

GENERATION Z AS E-CONSUMERS – GENDER DIFFERENCES

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Purpose: The aim of the conducted study was to identify key factors shaping Generation Z's purchasing decisions and examine gender differences in their e-consumer behavior.

Design/methodology/approach: In order to identify the online shopping behaviors of Generation Z consumers, a study was conducted using an original survey questionnaire. The empirical study was preceded by literature research, which was the basis for both the construction of the aforementioned tool and the subsequent discussion of the presented research results.

Findings: The research findings indicate that both women and men representing Generation Z highly value 24/7 shopping availability, time efficiency, and the ability to compare prices. However, women tend to rely more on recommendations from close contacts and influencers, whereas men more frequently use price comparison websites and product or service reviews. The primary barriers to online shopping remain the inability to physically examine the product and discrepancies between its description and reality.

Research limitations/implications: A key limitation of this study is that it was conducted among students from a specific generation, meaning the participants were not only at a particular life stage but also within a specific age range. Furthermore, the relatively small sample size may restrict the generalizability of the findings. To address these limitations, future research could include a broader sample of Generation Z, extending beyond the student population. Furthermore, exploring the influence of cultural and regional factors on young consumers' purchasing preferences could provide valuable insights. Another promising direction for future research is assessing the impact of emerging technologies on the purchasing decisions of this demographic.

Practical implications: The research findings have significant practical value, particularly for e-commerce companies, marketing agencies and sales platforms aiming to better understand and meet the needs of Generation Z consumers.

Originality/value: The study combines two themes that are rarely examined together: generational affiliation and gender differences in the context of e-consumer behavior. Due to the use of statistical significance tests, it was possible to capture subtle differences and similarities between genders in purchasing behaviors.

Keywords: Generation Z, online shopping, shopping preferences of young consumers, online shopping behavior, e-commerce market.

Category of the paper: Research paper.

1. Introduction

The consumer goods market underwent a significant transformation with the advent of online shopping, providing modern consumers (buyers)¹ with extensive product information, a broad selection, and eliminating geographical barriers. The profile of active consumers, particularly in e-commerce, continues to evolve, shaping their expectations and purchasing decisions. This includes preferences regarding online promotion strategies, delivery methods, payment options, and other key aspects of the buying process.

Nowadays, as research shows, more and more Poles make purchases on the Internet (buy online). For example, the report "Polaków Portret Własny. Polacy w Sieci", issued by Santander Consumer Bank in 2024, presents a study conducted on a sample of one thousand adult Polish internet users. Among the respondents, 88% declared that they shop online, and 60% of this group stated that they had shopped online more frequently in the year preceding the study compared to previous years (Polaków Portret Własny. Polacy w Sieci, 2024).

Given the above, it is essential for organizations facilitating online purchases to understand consumer expectations and preferences to better align their offerings with market demands.

Currently, various generations (cohorts) of consumers coexist in the market. Some, such as Baby Boomers and Generation X, clearly remember a time when shopping was only possible in traditional retail stores. The next generation, Generation Y, is a distinct community whose members, during their teenage years, witnessed the widespread adoption of the Internet. This often changed their perspective on the world - suddenly, with Internet access, it became "within reach", and geographical barriers lost their significance, including in the realm of shopping.

Alongside these generations, there is also one for whom online shopping is, or is becoming, an unquestioned norm. This group is undoubtedly Generation Z, also known as Gen Z, iGen, Gen Tech, "always clicking", post-millennials, C Generation and other names (Dolot, 2018; Całek, 2021)². This group represents a crucial target audience for e-commerce businesses³, as many are already financially independent from their guardians, making it essential to understand their shopping preferences. Notably, Generation Z is not only an active participant in the online shopping market but also plays a key role in shaping trends, whether consciously or unconsciously.

¹ The authors will use the terms "consumer" and "buyer" interchangeably. However, they are aware of the fact that there are differences between them, which, nevertheless, do not affect the reception of the content presented in the study. A "consumer" is limited to purchasing goods to meet their own needs, while a "buyer" can make a purchase to meet the needs of other people, i.e. they do not have to consume the goods themselves (Kuberska, Suchta, 2016).

² The terms are used interchangeably in the article (authors' note).

³ According to the study conducted in 2024 by the agency SW Research on a representative group of Generation Z members, as many as 86.2% of young Poles decide to shop online once a month or more often (<https://ecommercenews.pl/gen-z-ponad-86-mlodych-polakow-przypowiedzi-raz-w-miesiacu-kupuje-online-lub-w-aplikacji-mobilnej/>). The results obtained by the agency are comparable to the results presented in the previously cited report "Polaków portret sobie. Polaków w sieci".

The need to focus more on this generation as consumers has also been highlighted by scholars such as e.g. M. Ortiz-Pimentel, C. Molina, and G.A. Ronda-Pupo. In their study, they conducted a bibliometric analysis of articles on generational issues in management, identifying a research gap in this area (Ortiz-Pimentel et al., 2020).

The term iGen refers to people born between 1995 and 2009 (McCrindle, Wolfinger, 2014). However, the time frame of births of representatives of this generation is defined differently in the literature. This results from the fact that the basis for specifying subsequent generations in a given country is the development of technology. Thus, different authors set the lower and upper birth limits of these units differently (Dewalska-Opitek, Witzak, 2023). Regardless of these arrangements, these are people aged 15 to a maximum of 34. Among them, we will find both people attending secondary schools, potentially students, and people who are active or passive participants in the labor market. According to data from the Central Statistical Office, there are approximately 8,237,960 people aged 15-34 in Poland, which is approximately 21.9% of the country's entire population (<https://stat.gov.pl/obszary-tematyczne/ludnosc/ludnosc/ludnosc-piramida/>). This is therefore a huge group of consumers, with their specific values and the attitudes and behaviors resulting from them, manifesting themselves, for example, in the views or needs they hold and express within various areas of their lives, including the area related to purchasing products and services on the Internet.

In the academic literature on the subject, numerous studies characterize e-consumers. These include both Polish and international research; however, they typically examine consumer preferences without distinguishing between generational cohorts. More detailed studies that incorporate generational divisions tend to offer only limited differentiation of e-consumers based on gender. Thus, the aim of the undertaken study, and then its results presented in this article, was to **identify the online shopping behaviors⁴ of Generation Z consumers. In the analysis of the identified behaviors, gender differences among respondents were taken into account.** Therefore, the conducted research allowed to obtain novelty and originality of the presented topic in terms of its specific focus on gender-based differentiation in online shopping behaviors among Generation Z consumers.

