing behaviour of Generation Z through analysis, we only worked with a sample of 403 questionnaires to analyse the results. The questionnaire was divided into the following sections: basic demographics, respondents' social status, respondents' digital world, marketing communication, social networks, and Generation Z preferences.

Basic demographics

For analysing the buying behaviour of the target group, the elementary demographic data of the respondents was collected.

Gender and age

The results of the questionnaire show that most of the respondents were female. Females reached a representation of 60.45% (244 respondents) and 39.55% were males (159 respondents). In terms of age, there is only one filtered category—Generation Z with 403 respondents.

Social status of respondents

As an additional feature, we surveyed the social status and income of the respondents. Within the social status of the respondents, facts about their work and family status were collected. The income of the respondents represents their net monthly income in EUR.

Working status

Considering the surveyed generation and its age, the working status of most of the respondents was made up of people with the working status of student. This type of relationship accounted for 61.44% of the total number of respondents (248). The second most frequently provided answer was permanent employment, i.e., the respondent is employed on a long-term basis under a contract with an employer. These individuals accounted for a total of 19.9% of respondents (80) and the third most common employment status among respondents was contract work represented by 8.71% of respondents (35). The remainder of the total is made up of the unemployed (14), self-employed (18), entrepreneurs (2), or those currently on maternity/parental leave (6).

Marital status

The marital status of respondents may provide relevant data for further analysis, particularly in terms of their online shopping behaviour and the types of products they purchase. Considering the age group analysed, majority of the respondents at 63.43% (256) lived in a household with their parents. Such a fact presents the possibility that the respondents' living expenses are minimal and can spend the available finances at their discretion on a variety of products depending on their needs, desires, interests, etc. The second largest group at 12.19% (49) were those living in a household with a boyfriend or girlfriend, i.e., these individuals are already partially or fully separated from their parents, which is most likely related to the change in spending patterns in the online space. 9.2% (37) of respondents lived alone in their own household and 7.96% (32) already had an established household in which they live with a partner and a child or children.

Income of respondents

Respondents' income greatly influences their general shopping habits, preferences, frequency of shopping, etc., not only in the online space. This is an important part of the questionnaire for analysing the shopping behaviour of Generation Z and the impact of the digital world on it. The income structure of the respondents corresponds to both their working status. However, nowadays, there are many ways and opportunities for

members of Generation Z to earn an income even alongside their active studies. Almost half of the respondents indicated the possibility of a net monthly income of less than EUR 500 in the question. The total share of this group in the total number of respondents was 48.26% (194). Such a result was to be expected, given the proportion of respondents who are students. The second group with the highest representation was made up of people with a net monthly income of 500 to 1000 euros and accounted for a share of 26.87% (108). These are probably respondents employed on an agreement or employed on a contractual employment relationship of a long-term nature, i.e., permanent employment or part-time employment. The third group is made up of those with a net monthly income between 1000 and 2000 euros with a share of 21.39% (86) of the total number of respondents and the fourth group with a net monthly income above 2000 euros is represented by 3.48% (14) of the respondents. For the last two groups, it is possible to assume multiple simultaneous earning activities, entrepreneurship, investment activities, etc.

The digital world of respondents

Within the digital world of the respondents, their online shopping habits, shopping preferences, and evaluations of positive and negative aspects of shopping in the digital world were investigated. In this way, it is possible to obtain a picture of the preferences of Generation Z individuals, who spend the most time in the online space among the different generations and for whom online shopping and surfing the internet is a natural part of life.

Frequency of shopping

Based on their income, marital status, preferences and other factors, Generation Z individuals participate in online shopping at different frequencies throughout the year. About one-third of the respondents, namely 32.59% (131) shop online once a month. A substantial proportion of respondents indicated the option of more than once a month with a proportion of 26.62% (107). 22.89% (92) of the respondents indicated the answer of more than once a year. Only 7.71% (31) indicated that they shop once a week, the highest frequency of shopping among the options provided. A total of 18 respondents indicated that they shop more than once a week. Similarly, 18 respondents stated that they shop only once a year. 1% (4) of the respondents do not shop online and 0.25% (1) stated the option of other. Based on the findings from the questionnaire, it can be argued that the intensity of online shopping is relatively high for Generation Z.

So, according to the results of the questionnaire survey among members of Generation Z, it can be stated that most respondents already have regular experience with online shopping. The largest share (32.59%) shop online once a month; another 26.62% even several times a month. A significant part of the respondents (22.89%) makes purchases online at least once a year, and 7.71% shop every week. A small group (18 people) stated that they shop more than once a week, while the same number of respondents declared only one purchase per year. Only 1% of the respondents do not use online shopping at all. The results therefore show that the research focused on the frequency of online shopping, not on the exact moment or age at which the respondents started shopping online.

Most frequently purchased products

Respondents were provided with options from which they were asked to select the types of products or services that they most frequently procure through online shopping. The question included a total of 13 categories of the most popular types of products purchased online, including the option to write in your own answer. For respondents who answered with their own product category, we combined their responses into an "Other" category. The figure below shows that the most popular product categories for online shopping by Generation Z are fashion products, i.e., clothing, accessories and footwear.

The second most popular category of goods is electronics followed by cosmetics. Respondents largely use the internet for grocery shopping and food delivery. Sporting goods are also popular among Generation Z respondents. In general, it can be argued that Generation Z uses online shopping primarily to buy clothes, electronics, beauty products, food and sporting goods. The observed frequencies of each response are shown in the Figure 3 below.

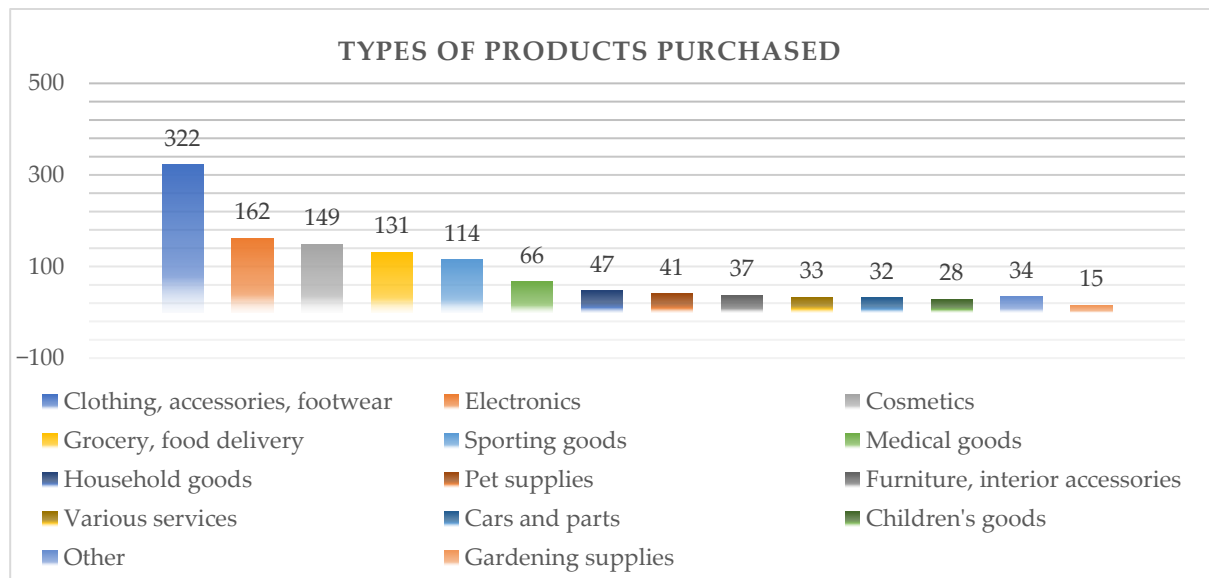


Figure 3. Types of products purchased. Source: authors' research.

Positives and negatives of the digital world

The survey questionnaire was used to find out the factors that respondents rate as positive or negative based on their own preferences. The following Figure 4 shows the most frequent responses that respondents identified as positive.

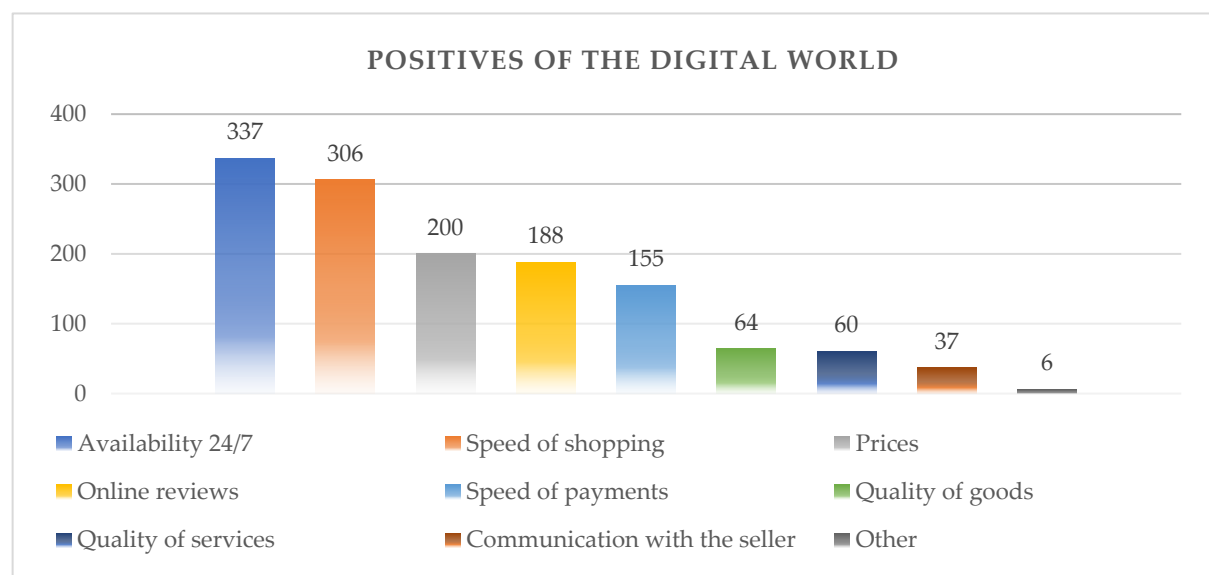


Figure 4. Positives of the digital world. Source: authors' research.

The biggest positive of the existence of the digital world for Generation Z is clearly the availability of online shopping 24 h a day. Generation Z also appreciates the convenience of online shopping in terms of its speed. The price factor is only the third highest positive.

Figure 5 shows the identified negatives in this area.