2. Theoretical background

Generation Z, alongside Baby Boomers, Generation X and Generation Y, is a distinct cohort of people, distinguished by specific criteria, to whom different characteristics can be assigned⁵.

⁴ "Purchasing behavior" can be defined as all actions taken related to the acquisition, use and disposal of products and services, along with the decisions that precede and condition these actions (Krzepicka, Tarapata, 2013).

⁵ Some sources, mainly American, also point to the existence of older generations. These include the so-called "Lost Generation" - which devoted its life to fighting in World War I and was described by, among others, the writer G. Stein, or the "Best Generation" - which, in turn, fought in the next World War, and whose name we owe to the American journalist T. Brokowiak (Rosenberg, 2019). However, it is the subsequent generations, starting with the aforementioned Baby Boomers, that both publicists and researchers have devoted more attention to.

Researchers have noticed that being born in a specific time period, and thus existing in specific economic, social, political or technological conditions, influences our cultural traits, values or preferences (e.g. shopping ones) (Berkup, 2014; Parry, Urwin, 2021). As A. Dolot (2018) emphasizes, spending life in similar conditions, participating in the same events (e.g. cultural, environmental) and being influenced by similar technologies can cause people to think, make decisions and behave in a comparable way.

In the literature, various sources are attributed to the creation of generation names. For example, the term "Baby Boomer" refers to people conventionally⁶ born between 1945 and 1964, and the authors of *The New Yorker* magazine are considered responsible for defining it (Salt, 2003). In turn, the creators of the names of next generations, i.e. Generation X (born in the years 1965-1979) and Y (1980-1994), are considered to be, respectively, the Canadian author D. Coupland, who presented the first of the concepts in his 1991 book entitled "Generation X: Tales for an Accelerated Culture", and historians N. Howe and W. Strauss, who popularized the concept of "Millennials" in reference to the next cohort, i.e. Y. Interestingly, in the literature, there is no clear answer to the question of who is considered the pioneer in naming the next generation as "Generation Z". The literature on the subject abounds in descriptions of specific characteristics of this cohort, and the term "Generation Z" appears in it quite naturally. It is also worth mentioning that currently another generation is being distinguished, i.e. Generation Alpha (2010-2024), which owes its name to the Australian researcher M. McCrindle. He used it in his book "The ABC of XYZ: Understanding the Global Generations" (Jayatissa, 2023).

Due to the subject of the article, it was decided to provide a broader description of only one generation, i.e. Generation Z. Analysis of the available literature prompted the authors of this paper to reflect that being born in a certain period of time cannot be the only determinant differentiating the discussed generation from other cohorts. The results of available studies are so different in some respects, especially those concerning the characteristics of the post-millennial generation from different countries, that indicating universal characteristics describing this generation becomes impossible. It is all the more justified to conduct research among this age group, but reaching out for representatives from a specific country, because some characteristics, including shopping behaviors, do not necessarily have to result from the age of the respondents, but from the cultural differences.

There is no doubt about the description of the iGen that they were born at a time when access to computers, smartphones, the Internet, and mobile technologies was common in most places in the world (Singh, Dangmei, 2016). And, as A. Catek (2021) states, the post-millennial generation did not have to learn to use these fruits of technological progress (like older cohorts),

⁶ The conventionality of the time frame in which representatives of a specific generation were born does not only apply to Baby Boomers, but also to other generations. The problem of establishing the time frame for the births of representatives of different cohorts is indicated by, for example, B. Przybylski. In his work, the author undertook to identify and systematize these frames. See: (Przybylski, 2023). Additionally, as A. Dolot (2018) states, Generation Z is the most problematic among other generations in terms of establishing the aforementioned time frame.

but instead they were raised and socialized in an environment of mobile phones, constant access to the network, and active presence in social media⁷. According to a report by McKinsey&Company, almost 98% of this cohort has smartphones, and 85% declare that they use social media on a daily basis (Żydek, 2024). Moreover, in addition to the fact that the representatives of the discussed generation can be considered a digital and mobile generation, they are, according to the aforementioned M. McCrindle and A. Fell, also “global” (access to the Internet makes them aware of trends from all over the world), “social” (thanks to social media, they are influenced by their peers to a greater extent than older generations) and “visual” (they prefer to watch a video, e.g. on YouTube, about an issue that interests them, rather than read an article on it in a web browser) (McCrindle, Fell, 2019).

One of the authors studying iGen is the American psychologist J. M. Twenge. The author, based on in-depth quantitative and qualitative research, the respondents of which were representatives of this generation in the United States (USA), created a fairly extensive characteristic of this cohort and presented it in a book: "iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy - and Completely Unprepared for Adulthood - and What That Means for the Rest of Us". According to J.M. Twenge, American post-millennials spend most of their lives online, consistently preferring to establish and develop social contacts in this form, especially in the aforementioned social media. What's more, compared to previous generations, they are less willing to leave home for social purposes (Twenge, 2019). And while the research conclusions may be attractive to organizations that are part of the e-commerce⁸ market, the psychological costs of this situation can be very high. The implication of consciously giving up face-to-face contacts is often the emergence of a tendency to significantly limit telephone conversations in favor of text communication, which, in turn, affects the gradual loss of competence in direct communication. In addition, the feeling of constant compulsion to be online generates stress related to creating and maintaining one's image on the network in the way one expects and being assessed by other social media users, and also causes anxiety related to the possibility of being cut off from information (FOMO - Fear of Missing Out). Finally, in terms of mental health, it is considered that GenZ is a generation that is mentally weaker than previous ones, with a tendency for its representatives to experience periods of low mood, a sense of unhappiness or loneliness (Twenge, 2019). In opposition to the views of J.M. Twenge, one can indicate, for example, those presented by the Hungarian researcher Z.E. Csobanka. The author points out that despite attaching great importance to establishing and developing social contacts in the virtual world, the importance of direct communication is perceived by Gen Z as comparable to the importance of communication on the Internet (Csobanka, 2016). In relation to Polish representatives of post-millennials, less catastrophic views than J.M. Twenge are presented by, among others, A.K. Żarczyńska-Dobiesz and B. Chomątowska. The researchers indicate that representatives

⁷ As B. Sudomir quite boldly emphasizes, Generation Z are people who believe that the digital world has existed forever (Sudomir, 2020).

⁸ It can be assumed that, in this case, Generation Z will be more willing to purchase goods online than in a traditional way (authors' note).

of Generation Z are able to function in both the real and the virtual world, perceiving them as complementary to each other (Żarczyńska-Dobiesz, Chomałowska, 2014).

J.M. Twenge also points out that post-millennials living in the USA are reluctant to engage in political or social life, underestimating the impact it has on their existence. Additionally, they are treated as a more inclusive generation than previous cohorts, i.e. issues such as psychosexual orientation, cultural gender or skin color are, as the author puts it, not so much irrelevant as transparent. The generation in question is also characterized by a loss of religiosity (Twenge, 2019). Research in this area, among others, was conducted on Polish post-millennials by a group of scientists from the SWPS University and others. In the report entitled „Gen Z o sobie i otaczającym ich świecie. Jakie są polskie Zetki?”⁹ published in 2024, researchers indicate that Polish iGen representatives believe, unlike their American counterparts, that politics has an impact on their lives (89% of responses), but their spirituality is also losing its importance (64% indicated that they do not actively participate in religious ceremonies) (Gen Z o sobie i otaczającym ich świecie..., 2024). M. Grabowska also points to the greater interest of post-millennials in politics and changes in the area of religiosity (a radical weakening of practice and deteriorating assessments of the Church institution) than among previous generations (Grabowska, 2021). As for the tolerance of Polish iGens we can use the results of research presented, among others, by M. Sroczyńska. The author describes that representatives of the discussed cohort as tolerant and open-minded people who focus on interpersonal relations. Moreover, M. Sroczyńska characterizes Polish post-millennials as self-focused, neurotic, open to changes, sensitive¹⁰, postponing making important life decisions and living "here and now" (Sroczyńska, 2024). From the presented report¹¹ we can also learn that Polish iGens care about their health - they practice sports 1-2 times a week (43% of respondents) and trust traditional methods of treatment (79%). In terms of pro-ecological behavior, they are a conscious group, and as many as 78% of the survey respondents are afraid for the future of the planet, which is why almost half of them declare a life in the spirit of "less/zero waste". An interesting conclusion from the study included in the cited report is that post-millennials are looking for - at least partial - financial independence very early on and are willingly entering the job market (49% of respondents) (Gen Z o sobie i otaczającym ich świecie..., 2024).

Sketching the profile of post-millennials as e-consumers, it can be seen that an important motive for shopping online among this cohort is the ability to compare prices and shop from anywhere and at any time. Post-millennials also point to the option of purchasing goods at more favorable prices than in traditional retail stores, or simply at bargain values (https://www.icsc.com/uploads/about/2023ICSC_Gen_Z_Report.pdf).

⁹ The study involved 2554 people from all over Poland, representing Generation Z (Gen Z o sobie i otaczającym ich świecie. Jakie są Polskie Zetki?, 2024).

¹⁰ Individual sensitivity and low resistance to difficulties and hurts prompt some researchers to call post-millennials the "snowflake" generation (Sroczyńska, 2024).

¹¹ This is about the report: „Gen Z o sobie i otaczającym ich świecie. Jakie są Polskie Zetki?” (authors' note).

Already at the initial stage of the decision-making process leading to the purchase of a given good, representatives of Generation Z look for as much information as possible about it and about the organization that offers the good. And, as A. Dewalska-Opitek and O. Witczak report (2023), women from Generation Z are more likely than men to seek this data. iGen considers opinions posted on the Internet by other users to be a reliable source of the aforementioned information, and the opinions posted must be authenticated by a specific person, known, however, not necessarily in the real world, but only in the virtual one (Grzybowska-Brzezińska et al., 2022; Maciejewski, 2018). Most iGen representatives are also guided, to a similar extent, by the opinions of family members, friends and acquaintances, or generally - close people (https://www.icsc.com/uploads/about/2023ICSC_Gen_Z_Report.pdf). Opinions found on internet forums¹², on websites rating shops, or presented in advertisements and during promotional campaigns are generally considered to be less valuable, but brand profiles in social media are seen as a reliable source of information on the goods they offer (Maciejewski, 2018; Sobura, 2023; Paczka, 2020; Dewalska-Opitek, Witczak, 2023). The least common source of information about products and services for post-millennials are price comparison websites (Grzywińska-Rąbca, Grzybowska-Brzezińska, 2018). This is an interesting conclusion, because according to a study published by J. Syta, conducted among young women (up to 25 years of age, i.e. from the iGen cohort), the price of a product and/or service is a frequently sought-after aspect - more often than among other age groups (<https://nowymarketing.pl/jak-mlode-uzytowniczki-kupuja-online-badanie-zachowan-nabywcze-mlodych-kobiet-w-srodowisku-e-commerce/>).

It may also be interesting to consider the impact of digital influencers¹³ on the purchasing decisions made by Generation Z, who, along with the growing popularity of using social media worldwide, have become one of the specific tools for implementing marketing strategies by companies. Some studies conducted in this area indicate that influencers significantly shape the perception and purchasing decisions of young consumers, being one of the most reliable sources of information about products and services for them. For example, according to a study conducted by Territory Influence, a global agency specializing in providing influencer services, as many as 76% of Generation Z representatives are guided by the opinions of influencers when making purchasing decisions (<https://nowymarketing.pl/zachowania-zakupowe-i-wplyw-influencer-marketingu-na-pokolenie-z-badanie/>). A slightly different light on this issue is shed by studies conducted by, among others, J. Szydło together with E. Potmalnik, or W. Krakowska. The first mentioned authors studied the impact of influencers on the purchasing decisions of Generation Z regarding products from the fashion industry. Their research shows that the effect of influencers on the aforementioned decisions is negligible (Szydło, Potmalnik, 2022).

¹² Although in a study conducted by J. Sobura, representatives of Generation Z valued opinions found on online forums more than opinions presented by family members or friends (Sobura, 2023).

¹³ An influencer is, for example, a public figure and/or an internet creator who has recipients of their content (their community). This is a person who, through the trust they have built, has the ability to influence their recipients. (<https://www.newspoint.pl/Analizyka-i-monitoring-influencerow-Raport-Newspoint.pdf>). C. Abidin identifies influencers with an exclusive group of internet celebrities (Abidin, 2018).

W. Krakowska et al. conducted a study on a group of 115 students (classified as part of the discussed generation), indicating that influencers' recommendations resulted in the purchase of a product or service in the case of 57% of them. Interestingly, the respondents also indicated that in their opinion, the activity of influencers can hardly be considered a source of reliable information about the goods offered by a given brand. In addition, the vast majority of respondents also rather disagree with the statement that the opinion of an influencer determines the purchasing decisions they make (Krakowska et al., 2024). Similar conclusions can be drawn from the previously cited report issued by the SWPS University and others. The report shows that more than half of Polish iGens indicated recommendations from close people as a factor influencing their purchasing decisions, and only 3%(!) of respondents use influencer suggestions when making purchases (Gen Z o sobie i otaczającym ich świecie..., 2024).