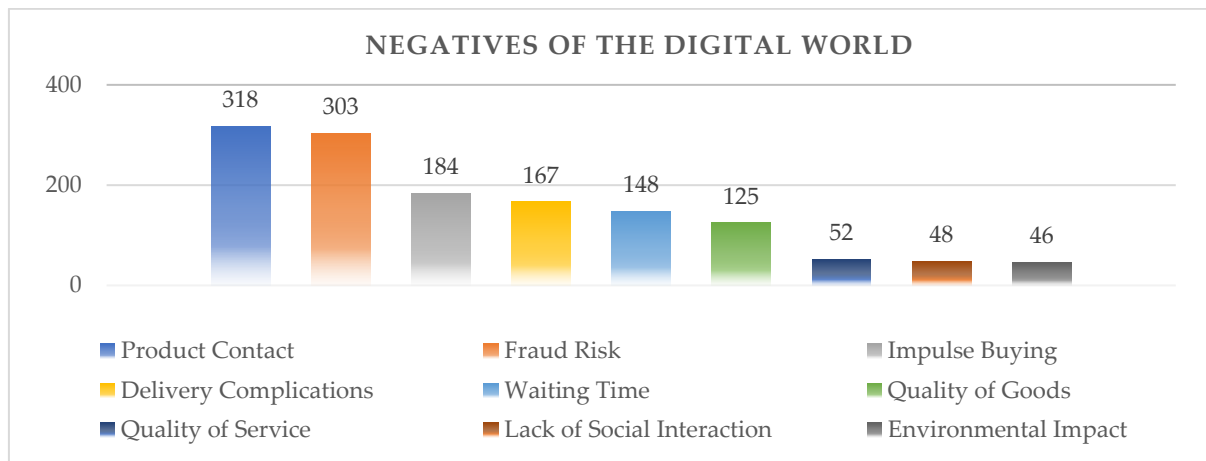


Figure 5. Negatives of the digital world.

The biggest negatives of online shopping are considered by consumers to be the lack of physical contact with the product and the risk of various scams that they are exposed to in the online environment. Generation Z can also be seen to be somewhat self-reflective in their purchasing behaviour, given that they ranked impulse buying as the third biggest negative of the digital world. Generation Z is prone to irrational demand, as evidenced by the number of responses for this option.

The intensity of the impact of the digital world

Our next concern was for respondents to evaluate the intensity of the influence of the digital world on their shopping behaviour. As many as 56.72% of the respondents (229) rated the influence of the digital world as average, i.e., they do not reject its presence. 23.88% of the respondents (96) commented on the high intensity of this influence. 16.42% of the respondents expressed their answer with the option of low influence (66). Thus, the existence of influence on consumer buying behaviour among Generation Z cannot be dismissed even because only 2.99% (12) of the respondents expressed that they do not feel the influence of the digital world on their buying behaviour at all.

Marketing communication

One of the other parts of the questionnaire survey was to find out the influence of reviews on purchasing decisions and different types of advertisements.

The impact of reviews on purchasing decisions

Reviews are an important factor in online shopping. Users read them to gather information about products and manufacturers, most of which they have no previous experience with. Both the availability and popularity of reviews have increased substantially in recent years and therefore, in order to analyse the consumer behaviour of Generation Z, respondents were asked a question exploring the influence of reviews on their purchasing decisions. A total of 45.02% (181) of the respondents said that reviews have an average influence on them and 25.87% (104) said that reviews have a low influence on them. This finding implies that Generation Z largely searches for reviews, but they do not influence them to the extent where they change their purchase decision. A total of 14.93% (60) of Generation Z consumers said that reviews have a major influence on them, which is contrary to findings from expert sources, and 14.18% (57) of respondents said that reviews have no influence on them at all.

Advertisement

The popularity of each of the most well-known types of advertisements among consumers was surveyed along with their effectiveness in the context of their success in encouraging consumers to make a purchase. The popularity of advertisements among consumers was examined to determine the types of advertisements that Generation Z consumers encounter most frequently. The results of the findings are presented in the Figure 6 below.

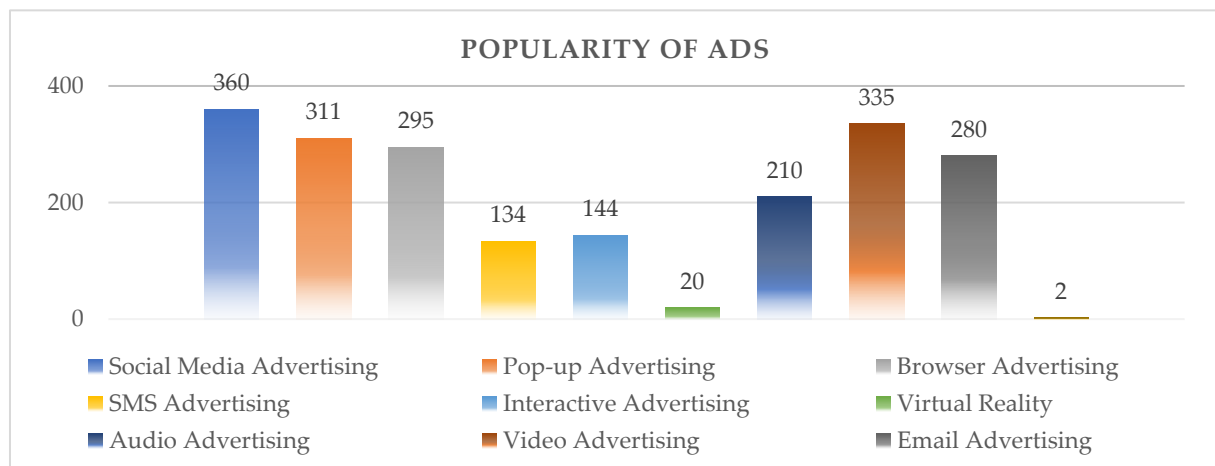


Figure 6. Popularity of ads. Source: authors' research.

According to the results of the research, the most identified ad in terms of popularity is social media advertising, followed by video ads, then pop-up ads, browser ads, email ads and audio ads.

Another aspect of advertising studied was to determine the type of advertising in terms of effectiveness with the respondent.

The results (Figure 7) show that respondents attributed the highest effectiveness to social media ads, followed by video ads, pop-up ads, and in-browser ads.

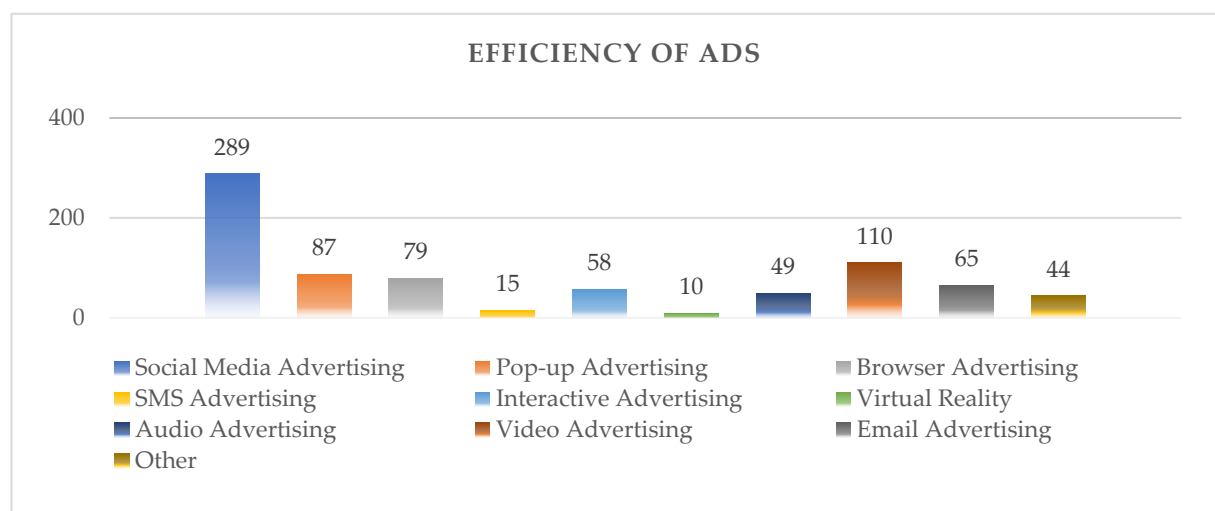


Figure 7. Efficiency from ads. Source: authors' research.

Social networks

Within social networking, respondents' observations focused on their activity in this environment, time spent online, following people online, and buying from influencers.

Time spent on social networks and online

For Generation Z, their time spent on social networks is a key data point when companies are deciding which types of ads to invest in depending on their target audience. This section of the questionnaire examined respondents' daily activity on social media in hours per day. Nearly half of respondents, 49% (197), spend between 2 and 4 h on social media daily. The second most common response was 1 to 2 h at 25.37% of respondents (102). A total of 17.91% of respondents (72) spend more than 4 h on social networking sites daily and only 7.71% of respondents (31) spend less than an hour on social networking sites daily. From the results, it can be concluded that Generation Z spends quite a lot of time on social media, which creates an attractive opportunity for companies to target this customer group in the online space through digital marketing.

Tracking people online

Another factor analysed in the digital world of consumers was whether respondents actively follow influencers and, if so, approximately how many of them there are. Within the questionnaire, respondents answered through the following options "I follow but less than 5", "I follow 5 or more", "I follow only 1 such profile" and "I am not an influencer follower". A total of 37.06% of respondents (149) said that they do not follow influencers as part of their online activity, thus they have no influence on their purchasing decisions. The second largest proportion of respondents are those who follow less than 5 such influencers online, namely 147 respondents (36.57%). The third largest group follows 5 or more influencers, accounting for 18.16% of respondents (73), and 8.21% (33) follow only one influencer. From the findings, it is evident that consumers belonging to Generation Z can be expected to be influenced by influencers in their purchase decision making.

Buying from influencers

The next question related to social media directed the findings to consumers regarding their shopping directly from selected influencers or brands on social media. Thus, the existence of business transactions between sellers and users in the social networking space was analysed. Respondents answered the options "Yes, I regularly buy from influencers", "Sometimes" and "No, I do not buy". The survey results show that 52.99% of respondents (214) do not purchase from brands or influencers on social media and 42.79% (172) sometimes use this option. The smallest proportion, 4.23%, had respondents who use this form regularly.

Generation Z preferences

In terms of consumer preferences, we were interested in the environment that respondents prefer for purchasing. These included online retailer availability, payment methods and shopping priorities, as well as the challenges and benefits of online shopping.