The preferred forms of payment for online purchases among post-millennials, as reported by A. Dewalska-Opitek and O. Witczak, are cashless transactions (Dewalska-Opitek, Witczak, 2023).

Consumers' shopping preferences, including their preferences in the area of online shopping, are more often considered in the literature on the subject without taking into account the time range of consumers' births as a factor determining these preferences. Thus, certain general trends can be observed, e.g. among Polish e-consumers. The previously mentioned report entitled "Polaków portret własny. Polacy w sieci" shows, among other things, that the greatest advantages of online shopping among Poles from different age groups include: the ability to read the opinions of other users, better descriptions of products/brands, more attractive prices than in stationary stores, the ability to compare products/brands, a greater number of payment methods than offered when shopping in stationary stores, and a wider range of products. The cited studies also show that Poles are very keen to use platforms such as Allegro, Ceneo, Empik, etc., i.e. the so-called marketplace platforms. 86% of respondents indicated that they used these services, and as many as 91% of respondents from the age group 18-29, i.e. from the group of post-millennials (Polaków portfel własny. Polacy w sieci, 2024).

According to the report "E-commerce w Polsce. 2024", prepared by Gemius, Polish Internet Research and IAB Polska, Polish consumers perceive the primary advantage of online shopping as its continuous availability, eliminating the necessity of visiting physical stores and allowing for unrestricted time in selecting desired products. Furthermore, respondents highlighted the significance of pricing, which is often more competitive than in traditional retail stores, along with the broader product assortment and the convenience of comparing various offers. It should be noted that respondents from the 15-24 age group also indicated more often than those from other age groups that discount codes or those for online buyers, fast delivery, better product photos, a wider choice of delivery methods, more information about products on the store's website and better accessibility of websites on mobile devices are also important to them. Interestingly, the surveyed women more often than men indicated that they are motivated by financial factors. On the other hand, men were more often motivated by better warranty conditions and better product quality. Among the negative aspects of online shopping,

respondents indicated three areas: intrusive advertisements for previously viewed products, long waiting times for delivery and its high costs. Despite these negatives, approx. 75% of respondents indicated that they most often make online purchases on Polish websites, while foreign websites enjoyed less interest (36% of indications). In terms of delivery of ordered products, parcel machines turned out to be the most popular, followed by courier deliveries. The most frequently chosen form of payment for purchased goods were fast transfers made using payment services (69% of indications) (https://gemius.com/documents/66/RAPORT_E-COMMERCE_2024.pdf).

3. Methods

In order to identify the online shopping behaviors of Generation Z consumers, a study was conducted using an original survey questionnaire. The empirical study was preceded by literature research, which was the basis for both the construction of the aforementioned tool and the subsequent discussion of the presented research results. The survey questionnaire consisted of 17 questions, mainly multiple-choice. The research tool was available for respondents to complete online.

The study involved 276 adult participants who declared their gender. All respondents met the condition of being classified as Generation Z representatives. The research sample included 93 men (33.7%) and 183 women (66.3%). The sociodemographic profile of the participants, grouped by gender, is presented in Table 1.

Table 1.
Sociodemographic profile of the participants of the conducted research

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
Age:	276			0,255
< 22 years old		86 (46,99%)	37 (39,78%)	
≥ 22 years old		97 (53,01%)	56 (60,22%)	
Degree of study:	276			0,871 ^c
Engineer's Degree		4 (2,19%)	2 (2,15%)	
Bachelor's Degree		146 (79,78%)	77 (82,80%)	
Master's Degree		33 (18,03%)	14 (15,05%)	
Professional status:	276			0,096
I study and work		81 (44,26%)	51 (54,84%)	
I only study		102 (55,74%)	42 (45,16%)	
Source of income:	276			0,197
I benefit from the support of the relatives		63 (34,43%)	27 (29,03%)	
I have mixed sources of income		74 (40,44%)	33 (35,48%)	
I support myself financially		46 (25,14%)	33 (35,48%)	

^a n (%)

^b Pearson chi-square test

^c Fisher's exact test

Source: Own work based on research results.

Analyzing the data in Table 1, no significant differences ($p = 0.255$) were observed in the age categories (<22 years and ≥ 22 years). In both groups, the proportions of women and men were comparable (46.99% women vs. 39.78% men in the younger group and 53.01% vs. 60.22% in the older age group), confirming the demographic homogeneity of the sample. The level of education also seems to be similar in both groups, with the majority of respondents having a bachelor's degree (79.78% women and 82.80% men). The share of study participants with an engineering education and a master's degree was also comparable, showing no significant differences ($p = 0.871$). This suggests a balanced distribution of educational qualifications in the sample, regardless of gender. Employment status further emphasizes the homogeneity between female and male respondents. About 44.26% of women and 54.84% of men were studying and working at the same time, while 55.74% of women and 45.16% of men were exclusively studying. The lack of significant statistical differences ($p = 0.096$) indicates that both genders showed similar patterns in combining academic and professional commitments. Another area of comparative analysis was sources of income, where women and men showed similar distributions. Among women, 34.43% received financial support from the relatives, 40.44% had mixed sources of income, and 25.14% were self-supporting. Correspondingly, 29.03% of men received support from their relatives, 35.48% had mixed sources of income, and 35.48% were self-supporting. The lack of significant differences in sources of income ($p = 0.197$) emphasizes the comparable economic conditions between the genders in the study population.

In the conducted study, the significance level of $\alpha = 0.05$ was set, which means allowing for a 5% risk of type I error. Descriptive statistics were used to summarize the characteristics of the data. Categorical variables were presented as frequencies (n) and percentages, which allows for a better understanding of their distribution in the study cohort. When analyzing two nominal variables, associations were assessed using the Pearson chi-square test or Fisher's exact test, depending on the expected sample size for the category. Analyses were performed using the R statistical language (version 4.3.3; R Core Team, 2024) on Windows 11 pro 64 bit (build 22631), using the report (version 0.5.8; Makowski et al., 2023), gtsummary (version 1.7.2; Sjoberg et al., 2021), and dplyr (version 1.1.4; Wickham et al., 2023) packages. The study results presented in Tables 2-7 were developed for questions in which respondents had the option of multiple choice of answers. For the results presented in Tables 8 and 9, study participants could choose only one answer when responding the questions.

A limitation of the study may be considered to be that it was conducted among students from the studied generation, i.e. people in a specific life situation, but also representing a specific age range. The authors of the article are aware that the above fact may constitute a limitation in generalizing the study results, as the respondents constituted a closed group, and, as indicated by, among others, P.A. Korneta and A. Lotko, demographic factors, as well as those from the group of factors related to education and profession, may additionally

differentiate consumer behavior on the market (Korneta, Lotko, 2021). The relatively small sample size may also be a problem.

4. Research results and Discussion

The first issue that was analyzed was the identification of key factors influencing the decision to purchase a given product online. The distribution of answers by gender of respondents is presented in Table 2.

Table 2.

Motives for online shopping by gender among Generation Z representatives

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
What determines your online shopping?				
Possibility of purchasing 24 hours a day	276	126 (68,85%)	63 (67,74%)	0,851
Time savings	276	147 (80,33%)	73 (78,49%)	0,720
Lower product prices than in traditional retail stores	276	132 (72,13%)	69 (74,19%)	0,716
Access to products that are hard to find on the traditional market	276	92 (50,27%)	49 (52,69%)	0,704
A collection method tailored to your needs (e.g. in a delivery machine, by courier, in a traditional retail store, etc.)	276	97 (53,01%)	51 (54,84%)	0,773
Possibility of comparing products in terms of prices, parameters, etc.	276	150 (81,97%)	79 (84,95%)	0,534
A wider product range	276	120 (65,57%)	66 (70,97%)	0,366
Possibility of making deferred payments (e.g. cash on delivery)	276	25 (13,66%)	15 (16,13%)	0,582
^a n (%)				
^b Pearson chi-square test				

Source: Own study based on survey results.

Based on the survey results, it can be seen that the majority of respondents, regardless of gender (68.85% of women vs. 67.74% of men), appreciate the possibility of shopping 24 hours a day, which emphasizes the importance of accessibility and flexibility offered by e-commerce. The differences in the percentages of responses are minimal ($p = 0.851$), which suggests that both groups have similar priorities in this regard. Another important factor that gained significant recognition among the survey participants is time saving. The responses indicate that 80.33% of women and 78.49% of men perceive this aspect as key ($p = 0.720$). The lower price of products compared to traditional retail stores also remains at the top of the preference hierarchy, with a response rate of 72.13% for women and 74.19% for men. However, these differences are marginal ($p = 0.716$), which indicates the convergence of consumer expectations in this area. Access to hard-to-find products on the traditional market also shows similar interest in both groups ($p = 0.704$), with 50.27% of women and 52.69% of men considering this factor important. In the context of changing market trends, the availability of unique products can

therefore become a key element of an organization's marketing strategies. A tailored delivery method, such as the option of collection from parcel machines or by courier, shows balanced approval in both groups ($p = 0.773$), which highlights the growing importance of flexibility in order collection. And the high percentage of responses regarding the possibility of comparing goods in terms of prices and parameters without differences between genders (81.97% of women, 84.95% of men, $p = 0.534$) emphasizes the importance of informed purchasing decisions and the role of information in the purchasing process. Similarly, comparable cross-gender behavior was noted in the issue of a wider product offer ($p = 0.366$). Another interesting aspect is the possibility of making a deferred payment, which enjoys relatively low but comparable interest among both groups (13.66% of women and 16.13% of men, $p = 0.582$). This may suggest that consumers do not attach much importance to this type of possibility, which may be the result of trust in online payment systems or a preference for immediate settlement of the transaction. The obtained results are consistent with the results of the studies cited in the section related to the analysis of the literature. It should be remembered that the respondents of the previously discussed studies were, among others, American post-millennials. The results of this study may therefore indicate the fact that in so-called Western cultures, the country of origin does not determine the preferences of the discussed cohort. However, this conclusion requires further research.

Respondents were also asked to indicate the disadvantages of shopping online, because in the context of the growing popularity of online shopping, understanding the barriers that can affect consumer decisions is becoming crucial for the further development of e-commerce. Many people still struggle with concerns related to online transactions, so we wanted to check whether these concerns also apply to representatives of Generation Z¹⁴. The results are presented in Table 3.

Table 3.

Barriers to online shopping by gender among Generation Z

Characteristics	n	Gender		p ^b
		Men, n ₁ = 183 ^a	Women, n ₂ = 93 ^a	
What do you think are the most significant disadvantages of shopping online?				
No possibility of physical contact with the product	276	139 (75,96%)	74 (79,57%)	0,499
Differences between the description and the actual state of the product	276	114 (62,30%)	49 (52,69%)	0,125
Long waiting time for the product	276	25 (13,66%)	14 (15,05%)	0,754
Delays related to payments	276	11 (6,01%)	4 (4,30%)	0,554
Lack of basic data on the store/manufacturer's website	276	41 (22,40%)	22 (23,66%)	0,815
I do not see any defects	276	16 (8,74%)	9 (9,68%)	0,798
^a n (%)				
^b Pearson chi-square test				

Source: Own study based on survey results.

¹⁴ This situation is visible mainly among representatives of older generations (authors' note).

The results of the study show that the representatives of the discussed generation considered the lack of physical contact with the product to be the most significant barrier to online shopping (75.96% of women and 79.57% of men, which leads to a p value of 0.499, i.e. no significant differences between respondents by gender). This obstacle might be reduced by using high-resolution, zoomable product images, video demos and 360° product views and/or AR/VR tools for “trying on” products (especially in fashion/beauty). Another factor that can be considered a significant barrier is the difference between the description and the actual state of the product (62.30% of women and 52.69% of men, which gives a p value of 0.125). Although both groups notice this barrier, men seem to be slightly less concerned about this discrepancy. Among the factors perceived as less significant disadvantages of online shopping were: prolonged delivery times, payments delays and insufficient basic information on the store's or manufacturer's website. Long waiting time for the product was reported by 13.66% of women and 15.05% of men, showing no significant differences ($p = 0.754$). It seems that both genders have similar expectations regarding this aspect, which may lead to the conclusion that post-millennials perceive the mentioned factor as inherent in making purchases on the Internet. Delays related to payments are an issue reported by 6.01% of women and 4.30% of men. Also in this case, no significant differences ($p = 0.554$) were found between the genders. The lack of basic data on the store's or manufacturer's website is perceived as a problem by 22.40% of women and 23.66% of men, with a value of $p = 0.815$.