Preferred environment

At this point, we were interested in which environment Generation Z preferred for shopping. Respondents commented on the option of a brick-and-mortar store or an online store. A total of 36.67% of respondents (148) indicated brick-and-mortar store and a large proportion of respondents, 63.33% (255) preferred to shop in the online space.

Online availability of retailers

The importance of availability of any retailer in the online space for Generation Z consumers was examined. Respondents may not only use the online space for direct shopping, but also for browsing the portfolio, contacting the retailer for queries, checking the returns policy, etc. A total of 47.51% of the respondents (191) consider the presence of a salesperson in the online space as very important. This is thus a significant assumption if

the retailer's goal is to attract Generation Z as well. The second most represented group was consumers who consider the presence of a salesperson in the online space to be less important—31.59% (127). Only 12.19% (49) completely ruled out the possibility that the online presence of a salesperson is an important factor for them in their purchasing decision, and 8.71% of respondents (35) stated that they did not know the answer. Ultimately, however, given the various proportions of possible responses, it is reasonable to conclude that in today's world, dealer presence in the online space is considered important, at least for Generation Z consumers.

Payment methods

Modern stores today offer their customers a variety of payment methods. The aim of this part of the survey was to identify the preferred payment methods of Generation Z. The options provided for response were cash, credit card, and E-wallet, and respondents were given the opportunity to enter their own preferred payment type. From the survey results, the clearly preferred payment method is payment card with a response rate of 62.44% (252 respondents), followed by cash (20.65%, 83 respondents) and E-wallet. E-wallet represents a virtual wallet. Its most well-known form is, for example, PayPal. This option was indicated by 15.92% (64). Thus, it can be concluded that this method is also represented in Generation Z. Only 1% (4) of respondents chose a payment method other than cash, credit card or e-wallet. The "Other" option resulted in payment types such as cryptocurrency, Google Pay, Apple Pay, Contactless phone payment, Venmo app transfer, etc.

Priorities when shopping

To refine consumers' preferences and assign importance to different aspects of online shopping, respondents were asked to indicate the most important factors influencing their satisfaction with the online shopping process. Respondents were asked to choose from a list of options that they considered most important in the process. Figure 8 shows the results of the survey.



Figure 8. Online shopping priorities.

Consumers ranked media content on the retailer's website, the e-shop's advertising policy and communication with the retailer as least important. Surprisingly, product quality ranked only 6th out of 9 overall shopping priorities, which is contrary to the findings from the literature. Generation Z consumers consider the clarity of the store, i.e., the ease of navigating the retailer's web interface, to be the most important. The second most important factor was price, which reached approximately the same level of importance as the

other factors, i.e., speed of delivery, reviews and credibility of the e-shop. Thus, the conclusion from this survey is that in the sample analysed Generation Z consumers consider the clarity of e-shops, prices and the important role played by reviews of other consumers, speed of delivery and credibility of the e-shop as the most important factors for online shopping.

Problems with online shopping

In the next question, we asked about the most common problems consumers encounter when shopping online. The findings are shown in the Figure 9 below.

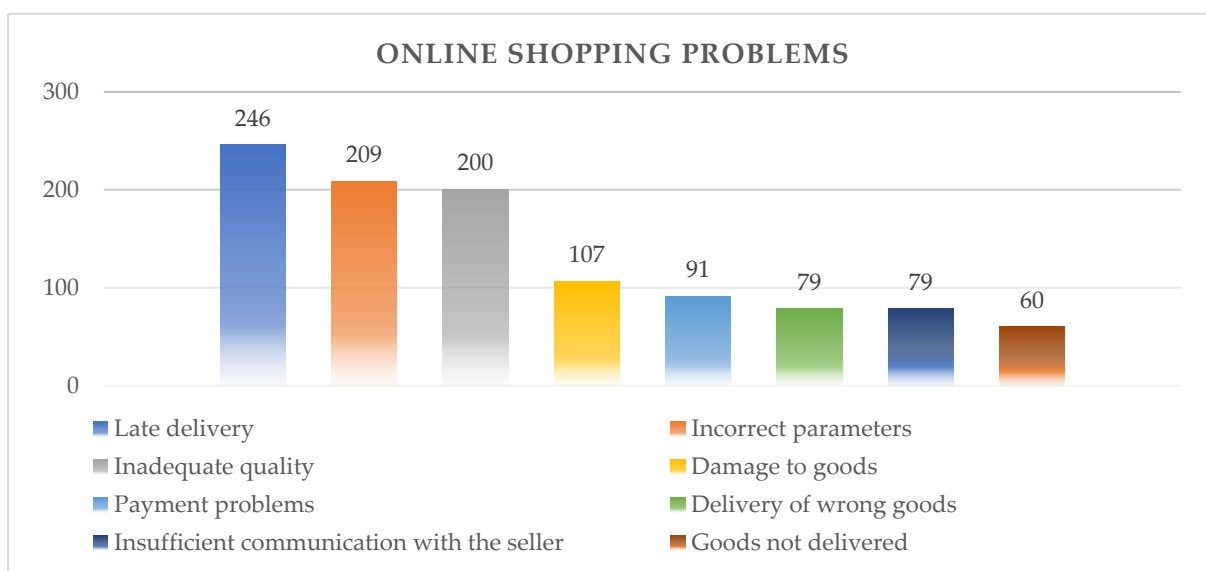


Figure 9. Online shopping problems. Source: authors' research.

Based on the responses, it is evident that the most common complication for respondents is the late delivery of ordered goods. A significant proportion of respondents also experience delivery of incorrect goods or goods with parameters that do not match the requirements and unsatisfactory quality of the ordered goods. The findings also show that respondents also experience frequent damage to goods followed by problems with payment. This is followed by delivery of wrong goods, poor communication with the seller and the last ranked "Goods not delivered". The most common problems of e-shops are factors related to the actual logistics solutions by the seller in the form of transportation of goods from the seller to the consumer, securing the goods against damage during transportation, sending the products with the required parameters and the actual quality of the products sold.

Advantages of online shopping

The last question asked about the biggest benefits that respondents associate with online shopping. The findings regarding the benefits are shown in Figure 10.

The biggest benefits of online shopping for Generation Z, according to the survey conducted, are clearly convenience, time savings, available promotions and discounts. Another important advantage of online shopping for Generation Z was the wide range of products and the ease of gathering information about the desired product.

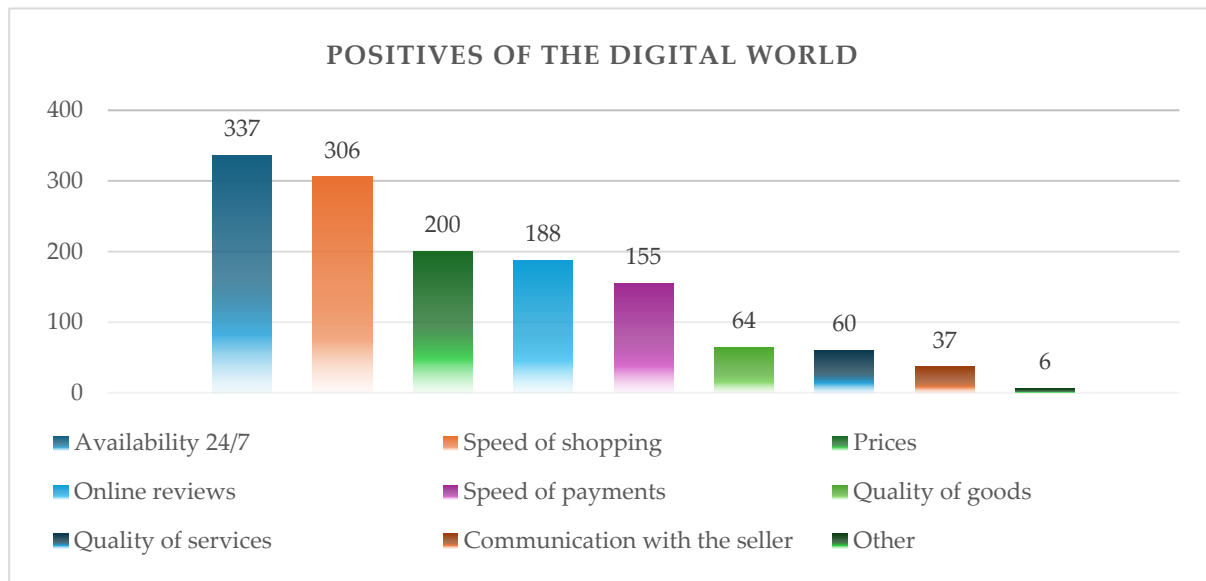


Figure 10. Benefits of online shopping.

Testing the stated hypotheses

The existence and measurement of the intensity of the relationship between the above categorical variables was carried out through the so-called Chi-square test to verify the existence of the relationship and Cramér's V, to verify its intensity. To perform these tests and verify the hypotheses, it was necessary that the variables used meet the following assumptions:

H1. *Frequency of shopping and time spent on social networks.*

The first pair of categorical variables tested was the daily time spent on social networks and the frequency of online shopping. Thus, the aim was to test whether consumers are more active on social media, directly have an increasing tendency to shop more frequently in the digital world. Hypotheses H0 and H1 for the variables have the following wording:

H0. *There is no statistically significant relationship between time spent on social media and frequency of online shopping.*

H1. *There is a statistically significant relationship between time spent on social networks and frequency of online shopping.*

The results (Table 3) of testing this hypothesis were derived from constructing a contingency table through which we found the frequencies for each response.

In the next step, we proceed to test Hypothesis 1.

(Table 4) According to the results of the Chi-Square test, the resulting values are at 0.219. This value exceeds the set significance level of $\alpha = 0.05$ which means that we accept the null hypothesis H0 and reject H1 since the result of the test shows that there is no statistically significant relationship between the variables under study. Thus, we can conclude that for Generation Z consumers, the frequency of shopping does not increase in direct proportion to the time spent on social networking sites.

Table 3. Contingency table of detected frequencies.

Shopping Frequency * Time Spent Online				
		Time Spent Online		Total
		Less Than 2 h	More Than 2 h	
Household type	Low	42	72	114
	Average	71	168	239
	High	20	30	50
Total		133	270	403

Source: authors' research. * The result of program.

Table 4. Result of the Chi-Square test of Hypothesis 1.

	Value	df	Asymptotic Significance (2-Sided)
Pearson Chi-Square	3.041 ^a	2	0.219
Likelihood Ratio	3.015	2	0.221
N of Valid Cases	403		

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.50. Source: authors' research.**H2.** *Gender and effectiveness of ads.*

The second hypothesis concerns the testing of the relationship between the variables of gender and ad effectiveness. Ads that are considered effective are defined as ads that induced the respondent to make a purchase. We formulated the hypothesis as follows:

H0. *There is no statistically significant relationship between gender and effectiveness of ads.*

H1. *There is a statistically significant relationship between gender and effectiveness of advertisements.*

Table 5 shows the observed frequencies of the variables under study.

Table 5. Contingency table of detected frequencies.

Gender * Advertising Effectiveness					
		Advertising Effectiveness			Total
		Social Media Advertising	Browser Advertising	Traditional Advertising Occasionally	
Gender	Male	97	58	5	160
	Female	154	83	6	243
Total		251	141	11	403

Source: authors' research. * The result of program.

The Chi-Square result is shown in the following Table 6.

The results of the Chi-Square test show that the p-value of 0.913 is higher than the set significance level of 0.05; therefore, we accept the null hypothesis, while rejecting the alternative hypothesis. We conclude that there is no statistically significant relationship between these variables.

Table 6. Result of the Chi-Square test of Hypothesis 2.

	Value	df	Asymptotic Significance (2-Sided)
Pearson Chi-Square	0.181 ^a	2	0.913
Likelihood Ratio	0.180	2	0.914
N of Valid Cases	403		

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.52. Source: authors' research.

H3. Gender and intensity of influence of the digital world.

In the questionnaire survey, respondents evaluated the impact of the existence of the digital world on their purchasing behaviour. The purpose of further analysis was to determine, based on the responses of a representative sample, whether there is a relationship between consumers' gender and the intensity with which the digital world influences their purchasing behaviour. For this analysis, the following hypotheses were established:

H0. *There is no statistically significant relationship between gender and the intensity of influence of the digital world.*

H1. *There is a statistically significant relationship between gender and the intensity of influence of the digital world.*

The results of the analysis carried out are shown below (Table 7).

Table 7. Contingency table of detected frequencies.

Gender * Intensity of the Influence of the Digital World						
		Intensity of the Influence of the Digital World				Total
		High Impact	Average Impact	Low Impact	No Impact	
Gender	Male	37	85	29	8	159
	Female	59	144	32	9	244
Total		96	229	61	17	403

Source: Own processing in the SPSS Statistics program (2025). Source: authors' research. * This is a result of program.

The Chi-Square result is shown in the following Table 8.

Table 8. Result of Chi-Square Test of Hypothesis 3.

	Value	df	Asymptotic Significance (2-Sided)
Pearson Chi-Square	2.638 ^a	3	0.451
Likelihood Ratio	2.603	3	0.457
N of Valid Cases	403		

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.71. Source: Own processing in the SPSS Statistics program (2025). Source: authors' research.

The results of the Chi-Square test show that the p-value of 0.451 is higher than the set significance level of 0.05; therefore, we accept the null hypothesis, while rejecting the alternative hypothesis. We conclude that there is no statistically significant relationship between these variables.

H4. *Intake level and type of platform used.*

Having uncovered the relationship between regular income and the platforms used, this was complemented by a deeper analysis in terms of the level of income of the consumer individuals. The purpose of this analysis is to identify any possible dependence between the level of income of an individual and the type of platforms they use in the digital world. The hypothesis has been established as follows.

H0. *There is no statistically significant relationship between the level of income of an individual and the type of platforms used.*

H1. *There is a statistically significant relationship between the amount of income of an individual and the type of platforms used.*

According to Tables 9 and 10, it can be stated that the p -value of the Chi-Square test at 0.047 is less than the set significance level of 0.05, indicating that there is a statistically significant relationship between the variables under study. Based on the H0 test conducted, we reject H0 and accept the alternative hypothesis H1. We proceed to measure the strength of the observed dependence.

Table 9. Contingency table of detected frequencies.

Income Amount * Shopping Platform Type					
		Shopping Platform Type			Total
		Consumer Goods Platforms	Food Platforms	Fashion Platforms	
Income Amount	Up to €1000	222	23	58	303
	More than €1000	66	16	18	100
Total		288	39	76	403

Source: Own processing in the SPSS Statistics program (2025). Source: authors' research. * This is a result of program.

Table 10. Result of Chi-Square Test of Hypothesis 4.

	Value	df	Asymptotic Significance (2-Sided)
Pearson Chi-Square	6.102 ^a	2	0.047
Likelihood Ratio	5.536	2	0.063
N of Valid Cases	403		

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.68. Source: Own processing in the SPSS Statistics program (2025). Source: authors' research.

According to the coefficient of Cramer's V, that is in Table 11, whose level is 0.123, which is a lower value compared to the coefficient in the previous analysis. Thus, the intensity of the relationship between the level of consumer income and the type of platforms visited remains weak, although in this case it is slightly weaker than in the previous analysis.

Table 11. Result measuring the intensity of addiction.

		Value	Approximate Significance
Nominal by Nominal	Phi	0.123	0.047
	Cramer's V	0.123	0.047
N of Valid Cases		403	

Source: Own processing in the SPSS Statistics program (2025). Source: authors' research.

Thus, according to the analysis carried out, the generation of regular income has a slightly higher impact on the platforms visited than the level of income.

H5. *Working status and sustainability and vendor ethics.*

The aim in this analysis is to find out whether Generation Z individuals generating a regular monthly income place a higher importance on buying sustainable products from ethically behaving sellers. To test these assumptions, the following hypotheses were established:

H0. *There is no statistically significant relationship between work status and the importance of sustainability and ethics to consumers.*

H1. *There is a statistically significant relationship between working status and the importance of sustainability and ethics to consumers.*

The categorical variables were tested by Chi-Square test. To run the test, we needed to create a contingency table, see below (Table 12).

Table 12. Contingency table of detected frequencies.

Consumer Working Status * Sustainability and Ethical Approach						
		Sustainability and Ethical Approach				Total
		Very Important	Moderately Important	Unimportant	Cannot Decide	
Consumer Working Status	Has Regular Income	25	76	25	15	141
	Has No Regular Income	21	123	80	38	262
Total		46	199	105	53	403

Source: Own processing in the SPSS Statistics program (2025). Source: authors' research. * This is a result of program.

We report the Chi-Square result in the table below (Table 13).

Table 13. Result of Chi-Square Test of Hypothesis 5.

	Value	df	Asymptotic Significance (2-Sided)
Pearson Chi-Square	15.287 ^a	3	0.002
Likelihood Ratio	15.276	3	0.002
N of Valid Cases	403		

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.09. Source: Own processing in the SPSS Statistics program (2025). Source: authors' research.

The results of the Chi-Square test show that there is a statistically significant relationship between the variables under study. Consumers who generate a regular monthly income have an increased tendency to purchase products and services with a sustainable label and prefer retailers with ethically correct behaviour and values. We reject H0 and accept H1.

When measuring the strength of the dependence, we find the following results (Table 14).

Table 14. Result measuring the intensity of addiction.

		Value	Approximate Significance
Nominal by Nominal	Phi	0.195	0.002
	Cramer's V	0.195	0.002
N of Valid Cases		403	

Source: Own processing in the SPSS Statistics program (2025).

In this case, the coefficient of Cramer's V has a value of 0.195, which means that the strength of the relationship between the categorical variables is weak.

H6. *Time on social networks and gender.*

The last dependency analysis conducted was an analysis of the categorical variables of daily time spent on social networking sites and the gender of the Generation Z consumer. If a dependency was shown to exist, it would mean that one of the genders of consumers would be more available to receive marketing communications from retailers than the opposite gender. To test the existence of dependence, the following hypotheses were established:

H0. *There is no statistically significant relationship between the daily time spent on social networking sites and the gender of the Generation Z consumer.*

H1. *There is a statistically significant relationship between daily time spent on social networking sites and the gender of the Generation Z consumer.*

The results of the analysis are as follows (Table 15).

Table 15. Contingency table of detected frequencies.

Gender * Daily Time Spent on Social Media				
		Daily Time Spent on Social Media		Total
		Less Than 2 h	More Than 2 h	
Gender	Male	69	90	159
	Female	64	180	244
Total		133	270	403

Source: Own processing in the SPSS Statistics program (2025). Source: authors' research. * This is a result of program.

The following table gives the results of the testing (Table 16).

Table 16. Result of Chi-Square Test of Hypothesis 6.

	Value	df	Asymptotic Significance (2-Sided)	Exact Sig. (2-Sided)	Exact Sig. (1-Sided)
Pearson Chi-Square	12.831 ^a	1	0.000		
Continuity Correction ^b	12.066	1	0.001		
Likelihood Ratio	12.706	1	0.000		
Fisher's Exact Test				0.000	0.000
N of Valid Cases	403				

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 52.47. Source: Own processing in the SPSS Statistics program (2025). Source: authors' research. ^b This is a result of program.

Compared to the established significance level of $\alpha = 0.05$, the coefficient of the Pearson Chi-square test reaches 0.000. Thus, there is undeniably a statistically significant relationship between the categorical variables. This result is followed by the Fisher Exact Test value, which is identical to the result of Cramer's V. Thus, we reject H0 and accept H1. The next step is to measure the strength of the dependence (Table 17).

Table 17. Result measuring the intensity of addiction.

		Value	Approximate Significance
Nominal by Nominal	Phi	0.178	0.000
	Cramer's V	0.178	0.000
N of Valid Cases		403	

Source: Own processing in the SPSS Statistics program (2025). Source: authors' research.

Cramer's V revealed a weak strength of association between categorical variables at 0.178. However, the dependence between them ultimately exists and one of the genders is an easier target for marketing communication by salespeople or receiving it daily for longer.

Multivariate Analysis—Logistic Regression

The purpose of the multivariate analysis was to determine which demographic and digital factors significantly influence the likelihood of frequent online shopping among Generation Z consumers. To achieve this, a binary logistic regression model was used, in which the dependent variable was dichotomized as follows: 0 = respondents who shop online less than once per month; 1 = respondents who shop online at least once per month.

Based on the preceding univariate and bivariate analyses, the following predictors were selected:

1. Gender (Male = 0, Female = 1)
2. Monthly income ($\leq \text{€}1000 = 0$, $> \text{€}1000 = 1$)
3. Daily time spent on social networks ($\leq 2 \text{ h} = 0$, $> 2 \text{ h} = 1$)
4. Working status (no regular income = 0, regular income = 1)
5. Perceived intensity of the digital world's influence (Low/Average = 0, High = 1).

The model summary is shown in the following Table 18.