The last category regarding the lack of noticing any disadvantages, presents the answers of 8.74% of women and 9.68% of men ($p = 0.798$). The results suggest that almost every tenth of the respondents doesn't see any barriers to online shopping, which may indicate a growing trust in shopping in this form among Generation Z consumers.

Next, the sources of searching for information about products and services before making their purchase on the Internet were identified. The distribution of survey participants' responses, broken down by gender, is presented in Table 4.

Table 4.

Sources of information about products and services by gender among Generation Z representatives

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
Where do you usually get information about products you buy online?				
Advertising papers	276	19 (10,38%)	8 (8,60%)	0,638
Leaflets	276	6 (3,28%)	4 (4,30%)	0,737 ^c
Price comparison tools	276	32 (17,49%)	35 (37,63%)	< 0,001
Recommendations from friends/relatives	276	94 (51,37%)	32 (34,41%)	0,008
Tests/reviews	276	71 (38,80%)	47 (50,54%)	0,062
Advertisements in magazines	276	2 (1,09%)	5 (5,38%)	0,045 ^c
Information on the manufacturer's website	276	36 (19,67%)	29 (31,18%)	0,033
Advertisements on the web	276	98 (53,55%)	37 (39,78%)	0,031
Influencers' recommendations	276	74 (40,44%)	9 (9,68%)	< 0,001

Cont. table 4.

Internet forums	276	36 (19,67%)	34 (36,56%)	0,002
Packaging/instructions	276	9 (4,92%)	4 (4,30%)	1,000 ^c
Online store website	276	82 (44,81%)	46 (49,46%)	0,464
^a n (%)				
^b Pearson chi-square test				
^c Fisher's exact test				

Source: Own study based on survey results.

Among the study participants, online advertising is the most frequently chosen source of information, with more than half of women being influenced by it (53.55%), but less than half of men (39.78%). The p value = 0.031 indicates significance, which may suggest that online advertising effectively influences the purchasing decisions of both genders, although women seem to be more open to this type of marketing communication. This is a surprising result, because, as indicated in the literature review, post-millennials generally do not trust advertisements for goods available online. The "positive" result obtained by the female representation of the research sample thus confirms the validity of identifying gender differences in the study of the preferences of the discussed generation, and, probably, of the other generations as well.

Another important source of information about products and services offered on the Internet are recommendations from friends and family, with 51.37% of women and 34.41% of men indicating this option. This confirmed the results of studies conducted in this area by G. Maciejewski and J. Sobura, among others. The p value = 0.008 suggests a significant statistical difference, which may indicate that women trust the opinions of their „loved ones” more in the process of making purchase decisions. Product tests and reviews were indicated by 38.80% of women and 50.54% of men, and the p value = 0.062 suggests that this difference may be close to significance. These results may indicate the need for an objective analysis of products, but among men, who indicate a greater interest in reviews than women.

Other sources of information were indicated each time by less than half of the respondents, both among women and men. For example, when analyzing the distribution of indications regarding price comparison websites, it can be seen that men prefer this method to a much greater extent (37.63%) compared to women (17.49%), and the p value < 0.001 indicates very strong statistical significance. This may suggest that men are more inclined to look for the best offers and compare prices, which may, in turn, be related to their approach to saving and making financial decisions. Thus, the conclusions of M. Grzywińska-Rąbca and M. Grzybowska-Brzezińska were not confirmed. In the case of information on the manufacturer's website, the differences in the results indicate 19.67% of women and 31.18% of men, with a p value = 0.033, which suggests that men may be more inclined to use official sources of information about products. The analysis of the results regarding online forums also reveals significant differences, with 19.67% of women and 36.56% of men, which is statistically significant (p = 0.002). Men seem to use forums as a source of information to a greater extent than women, albeit to a relatively limited extent, which may be related to their tendency to seek advice and

opinions in online communities. Finally, the phenomenon of influencer recommendations should be examined. Again, less than half of the respondents indicated that this is a source of information they use, with 40.44% of women giving such an answer compared to only 9.68% of men. The p value < 0.001 indicates the significance of this result, which may suggest that women are more likely to obtain information about products from social media and influencer platforms. The obtained research results therefore stand in opposition to the commonly presented view on this subject on the Internet, while confirming the results of research obtained by, among others, J. Szydło with E. Potmalnik, or W. Krakowska.

In the case of other sources of information, such as advertising papers, leaflets, packaging and instructions, as well as shop websites, no significant differences in preferences were observed between the genders.

In order to address the above mentioned needs of the iGen's consumers, organizations may implement different marketing approaches. In terms of marketing adoption to women's needs, it is possible, for example, to use influencers partnerships, especially on Instagram and TikTok where women are more responsive. Also highlighting social proof, such as user reviews and recommendations from friends should be considered as good idea. On the other hand, to meet the needs of men it can be recommended to provide technical specs, detailed product comparisons and reviews from trusted sources. Also – highlight product value and efficiency, such as cost-per-use and/or durability. Organizations may also utilize forums and Reddit-style communities for product discussions and campaigns.

At this point, it is worth indicating what information the representatives of the surveyed generation are looking for before making a purchase online. The information sought is presented in Table 5.

Table 5.

Information sought before making a purchase by gender among Generation Z representatives

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
What information do you look for before making a purchase online?				
Warranty period	276	27 (14,75%)	24 (25,81%)	0,025
Seller reviews	276	107 (58,47%)	69 (74,19%)	0,010
Product availability	276	78 (42,62%)	42 (45,16%)	0,688
Product specification	276	93 (50,82%)	69 (74,19%)	< 0,001
Prices	276	153 (83,61%)	76 (81,72%)	0,694
Shipping methods	276	68 (37,16%)	27 (29,03%)	0,179
Payment methods	276	60 (32,79%)	23 (24,73%)	0,168
Order processing time	276	59 (32,24%)	33 (35,48%)	0,589
Product reviews	276	135 (73,77%)	67 (72,04%)	0,759
^a n (%)				
^b Pearson chi-square test				

Source: Own study based on survey results.

As the research shows, the key information that post-millennials are looking for before making a purchase online is the price of the product they are interested in (83.61% of women and 81.72% of men), and the p value = 0.694 suggests no significant differences. Both groups seem to be largely focused on financial aspects when making purchase decisions. Product reviews are sought by 73.77% of women and 72.04% of men, which leads to a p value = 0.759, indicating no significant differences in this regard. Both genders show similar interest in these reviews, which may indicate general trust in social proof of effectiveness. Another important factor indicated by respondents is the seller's opinions. This factor was noted by 58.47% of women and 74.19% of men, and the p value = 0.010 indicates significance, which may suggest that men are more likely to check the seller's reputation before making a purchase. The situation is similar when looking for technical product data. According to the study, this information is sought by 50.82% of women and 74.19% of men, which leads to a p value of < 0.001 , indicating very strong statistical significance. Men may be more interested in technical details, which may result from, for example, their greater tendency to analyze products in terms of their functionality and specifications. In order to meet those needs of male representation of the respondents, organizations could e.g. create educational product pages with specs, how-to videos and comparison tools. Also, organizations may develop separate FAQ sections or mini-guides tailored for detailed-oriented (typically male) buyers versus quick-decisions (typically female) ones.