Table 18. Model Summary.

Statistic	Value
-2 Log Likelihood	438.27
Cox & Snell R^2	0.142
Nagelkerke R^2	0.196
Hosmer–Lemeshow Test (p)	0.311
Classification Accuracy	73.1%

Source: Own processing.

-2 Log Likelihood (-2LL)

This indicator measures the overall degree of misfit between the model and the observed data. A lower value indicates that the model fits the actual data more closely. Log Likelihood expresses the logarithm of the probability of observing the data under the given model—thus, the higher the likelihood (and the lower the -2LL), the better the model fits. It is also used for comparing multiple models—lower -2LL values indicate a better model fit. The indicator has a value 438.27, which means that the model achieves an acceptable level of fit—it is not perfect, but it performs better than the null model (without predictors).

Cox & Snell R^2

This coefficient is an analogue of the classical R^2 from linear regression, adjusted for logistic regression.

It expresses the proportion of variability in the dependent variable (in this case, the frequency of online shopping) explained by the set of independent variables.

However, it has an upper limit of less than 1 because, in logistic regression, the computation is based on probabilities rather than variances. Cox & Snell $R^2 = 0.142$. It means that the model explains approximately 14.2% of the variability in online shopping frequency.

Nagelkerke R^2

It is an adjusted version of the Cox & Snell R^2 that rescales the result to allow values between 0 and 1. It is often referred to as a pseudo-coefficient of determination and serves as an alternative to R^2 in linear regression. Nagelkerke $R^2 = 0.196$ and it means that the model explains 19.6% of the variability in the probability that a respondent is a frequent online shopper. In social and behavioural sciences, this represents a solid explanatory level.

Hosmer–Lemeshow Test (p)

It divides predicted probabilities into groups and compares them with the observed outcomes. It is This is a goodness-of-fit test for logistic regression. H_0 : The model fits the data well. H_1 : The model does not fit the data. If $p > 0.05 \rightarrow$ the model has a good fit (H_0 is not rejected). In our case Hosmer–Lemeshow $p = 0.311 > 0.05$. The model fits the data well, with no significant deviations between predicted and observed values.

Classification Accuracy

This statistic indicates the percentage of cases correctly classified by the model (i.e., whether it correctly identifies who belongs to the group of frequent and infrequent online shoppers). It is based on the confusion matrix (predicted vs. actual categories). In social science research, typical accuracy values range between 65 and 80%. In our case it has classification accuracy 73.1%, meaning that the model correctly classifies approximately three quarters of respondents, which is a very good result for behavioural data.

Explanation of Regression Coefficients

This subsection provides a detailed explanation of the regression coefficients obtained from the binary logistic regression model. Each coefficient describes the direction, strength, and statistical significance of the relationship between the predictor variables and the likelihood of frequent online shopping among Generation Z consumers.

B (Coefficient): Indicates the direction and strength of the predictor's influence on the dependent variable, expressed in log-odds. A positive value means that higher values of the predictor increase the likelihood of frequent online shopping, while a negative value decreases it.

S.E.: (Standard Error) Reflects the precision of the estimated coefficient. Smaller values imply higher precision and reliability of the estimated effect.

Wald: Represents the Wald Chi-square statistic, which tests the null hypothesis that the regression coefficient (B) is equal to zero. A larger Wald value suggests that the predictor contributes significantly to the model.

Sig. (*p*): The significance level (*p*-value) indicates whether the predictor variable has a statistically significant influence on the dependent variable. If $p < 0.05$, the effect is statistically significant, meaning the predictor has a meaningful impact on the likelihood of the outcome.

Exp(B) (Odds Ratio): Shows how the odds of the outcome change with a one-unit increase in the predictor while keeping all other predictors constant. An Exp(B) value greater than 1 indicates an increase in the likelihood of the event, while values below 1 suggest a decrease.

Constant: Represents the baseline log-odds of the dependent variable when all predictors are set to zero. It acts as a reference point for the model and has no direct substantive interpretation.

The logistic regression results revealed that time spent online was the strongest and most statistically significant predictor ($p < 0.001$, $\text{Exp}(B) = 2.75$). Respondents who spend more than two hours daily on social media are approximately 2.75 times more likely to shop online frequently. Perceived digital influence ($p = 0.018$, $\text{Exp}(B) = 2.04$) also significantly increases the likelihood of frequent online purchases. Higher-income respondents ($p = 0.023$, $\text{Exp}(B) = 1.92$) and female consumers ($p = 0.024$, $\text{Exp}(B) = 1.62$) show greater odds of frequent online shopping. In contrast, working status ($p = 0.221$) was not statistically significant, indicating that employment type does not substantially affect online shopping frequency.

4. Discussion

Based on the results obtained from the questionnaire survey, it appears that Generation Z is very active in the digital world and shows clear buying tendencies that are largely influenced by the online environment.

There are many factors influencing this generation. The dominant one is currently, according to (Tian et al., 2022), the ease of integrating AI into daily life and perceived AI utility enhancing purchase intentions.

This view is also confirmed by (Seeram et al., 2024), with their finding that artificial intelligence (AI) has emerged as a powerful tool that is redefining the online shopping experience.

However, the online experience itself plays an important role. This is also the finding of (Chen et al., 2022) who obtained research results that indicate that online brand experience, brand image, brand trust, and brand loyalty play the most crucial roles, having a greater effect on Gen Z's purchase intention, while brand awareness and knowledge also contribute. However, brand engagement and behavioural intention have weaker effects.

These findings suggest that brands targeting Gen Z should prioritize building a strong, trustworthy, and engaging online presence while highlighting their sustainability efforts, and when Gen Z consumers have favourable digital interactions with a brand, perceive its image positively, trust it, and feel loyal to it, they are more likely to consider purchasing its sustainable offerings.

It is known that Generation Z is sensitive to environmental issues, which also affects their purchasing behaviour. This is also evidenced by the conclusion of the research by (Obada & Țugulea, 2024). The results of their research showed that purchasing intention for eco-products is strongly influenced by the perceived quality of environmentally friendly products, consumer consciousness about eco-products, perceived value of green products, and consumer trust in ecological products.

This view is also supported by (Alves de Castro, 2023), who concluded that pro-environmental beliefs affect Generation Z consumers' attitudes and continuance of intention toward online fashion resale participation with strong effects for the group of self-oriented shoppers.

Focusing on our survey, we were able to gather detailed information about their purchasing behaviour, preferences and relationships to digital marketing communication.

The results of our findings show that there are advertisements that Generation Z hardly responds to at all nowadays. For these types of ads, Gen Z feedback is almost completely absent. The most popular form of advertising for this generation is social media advertising. It can therefore be concluded that if a business intends to target advertising exclusively to this generation, it should go down the social networking route.

The fact that social networks are very close to Generation Z is confirmed by the authors (Solomons et al., 2025). They argue that Generation Z has different activities on social media depending on whether they join it for daily routine alternatives or socialization. They also found that motivation and family income interacted and influenced Generation Z's social media practices (e.g., social capital accumulation and exchange and self-expression). In terms of preference for specific social networking sites, according to (Duffett & Mxunyelwa, 2025). The most popular platforms are YouTube, WhatsApp, TikTok, and Instagram.

Demographics and social status: there was a noticeable dominance of women among Generation Z respondents (60.45%), which may have implications for preferences in shopping categories such as fashion, cosmetics, and electronics, which are frequently found among women. The high proportion of students (61.44%) indicates that a majority of the respondents do not have a stable income, which influences their purchasing decisions. In this context, it is interesting to note that Generation Z is willing to shop even at higher prices if they are dealing with quality products, indicating their selective approach to online shopping.

The digital world and shopping: Generation Z shows a high intensity of online shopping. Almost a third of respondents shop once a month, while 26.62% shop more frequently, indicating the strong influence of the digital environment on their decision-making. The most frequently purchased products are fashion, electronics and cosmetics, which are categories that are commonly promoted through online channels, making it clear that this generation is very active in the online space and open to online shopping. (Bunea et al., 2024). In this regard, they add that the attributes of advertising, including fashion, socialization, entertainment, personalization and branding, significantly support the psychological needs and satisfaction of young people. In addition, satisfaction influences consumer behaviour, and in the same way, fashion and brand attributes directly influence consumer satisfaction. The study by (Ruiz-Viñals et al., 2024). shows that unlike Generation Y, which is slower to adopt e-commerce, Generation Z shows a strong preference

for online shopping due to their comfort level with technology and their status as digital natives.

The positive aspects of the digital world for Generation Z are mainly in the availability of online shopping 24 h a day and the speed of the shopping process. Conversely, the downside is the lack of physical contact with the product and the risk of fraud. In this respect, it is evident that Generation Z is aware of the potential risks of online shopping, but at the same time appreciates its advantages such as convenience and flexibility.

The impact of reviews and advertising: reviews are an important factor in Generation Z's decision-making, but they are not decisive for every respondent. More than half of respondents consider reviews to have a moderate influence on their decision-making, with only a small proportion of their purchasing decisions being entirely dependent on these reviews. This demonstrates the relative independence of this generation in making purchasing decisions, although they do value feedback from other consumers. Interesting in this context is the finding of the authors of (Theocharis & Tsekouropoulos, 2025), who investigated the influence of online product reviews on purchase decision making. Their results showed that consumer attention to negative comments was significantly greater than attention to positive comments, especially among female consumers. The study further identified a significant correlation between consumers' visual browsing behaviour and their purchase intention. It was also found that consumers were unable to identify fake comments. Specifically, the differential effects of consumers' attention to negative comments appear to be moderated by gender, with consumers' attention to negative comments being significantly greater than attention to positive comments. These findings suggest that practitioners need to pay particular attention to negative comments and address them promptly by tailoring product/service information to consumer characteristics, including gender.

Regarding advertising, social networks are proving to be the most effective tool for reaching this group. Adverts on social networks are both the most popular and the most effective, which confirms the current trend in digital marketing. This means that companies should invest heavily in ads on these platforms to maximize their reach among young consumers. However, the impact of ads can also have negative consequences, as declared by (Filip et al., 2025). Indeed, the results of their investigation suggest that attitude towards advertising negatively affects the perceived intrusiveness of ads, whereas attitude towards advertising positively affects the credibility and value of ads. Thus, only tailored ad content leads to a positive attitude towards ads, creating an optimal experience on the platform and positive perceptions of ads in terms of trustworthiness and value.

Popular people, called influencers, are associated with social media activity and are followed by users based on likes, similar opinions and values. These individuals generate income from content creation, which is also associated with the creation of paid advertising. In this way, influencers can directly influence the purchasing decisions of their followers or followers' followers. According to expert sources, influencer marketing is particularly popular among Generation Z. From the data collected so far, it can be concluded that influencers are popular among Generation Z, but most of these consumers do not use social networks to buy from them. Influencers are therefore an appropriate form of marketing communication with these consumers, but they do not form an effective sales tool between them and the retailer in the online space. This observation is supported by the author (C. Liu et al., 2023) who states that YouTubers, influencers or, in a broader context, content on social media platforms (such as Instagram, TikTok, as well as entertainment platforms such as Netflix) demonstrate how the new mediators of communication and forms of media content preferred by young people are more than ever linked to the sharing of values, norms and social expectations, similar to how family and school used to be. Similarly,

the importance of influencers is confirmed by (Belch et al., 2024), who offers insights from his study regarding influencers influencing Generation Z. His findings confirm that this generation is susceptible to being influenced by influencers on social media in a variety of contexts. Three factors play a key role in this regard: parasocial relationship, trust and the ability to identify with them.

In addition to the content that influencers offer on social media, the quality of the content is also very important. This is because, according to an influencer's expertise, it is crucial for building authority and credibility in a particular field or business. Therefore, mega influencers' recommendations on Instagram are more likely to be accepted by young audiences when they demonstrate deep expertise and understanding. Influencers have a significant influence on Generation Z's buying behaviour, although only about 18% of respondents follow more than 5 influencers. However, most respondents do not follow them regularly. Interestingly, although influencers can influence purchasing decisions, the majority of Generation Z do not use social media to buy directly from influencers or brands. This phenomenon suggests that while influencers do shape purchasing decisions, social networks do not serve as the primary shopping environment for this generation.

The survey results show that Generation Z is very digitally oriented, with their purchasing behaviour largely influenced by the online environment. Based on the preferences and habits of Generation Z, it is evident that companies should focus on marketing strategies that include advertising on social media, using influencers and providing quality online reviews. Considering the high intensity of online shopping by this generation, their behaviour becomes a key factor for success in digital marketing.

Based on the above findings about the behaviour of Generation Z in the digital environment, the following managerial implications can be recommended for businesses:

- Adapting marketing strategy: Focus on personalised marketing campaigns that reflect values such as transparency and speed. Make sure that communications are tailored to the preferences of Generation Z, especially through video advertising on social networks.
- Optimising online presence: Create and maintain attractive and intuitive online platforms that offer a simple and fast purchasing process. This way, you will ensure that customers have a positive experience, which increases the likelihood of repeat purchases.
- Considering the social context: Be aware that Generation Z spends more time on social networks. Consider working with influencers who are relevant to this generation and use the platforms that are most attractive to them.
- Focus on values and ethics: Since young consumers are interested in ethical and sustainable practices, consider introducing and promoting eco-friendly initiatives. Even if strong relationships have not emerged, if the campaign focuses on sustainability, it can attract the attention of this generation.
- Data collection and analysis: Continue to collect and analyse data on consumer behaviour. Focus on identifying trends and patterns that can provide deeper insight into the preferences and needs of Generation Z.
- Testing and adaptation: Given that some relationships between variables have been shown to be statistically significant, it is important to conduct regular testing of marketing strategies and adapt them based on new findings.
- Employee Education: Invest in training employees, especially those involved in marketing and customer service, to better understand the needs and preferences of Generation Z. These recommendations can help businesses better adapt and take advantage of the opportunities that the digital world brings with it in relation to Generation Z consumer behaviour.

It is impossible not to mention the theoretical contribution of the addressed issue, which lies in several aspects:

- Expansion of the existing literature: The study contributes to the current knowledge about the behaviour of Generation Z in the digital environment, thereby complementing the existing theoretical frameworks on shopping and consumer behaviour. In this way, it provides new insights into the dynamics between the digital environment and consumer decision-making.
- Identification of key factors: Findings on the preferences and values of Generation Z, such as convenience, transparency and speed of service, can serve as a basis for further theoretical models and studies that could analyse the impact of these factors on shopping behaviour.
- Empirical evidence: The study provides empirical evidence on the relationship between demographic factors, such as employment status and income level, and shopping preferences in the digital world. These findings can be the basis for future research that could deal with an in-depth analysis of these relationships.
- Increased understanding of marketing strategies: Considering the effectiveness of different forms of marketing communication on social networks provides a theoretical framework that can be applied to create effective marketing strategies aimed at younger generations.
- Contribution to interdisciplinary research: This study connects marketing, psychology and sociology, thereby contributing to an interdisciplinary approach to the analysis of consumer behaviour in the digital age.
- Basis for further research: Findings on statistically significant relationships between variables provide a basis for further in-depth investigation and hypothesis testing, thus opening new directions for academic research.
- Overall, this study strengthens the theoretical understanding of Generation Z behaviour in the digital environment and offers valuable suggestions for future research and practice in the field of marketing and sales.
- There are also no managerial implications for businesses when it comes to addressing the impact of the digital world on the purchasing behaviour of Generation Z in the Slovak Republic.

In terms of managerial implications for businesses, the following points can be considered:

- Focus on digital presence: Businesses should strengthen their online presence and invest in optimising their websites and e-shops to ensure a fast and convenient shopping process.
- Leverage social networks: Since Generation Z spends a lot of time on social networks, businesses should develop targeted marketing campaigns on platforms such as Instagram, TikTok or YouTube that consider the preferences of this generation.
- Marketing personalisation: Implementing customised marketing strategies that reflect the values and interests of Generation Z can increase the effectiveness of advertising campaigns. Personalised offers and communications can help create a stronger relationship with customers.
- Focus on values and transparency: Businesses should address issues of ethics and sustainability, as Generation Z places emphasis on these factors. Transparent practices and responsible business practices can attract this target group.
- Adapt to new trends: Constantly monitoring trends in digital marketing and consumer behaviour is key. Businesses should be prepared to adapt quickly to changing preferences and technologies.

- Invest in video content: Given that Generation Z responds best to video advertising, businesses should invest in creating quality video content that is entertaining and informative.
- Campaign analysis and evaluation: An emphasis on collecting and analysing customer data is essential for optimising marketing strategies. Regular campaign evaluation can help identify strengths and weaknesses and adjust future activities.
- Employee education: Employees should be trained in digital marketing and consumer trends so that they are able to effectively communicate with customers and respond to their needs.

In this way, businesses can better utilise the opportunities that arise in the digital environment and more effectively address and satisfy the needs of Generation Z.

Comparison with V4 and International Findings

To increase the generalizability of the presented findings, the results from Slovakia were compared with recent studies and reports from neighbouring V4 countries (the Czech Republic, Poland and Hungary) and broader Central European research. Overall, several common patterns emerge across V4 and Central Europe that align with our Slovak sample (Mazanec & Harantová, 2024):

1. High online activity and e-commerce adoption among Generation Z: National and market reports from the Czech Republic and Hungary indicate strong growth in online users and e-commerce activity in the 18–25 age group, which is consistent with our finding that Generation Z in Slovakia is highly active online and frequently shops on digital platforms. These sources report a notable increase in new online shoppers from the Gen-Z age cohort in recent years (GWI, 2022).

2. Importance of social media and video formats: Market and academic studies from the region highlight social media (especially short-form video) as a primary channel for reaching Gen Z and a highly effective advertising format—mirroring our result that social media and video ads ranked highest in both popularity and effectiveness among Slovak respondents (Screenvoice, 2025).

3. Sustainability and values matter, but with nuance: Comparative V4 research on pro-ecological and values-based purchasing shows that Generation Z across Poland, the Czech Republic, Hungary and Slovakia express relatively high concern for sustainability and is willing to pay a premium for greener products (Fafílek & Kramoliš, 2024). However, empirical studies also show a gap between expressed values and actual purchase behaviour, which aligns with our finding that sustainability is important but was not always the top practical priority (where convenience, clarity of e-shop and price often dominated).

4. Impulse buying and Omni channel preferences: Central European studies report elevated impulsive buying tendencies among Gen Z and an Omni channel shopping posture (they combine in-store and online browsing), which complements our observation of frequent online shopping and impulse-related concerns cited by Slovak respondents.

5. Payment methods and platform choices: Regional surveys indicate that payment cards and digital wallets are increasingly preferred by younger consumers in V4 markets, consistent with the Slovak sample preference for card payments and presence of e-wallet usage.

In sum, the Slovakian findings largely reflect broader V4 and Central European patterns: Generation Z is a highly digital, social media-driven consumer cohort that values sustainability in principle but prioritises convenience and clarity in purchase decisions. These cross-country consistencies strengthen the external validity and generalisability of the study's conclusions, while observed nuances (e.g., the weak strengths of some statisti-

cal associations) highlight the importance of local context and the need for further multi-country comparative research.

5. Conclusions

The present paper discusses the impact of the digital world on the buying behaviour of Generation Z, often referred to as 'digital natives'. This cohort has an excellent understanding of the digital environment, which led us to focus on them to understand how the online environment influences them in their purchasing decisions.

A questionnaire survey was conducted to gather relevant data, which provided valuable insights into the issue under study. Thus, our aim was to evaluate the impact of the digital world on the purchasing behaviour of Generation Z consumers in the Slovak Republic. We focused on several aspects of the study, including basic demographics, the social status of respondents, their behaviour in the digital environment, customer-focused marketing communication methods, the use of social networks and the preferences of this segment in relation to the digital shopping space. The paper thus contributes to a better understanding of the impact of the digital environment on the behaviour of Generation Z in Slovakia and offers suggestions for further research or practical marketing practice. In addition to the theoretical aspects of the subject matter, we also focused on the interpretation of the findings from the questionnaire survey conducted and their graphical processing, as well as statistical analysis of the existence and intensity of dependencies of selected categorical variables. From the conclusions obtained it is possible to state several basic findings. Generation Z spends significantly more time on social networks compared to older generations, which is related to the popularity of the selected types of advertisements and their effectiveness in influencing the purchasing behaviour of these individuals. Their priorities when dealing with retailers are not sustainability or price, but convenience, transparency and speed of service. Even given their lower income, Generation Z individuals have an overview of the shopping portals available and the values and opinions they can stand by in terms of their shopping preferences. These consumers perceive marketing communication from retailers in almost all its forms, but the highest feedback from them comes from advertisements placed in social networking environments, even though most of them do not use social networks directly for shopping. Generation Z consumers respond best to video ads. When testing for dependencies between categorical variables, statistically significant dependencies were found only in some cases, namely:

- between work status and type of shopping platforms,
- between income level and type of shopping platforms,
- between working status and sustainability and ethics factors,
- between time spent on social networks and gender.