The information that is sought to a lesser extent by respondents turned out to be: product availability, order processing time, shipping methods and warranty length. Product availability does not show significant differences between the genders, with 42.62% for women and 45.16% for men, which gives a p value of 0.688. Both groups seem to have similar expectations regarding product availability. Order processing time, with values of 32.24% for women and 35.48% for men, also does not reveal significant differences ($p = 0.589$), suggesting that both groups have comparable expectations regarding timely deliveries. Both women (37.16% and 32.79% respectively) and men (29.03% and 24.73%) have a similar approach to shipping and payment methods (with p values of 0.179 and 0.168 respectively). The length of the warranty turned out to be the sought-after information only in the case of 14.75% of women and 25.81%, which leads to a value of $p = 0.025$, suggesting a statistically significant difference. This may indicate a greater attention of men to consumer protection aspects related to the warranty.

Representatives of post-millennials use various types of online services to purchase goods. Most often, both women and men from this generation use online stores of Polish manufacturers, as well as Polish shopping platforms (Table 6).

Table 6.

Preferences regarding online services used to purchase goods by gender among Generation Z representatives

Characteristics	n			p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
What types of services do you use when making purchases?				
Polish online stores	276	181 (98,91%)	92 (98,92%)	1,000
Foreign online stores	276	98 (53,55%)	65 (69,89%)	0,009
Group shopping portals (e.g. Groupon)	276	6 (3,28%)	5 (5,38%)	0,516 ^c
Social media platforms (e.g. Pepper)	276	6 (3,28%)	13 (13,98%)	0,001
Polish shopping platforms (e.g. Allegro, Vinted, etc.)	276	150 (81,97%)	75 (80,65%)	0,789
Foreign shopping platforms (e.g. e-Bay, etsy, etc.)	276	14 (7,65%)	21 (22,58%)	< 0,001
Cashback platforms	276	21 (11,48%)	11 (11,83%)	0,931
^a n (%)				
^b Pearson chi-square test				
^c Fisher's exact test				

Source: Own study based on survey results.

As previously mentioned, the results presented in the table above highlight the dominance of Polish online stores, with usage rates of 98.91% among women and 98.92% among men. This near-universal engagement suggests a high level of trust in domestic e-commerce platforms, likely driven by factors such as perceived reliability, familiarity, and ease of access. Such a high percentage may therefore indicate that the Polish e-commerce market meets the expectations of consumers of both sexes ($p = 1.000$). In the case of foreign online stores, the differences in preferences are more pronounced. 53.55% of women indicate the use of these services, while in the case of men this percentage is 69.89%. The statistical significance of this difference, with a value of $p = 0.009$, suggests that men are more inclined to explore foreign markets, which may be related to, for example, the search for unique products or better prices. When analyzing group buying portals, both men and women show minimal interest in this type of service, which emphasizes their limited attractiveness among the respondents. Only 3.28% of women and 5.38% of men declared using such platforms, and the p value = 0.516 indicates a lack of statistical significance of this difference. The obtained values may suggest that consumers are not convinced about the benefits of group buying. Equally little interest among respondents is in shopping on social media platforms. In the case of this method, 13.98% of men declared using it, compared to only 3.28% of women. This difference, with a p value = 0.001, is statistically significant, suggesting that men are more likely to engage in shopping via social media. In the context of shopping platforms (marketplace platforms), both Polish and foreign, the results are similar. In the case of Polish platforms, 81.97% of women and 80.65% of men use such services, which, although a slightly lower result than those obtained in other cited studies, confirms a strong preference for local shopping sources, and the p value = 0.789 suggests no significant differences. On the other hand, on foreign shopping platforms, the differences are clear - 7.65% of women and 22.58% of men use these services, with a p value of < 0.001 , which emphasizes a significant difference in openness to international shopping in favor of men. Therefore, convergence with the previously presented results regarding the use of foreign online stores was obtained, as men showed a greater propensity in

this respect than women. Finally, the analysis of cashback platforms showed that 11.48% of women and 11.83% of men use such services, which indicates a similar interest in these platforms, and the p value = 0.931 suggests resembling consumer behavior. However, this interest can be considered small.

After purchasing a given product, the next usual step during the entire online shopping process is to choose the method of delivery of the given product. Not only the preferred methods of delivery of purchased goods were analyzed, but also the factors determining the method of delivery.

The analysis of factors determining the choice of the method of delivery is presented in Table 7.

Table 7.

Factors determining the choice of the form of delivery of purchased goods by gender among Generation Z representatives

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
What makes you choose a particular form of delivery for a product or service purchased online?				
Shipping cost	276	79 (43,17%)	40 (43,01%)	0,980
Possibility to collect the shipment at a time convenient for you	276	146 (79,78%)	82 (88,17%)	0,082
Possibility to use "other" forms of payment (e.g. mobile payments, payments in installments, deferred payments, etc.)	276	19 (10,38%)	6 (6,45%)	0,282
Possibility to have the shipment collected by another person (e.g. at a parcel machine)	276	91 (49,73%)	40 (43,01%)	0,291
Possibility to choose the place of collection of the shipment (e.g. near home, university, work, or at your current location)	276	98 (53,55%)	41 (44,09%)	0,137
^a n (%)				
^b Pearson chi-square test				

Source: Own study based on survey results.