The dependencies all had a weak dependency according to Cramer's V, but this does not disprove its existence. From the point of view of retailers, these findings could represent an opportunity for generating additional sales or saving promotion costs, especially for SMEs or start-ups in the Slovak market.

Even though most analyses did not show strong relationships between the variables studied, in some cases (e.g., work status and sustainability, gender and time on social networks) a statistically significant relationship emerged. This conclusion may be useful for the design of marketing strategies and further research that aims to identify factors influencing consumer purchasing behaviourism section is not mandatory but can be added to the manuscript if the discussion is unusually long or complex.

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References

- Abebe, H. T., Awe, O. O., Love, K., & Vance, E. A. (2022). Determination of sample size and errors. In *Promoting statistical practice and collaboration in developing countries* (pp. 67–75). Chapman and Hall/CRC.
- Adobe. (2018). *Adobe Experience Manager 6.4: Defining the next wave of content-driven experiences*. Available online: <https://blog.adobe.com/en/publish/2018/02/08/adobe-experience-manager-6-4-defining-the-next-wave-of-content-driven-experiences> (accessed on 10 January 2025).
- Agnihotri, D., Chaturvedi, P., Kulshreshtha, K., & Tripathi, V. (2023). Investigating the impact of authenticity of social media influencers on followers' purchase behavior: Mediating analysis of parasocial interaction on Instagram. *The Asia Pacific Journal of Marketing and Logistics*, 35, 2377–2394. [CrossRef]
- Ahmed, R. R., Streimikiene, D., Berchtold, G., Vveinhardt, J., Channar, Z. A., & Soomro, R. H. (2019). Effectiveness of online digital media advertising as a strategic tool for building brand sustainability: Evidence from FMCGs and services sectors of Pakistan. *Sustainability*, 11(12), 3436. [CrossRef]
- Akbar, P. N. G., & Gunawijaya, J. (2022). Millennials and Gen Z: Their characteristics, perceptions, and satisfaction from leisure and event perspectives. *Proceedings*, 83(1), 9. [CrossRef]
- Al Hamli, S. S., & Sobaih, A. E. E. (2023). Factors influencing consumer behavior towards online shopping in Saudi Arabia amid COVID-19: Implications for e-businesses post-pandemic. *Journal of Risk and Financial Management*, 16(1), 36. [CrossRef]
- Aliami, S. (2022). Internal and external factors of consumer behaviour: Phenomenon in buying decisions at the Keboen Rodjo Restaurant, Kediri. *Efektor*, 9(1), 35–47. [CrossRef]
- Alshakhsi, S., Babiker, A., Sindermann, C., Al-Thani, D., Montag, C., & Ali, R. (2024). Willingness to pay for digital wellbeing features on social network sites: A study with Arab and European samples. *Frontiers in Computational Science*, 6, 1387681. [CrossRef]
- Alves de Castro, C. (2023). Thematic analysis in social media influencers: Who are they following and why? *Frontiers in Communication*, 8, 1217684. [CrossRef]
- Ameen, N., Hosany, S., & Taheri, B. (2023). Generation Z's psychology and new-age technologies: Implications for future research. *Psychology & Marketing*, 40(10), 2029–2040. [CrossRef]
- Baabdullah, A. A., & Ansari, Y. (2020). Factors influencing online buying behavior of customers in Saudi Arabia. *Journal of Economic, Administrative and Legal Sciences*, 5, 146–159.
- Barbosa, L. S. d. S., de Andrade-Matos, M. B., & Perinotto, A. R. C. (2020). Digital marketing: The influence of digital social media on the purchase decision process of accommodation consumers. *Podium*, 9(1), 154–170. [CrossRef]
- Bartanus, A. (2023). *Čo je digitálny marketing?* Available online: <https://marketier.sk/co-je-digitalny-marketing/> (accessed on 6 March 2025).

- Belch, P., Hajduk-Stelmachowicz, M., Chudy-Laskowska, K., Vozňáková, I., & Gavurová, B. (2024). Factors determining the choice of pro-ecological products among Generation Z. *Sustainability*, 16, 1560. [CrossRef]
- Bettiga, D., & Noci, G. (2024). The influence of television content on advertisement: A neurophysiological study. *Frontiers in Psychology*, 15, 1266906. [CrossRef]
- Bowie, D., Paraskevas, A., & Mariusen, A. (2014). Technology-driven online marketing performance measurement: Lessons from affiliate marketing. *International Journal of Online Marketing*, 4(4), 1–16. [CrossRef]
- Bunea, O.-I., Corboș, R.-A., Mișu, S. I., Triculescu, M., & Trifu, A. (2024). The next-generation shopper: A study of Generation-Z perceptions of AI in online shopping. *Journal of Theoretical and Applied Electronic Commerce Research*, 19, 2605–2629.
- Cabeza-Ramírez, L. J., Fuentes-García, F. J., Cano-Vicente, M. C., & González-Mohino, M. (2022). How Generation X and Millennials perceive influencers' recommendations: Perceived trustworthiness, product involvement, and perceived risk. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(4), 1431–1449. [CrossRef]
- Chakrabarty, A. (2024). *What is a consumer: Exploring definitions, types and rights*. Available online: <https://unstopp.com/blog/what-is-a-consumer> (accessed on 15 December 2024).
- Chaney, D., Touzani, M., & Ben Slimane, K. (2017). Marketing to the (new) generations: Summary and perspectives. *Journal of Strategic Marketing*, 25, 179–189. [CrossRef]
- Chen, T., Samaranayake, P., Cen, X., Qi, M., & Lan, Y.-C. (2022). The impact of online reviews on consumers' purchasing decisions: Evidence from an eye-tracking study. *Frontiers in Psychology*, 13, 865702. [CrossRef]
- Chernenko, O., Kovalchuk, S., Perevozova, I., Fayvishenko, D., & Zaburmekha, Y. (2022). Systematic approach to involving the tools of digital marketing as a guarantee of international business development. *International Journal of Computer Science and Network Security*, 22(2), 311–317.
- Djafarova, E., & Bowes, T. (2021). "Instagram made me buy it": Generation Z impulse purchases in the fashion industry. *Journal of Retailing and Consumer Services*, 59, 102345. [CrossRef]
- Dobre, C., Milovan, A.-M., Duțu, C., Preda, G., & Agapie, A. (2021). The common values of social media marketing and luxury brands: The Millennials and Generation Z perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(7), 2532–2553. [CrossRef]
- Dokoupilová, L., Cogiel, A., & Fero, M. (2024). Values as motivating factors for representatives of Generation Z in the Czech Republic and Slovakia within the European context. *Frontiers in Psychology*, 15, 1404354. [CrossRef]
- Duffett, R., & Mxunyelwa, A. (2025). Instagram mega-influencers' effect on Generation Z's intention to purchase: A technology acceptance model and source credibility model perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(2), 94. [CrossRef]
- Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168. [CrossRef]
- Elkatmış, M. (2024). Examination of social media usage habits of Generation Z. *Frontiers in Psychology*, 15, 1370823. [CrossRef] [PubMed]
- Fafilek, M., & Kramoliš, J. (2024). Available online: https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2024.1370823/full?gad_source=1&gad_campaignid=23251497049&gclid=Cj0KCQiAiebIBhDmARIsAE8PGNKe3ER8gRZG6sNGWWcSdHWsGjZ9wGz4jB8E03SbQtFMbk7AVjgF-pkaAqFEEALw_wcB (accessed on 6 October 2025).
- Figueiredo, N., Ferreira, B. M., Abrantes, J. L., & Martinez, L. F. (2025). The role of digital marketing in online shopping: A bibliometric analysis for decoding consumer behavior. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(1), 25. [CrossRef]
- Filip, A., Stancu, A., Onișor, L.-F., Mogoș, O. C., Catană, Ș.-A., & Goldbach, D. (2025). Drivers of purchase intentions of Generation Z on eco-products. *Sustainability*, 17, 629. [CrossRef]
- Gorynski, M. (2025). *Millennials vs. Gen Z: Differences in customer service expectations*. Available online: <https://www.zendesk.com/blog/millennials-vs-gen-z-customer-service-expectations-compare/> (accessed on 1 December 2024).
- Goryunova, E., & Jenkins, D. (2023). "Digital natives" in *handbook of global leadership and followership* (pp. 431–447). Springer International Publishing.
- Gündüzyeli, B. (2024). Artificial intelligence in digital marketing within the framework of sustainable management. *Sustainability*, 16(23), 10511. [CrossRef]
- GW/Publicis Hungary market summary. (2022). *Generation Z as engine of e-commerce in Hungary (report/article)*. Publicis Groupe Hungary. Available online: <https://www.publicisgroupe.hu/media-studies/generation-z-is-the-engine-of-e-commerce-in-hungary/> (accessed on 6 October 2025).

- Hu, Q., Hu, X., & Hou, P. (2022). One social media, distinct habitus: Generation Z's social media uses and gratifications and the moderation effect of economic capital. *Frontiers in Psychology*, 13, 939128. [CrossRef] [PubMed]
- Hung, S. Y., Chen, C. C., & Huang, N. (2014). An integrative approach to understanding customer satisfaction with e-service of online stores. *Journal of Electronic Commerce Research*, 15, 40–57.
- Ihnatenko, R. (2022). Target advertising technologies: Essence and efficiency. *Фінансово-кредитна діяльність: проблеми теорії і практики*, 1, 428–435.
- Insider. (2025, September 30). *Customer targeting: What it is, how it works, examples and more*. Available online: <https://useinsider.com/customer-targeting/> (accessed on 30 September 2025).
- Jongmans, E., Jeannot, F., Liang, L., & Damperat, M. (2022). Impact of website visual design on user experience and website evaluation: The sequential mediating roles of usability and pleasure. *Journal of Marketing Management*, 38, 2078–2113. [CrossRef]
- Kannan, P. K., & Li, H. A. (2017). Digital marketing: A framework, review, and research agenda. *International Journal of Research in Marketing*, 34(1), 22–45. [CrossRef]
- Kenton, W. (2023). *Customer: Definition and how to study their behavior for marketing*. Available online: <https://www.investopedia.com/terms/c/customer.asp> (accessed on 5 December 2024).
- Kisielevska, M. (2025). *7 Different types of customers in consumers & how to deal with them*. Available online: <https://www.tidio.com/blog/types-of-customers/> (accessed on 5 January 2025).
- Kotler, P., Wong, V., Saunders, J., & Armstrong, G. (2007). *Moderní marketing*. Grada Publishing.
- Koufogazos, M. (2023). *Millennials vs. Gen X: What do they want from brands?* Available online: <https://salsify.com/blog/shopping-habits-millennials-vs.-gen-x> (accessed on 25 February 2025).
- Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, 74(2), 132–157. [CrossRef]
- Lim, W., Satish, K., Deepak, V., & Divesh, K. (2023). Evolution and trends in consumer behaviour: Insights from *Journal of Consumer Behaviour*. *Journal of Consumer Behaviour*, 22(1), 217–232. [CrossRef]
- Liu, C., Bernardoni, J. M., & Wang, Z. (2023). Examining Generation Z consumer online fashion resale participation and continuance intention through the lens of consumer perceived value. *Sustainability*, 15, 8213. [CrossRef]
- Liu, H., Wang, J., Zhang, R., & Liu, O. (2024). Does the weather still affect me when I shop at home? The impact of weather on online shopping behavior. *Journal of Theoretical and Applied Electronic Commerce Research*, 19(3), 2289–2311. [CrossRef]
- López García, J. J., Lizcano, D., Ramos, C. M., & Matos, N. (2019). Digital marketing actions that achieve better attraction and loyalty of users: An analytical study. *Future Internet*, 11(6), 130. [CrossRef]
- Ma, S., & Chen, C. (2023). Are digital natives overconfident in their privacy literacy? Discrepancy between self-assessed and actual privacy literacy, and their impact on privacy protection behavior. *Frontiers Psychology*, 14, 1224168. [CrossRef] [PubMed]
- Ma, Z., Guo, G., & Jing, L. (2024). Consumer behavior research in the 21st century: Clusters, themes, and future research agenda. *International Journal of Consumer Studies*, 48(1), e12980. [CrossRef]
- Malik, A., Gulzar, A., Khan, M. A., & Siddique, N. (2024). Mapping global research on Generation Z: A bibliometric analysis. *Global Knowledge, Memory and Communication*. [CrossRef]
- Maloni, M., Hiatt, M. S., & Campbell, S. (2019). Understanding the work values of Gen Z business students. *The International Journal of Management Education*, 17, 100320. [CrossRef]
- Martínez-Ruiz, M. P., & Gómez-Cantó, C. M. (2016). Key external influences affecting consumers' decisions regarding food. *Frontiers in Psychology*, 7, 1618. [CrossRef]
- Mazanec, J., & Harantová, V. (2024). Gen Z and their sustainable shopping behavior in the second-hand clothing segment: Case study of the Slovak Republic. *Sustainability*, 16, 3129. [CrossRef]
- Noh, Y.-G., Jeon, J., & Hong, J.-H. (2023). Understanding of customer decision-making behaviors depending on online reviews. *Applied Sciences*, 13(6), 3949. [CrossRef]
- Obada, D. R., & Țugulea, O. (2024). What drives online impulse buying among Zoomers on TikTok in an emerging market? A new model based on flow theory. *Frontiers in Communication*, 9, 1470327. [CrossRef]
- Pasaribu, S. B., Novitasari, D., Goestjahjanti, F. S., & Hendratono, T. (2022). The impact and challenges of digital marketing in the health care industry during the digital era and the COVID-19 pandemic. *Frontiers in Public Health*, 10, 969523. [CrossRef]
- Păvăloaia, V.-D., Anastasiei, I.-D., & Fotache, D. (2020). Social media and e-mail marketing campaigns: Symmetry versus convergence. *Symmetry*, 12(12), 1940. [CrossRef]
- Peña García, N., Losada Otálora, M., Auza, D. P., & Cruz, M. P. (2024). Reviews, trust, and customer experience in online marketplaces: The case of Mercado Libre Colombia. *Frontiers in Communication*, 9, 1460321. [CrossRef]
- Priporas, C.-V., Stylos, N., & Fotiadis, A. K. (2017). Generation Z consumers' expectations of interactions in smart retailing: A future agenda. *Computers in Human Behavior*, 77, 374–381. [CrossRef]
- Puthussery, A. (2020). *Digital marketing: An overview* (144p). Notion Press. ISBN 978-1647838669.

- Putri, N. (2024). TikTok shop: How trust and privacy influence generation Z's purchasing behaviors. *Cogent Social Sciences*, 10(1), 2292759.
- Rattanapon, K., Jorissen, A., Jones, K. P., & Ketkaew, C. (2023). An analysis of multigenerational issues of Generation X and Y employees in small- and medium-sized enterprises in Thailand: The moderation effect of age groups on person–environment fit and turnover intention. *Behavioral Sciences*, 13(6), 489. [CrossRef] [PubMed]
- Reich, N., & Azar, O. H. (2024). What affects the value of our time? The case of buying a present vs. buying for ourselves and the impact of decision-making styles. *Behavioral Sciences*, 14(9), 786. [CrossRef]
- Rice, A., & Potts, W. (2024). Generation Z's philanthropic engagement in the United States agrofood sector: Perceptions, motivations, and intentions. *Journal of Agricultural Education*, 65(1), 303–319. [CrossRef]
- Rodrigues, R. I., Lopes, P., & Varela, M. (2021). Factors affecting impulse buying behavior of consumers. *Frontiers in Psychology*, 12, 697080. [CrossRef]
- Ruiz-Viñals, C., Pretel-Jiménez, M., Del Olmo Arriaga, J. L., & Miró Pérez, A. (2024). The influence of artificial intelligence on Generation Z's online fashion purchase intention. *Journal of Theoretical and Applied Electronic Commerce Research*, 19, 2813–2827. [CrossRef]
- Sak, T., Mylko, I., Ivashko, O., Chulipa, I., Wołowicz, T., & Sokołowska-Woźniak, J. (2025). How the digital economy is revolutionizing marketing management and driving sustainable development. *Sustainability*, 17(3), 1130. [CrossRef]
- Sakas, D. P., Giannakopoulos, N. T., Nasiopoulos, D. K., Kanellos, N., & Tsoulfas, G. T. (2023). Assessing the efficacy of cryptocurrency applications' affiliate marketing process on supply chain firms' website visibility. *Sustainability*, 15(9), 7326. [CrossRef]
- Salem, M. A., & Nor, K. M. (2020). The effect of COVID-19 on consumer behaviour in Saudi Arabia: Switching from brick-and-mortar stores to e-commerce. *International Journal of Scientific and Technology Research*, 9, 15–28.
- Salkova, D., Hes, A., & Kučera, P. (2023). Sustainable consumer behavior: The driving force of innovation in retail. *Sustainability*, 15(24), 16648. [CrossRef]
- Sauro, J., & Lewis, J. R. (2012). Is there a statistical difference between designs? In *Quantifying the user experience*. Elsevier Inc. [CrossRef]
- Savitri, C., Hurriyati, R., Wibowo, L., & Hendrayati, H. (2022). The role of social media marketing and brand image on smartphone purchase intention. *International Journal of Data and Network Science*, 6, 185–192. [CrossRef]
- Schroth, H. (2019). Are you ready for Gen Z in the workplace? *California Management Review*, 61(3), 5–18. [CrossRef]
- Screenvoice. (2025). Czech national market summary — Rast online nakupovania v 18–24 skupine. Available online: <https://www.screenvoice.cz/rubrika/aktuality/page/7> (accessed on 9 January 2025).
- Seeram, H., Sabura, F. M., Keerthivasan, S., & Iyer, P. B. (2024). Comparative analysis of Generation Z and Generation Y's decisions towards online purchases. *Frontiers in Health Informatics*, 13(6), 1357–1367.
- Sharma, A. (2024). Content marketing in the digital transformation era: Trends and best practices. *Proceedings*, 101(1), 7. [CrossRef]
- Solomons, J., Bekker, S., Groom, R., & Kraak, W. (2025). Insights into coaching effectiveness: Perspectives from coaches and players in South African women's rugby. *International Journal of Sports Science & Coaching*, 20(1), 8–21. [CrossRef]
- Tancharoenwong, A. S. (2018). Facebook as a digital marketing tool: Facebook's engagement strategy for maternal and child health page. *International Journal of Business and Economics*, 10, 3–17.
- Theocharis, D., & Tsekouropoulos, G. (2025). Sustainable consumption and branding for Gen Z: How brand dimensions influence consumer behavior and adoption of newly launched technological products. *Sustainability*, 17, 4124. [CrossRef]
- Tian, K., Xuan, W., Hao, L., Wei, W., Li, D., & Zhu, L. (2022). Exploring youth consumer behavior in the context of mobile short video advertising using an extended stimulus–organization–response model. *Frontiers in Psychology*, 13, 933542. [CrossRef]
- Tirocchi, S. (2024). Generation Z, values, and media: From influencers to BeReal, between visibility and authenticity. *Frontiers in Sociology*, 8, 1304093. [CrossRef]
- Veglis, A., & Giomelakis, D. (2020). Search engine optimization. *Future Internet*, 12(1), 6. [CrossRef]
- Vidal, C. (2021, June 23–26). *The new era of digital marketing: Content marketing and inbound marketing 2021*. 16th Iberian Conference on Information Systems and Technologies (CISTI), Chaves, Portugal.
- Voyado, C. (2025). Generation Z shopping behavior: How to win Gen Z shoppers? Available online: <https://voyado.com/resources/blog/generation-z-online-shopping-habits/> (accessed on 7 January 2025).
- Wang, Y., Zhou, Z., Xu, C., & Zhao, S. (2022). The effect of contextual mobile advertising on purchase intention: The moderating role of extroversion and neuroticism. *Frontiers in Psychology*, 13, 849369. [CrossRef] [PubMed]
- Yavuz Aksakal, N., & Ulucan, E. (2024). Revealing the leadership characteristics of the modern age: Generation Z perspective. *International Journal of Organizational Leadership*, 13, 22–38. [CrossRef]
- Yılmaz, B., Dinler Kışaştutan, E., & Gürün Karatepe, S. (2024). Digital natives of the labor market: Generation Z as future leaders and their perspectives on leadership. *Frontiers in Psychology*, 15, 1378982. [CrossRef] [PubMed]

- Zhang, H., & Luo, X. (2024). Exploring how IP marketing (media marketing) influences consumer shopping psychology through quantitative and empirical analysis. *Frontiers in Psychology, 15*, 1292636. [[CrossRef](#)] [[PubMed](#)]
- Zhao, J., & Zhang, P. (2023). Investigating the role of e-commerce marketing capabilities to achieve the strategic performance of tourism firms. *Frontiers in Psychology, 14*, 1105539. [[CrossRef](#)]

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