The presented results indicate that the most frequently indicated factor that representatives of Generation Z pay attention to, regardless of gender, is the possibility of collecting a parcel at a convenient time. This option was chosen by the majority of women and men from the group of respondents - 79.78% and 88.17%, respectively. The p value = 0.082 indicates a marginally significant difference, which suggests that men are slightly more inclined to emphasize the importance of time flexibility in collecting parcels. Interestingly, the cost of delivery was indicated by less than half of the respondents, both among men (43.01%) and women (43.17%). This is probably because, as a rule, the costs of different delivery options are similar on the market. The high p value = 0.980 also suggests that there are no significant gender differences in this matter. In the context of the possibility of using different forms of payment, only 10.38% of women and 6.45% of men considered this factor important, which can be interpreted as a low priority for both groups. The p value = 0.282 suggests that there are no significant gender differences in this regard. The option of having someone else pick up the parcel is more popular among women (49.73%) compared to men (43.01%). The p value = 0.291 indicates

no significant differences, however the discrepancy in the frequency of responses may suggest that women are more open to flexibility in this regard. Finally, the option to choose the location of the parcel pick-up is also significant, with 53.55% of women and 44.09% of men pointing out to this factor. The p value = 0.137 suggests that these differences are not statistically significant, but may indicate a tendency to prefer the location of the pick-up, which may be an important factor for suppliers who should offer a variety of delivery pick-up options.

The most preferred delivery methods turned out to be parcel machines, clearly outclassing other options for collecting purchased goods. They were indicated as the preferred delivery method by 85.79% of women and 87.10% of men, respectively (Table 8). This confirms the result obtained in other studies, the results of which were presented in the literature review.

Table 8.

Preferences regarding the method of delivery of goods purchased online by gender among Generation Z representatives

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
What form of shipment do you choose most often?	276			0,989
Parcel machines (e.g. Inpost, Orlen Paczka, etc.)		157 (85,79%)	81 (87,10%)	
Pick-up at a Post Office		2 (1,09%)	1 (1,08%)	
Pick-up at a Point (e.g. Żabka)		5 (2,73%)	2 (2,15%)	
Pick-up at a traditional retail store		1 (0,55%)	1 (1,08%)	
Courier delivery		18 (9,84%)	8 (8,60%)	
^a n (%)				
^b Fisher's exact test				

Source: Own study based on survey results.

In the case of other forms of delivery, such as collection at a Post Office, only 1.09% of women and 1.08% of men use this option, which indicates the marginal importance of traditional delivery methods among the respondents. Similarly, collection at points such as Żabka and a traditional retail store enjoys minimal interest - 2.73% of women and 2.15% of men and 0.55% of women and 1.08% of men, respectively. Such low values indicate a preference for more modern and convenient delivery methods. Interestingly, courier delivery, chosen by 9.84% of women and 8.60% of men, also does not enjoy much interest. The obtained results confirm those presented in Table 7 regarding the factors determining the choice of the form of delivery of purchased goods among representatives of Generation Z. In principle, the only way to receive purchased goods on the Internet that meets three conditions at the same time, i.e. the possibility of receiving the parcel at a convenient time, by another person, or giving the option of choosing the place of collection of the parcel (e.g. close to home, university, work, or current location) is, indeed, the parcel machine. The result of the statistical analysis, $p = 0.989$, indicates no significant differences between the genders in the choice of delivery methods, which suggests that both women and men have similar preferences in this matter.

The last element subjected to analysis and related to the purchasing behavior of representatives of the post-millennials on the Internet was the preferences regarding the methods of payment for purchases made. The research results in this area are presented in Table 9.

Table 9.

Preferences regarding the method of payment for goods and services purchased online by gender among Generation Z representatives

Characteristics	n	Gender		p ^b
		Women, n ₁ = 183 ^a	Men, n ₂ = 93 ^a	
How do you most often pay for your online purchases?	276			0,600
BLIK		14 (7,65%)	4 (4,30%)	
Cash on delivery/COD		10 (5,46%)	3 (3,23%)	
Payment card (credit, debit, etc.)		57 (31,15%)	33 (35,48%)	
Postal order		1 (0,55%)	0 (0%)	
Bank transfer		17 (9,29%)	13 (13,98%)	
Via dedicated payment services (e.g. PayPal, PayU, etc.).		84 (45,90%)	40 (43,01%)	
^a n (%)				
^b Fisher's exact test				

Source: Own study based on survey results.

Based on the general distribution of responses, it can be concluded that the most popular payment method for both groups turned out to be dedicated payment services, indicated by 45.90% of women and 43.01% of men. In the case of card payments, it was 31.15% of women and 35.48% of men. This difference, although small, may suggest that men are slightly more inclined to use cards as a payment method. Other payment methods, such as BLIK, cash on delivery and bank transfer, show some differences in preferences. Only 7.65% of women and 4.30% of men use BLIK, which can be interpreted as low popularity of this method among both genders, despite the fact that BLIK is often promoted as a convenient form of payment. Cash on delivery, chosen by 5.46% of women and 3.23% of men, indicates either a certain level of distrust towards online payments or a lack of possibility to pay in this form, which is more noticeable in the case of women. Bank transfer enjoys similarly moderate interest among iGen representatives (9.29% of indications among women and 13.98% among men). The p value = 0.600 indicates no significant statistical differences. However, although the disparities in gender preferences are small, there are certain trends that may be important for e-commerce providers, allowing for better adaptation of payment tools to the expectations of consumers from the discussed generation.

Organizations may address the above outlined needs of the post-millennials e-consumers by e.g. prioritizing fast, seamless integrations with dedicated payment services (like PayU, PayPal etc.), offering multiple options but de-emphasizing COD, postal orders and manual transfers and also highlighting security and speed of payment options in UX (user experience) and marketing.

5. Summary

The evolving expectations of younger generations necessitate the adoption of innovative strategies by organizations across the entire sales process, particularly within the e-commerce sector. Merely developing new digital retail formats is no longer sufficient; rather, it has become imperative to ensure that products are accessible in the appropriate locations and timeframes, offered at competitive price points, and accompanied by mechanisms that facilitate informed and efficient purchasing decisions. Furthermore, organizations must implement solutions that enhance consumer convenience, security, and overall user experience, thereby fostering trust and engagement within the online marketplace. The study conducted and presented in this article aimed to identify the shopping preferences of young e-consumers on the Internet - representatives of Generation Z, taking into account gender differences. This goal was achieved, and the analysis conducted indicated many common elements in the shopping preferences of both genders, which may suggest a convergence of values and consumer expectations in both groups. At the same time, it allowed for understanding subtle differences in the perception of key factors, which may constitute a basis for further research and development of marketing strategies that will more precisely respond to the needs of different market segments.

The representatives of the surveyed generation, regardless of their gender, indicated a great many factors that motivate them to make purchases online instead of in traditional retail stores. The three most frequently selected factors included: the ability to compare goods in terms of their parameters and prices, saving time and the competitive price of goods available online compared to their prices in traditional retail stores. Generation Z representatives considered the possibility of making deferred payments to be the least important factor in this matter.

However, the survey participants were also aware of the disadvantages of the form of shopping under consideration. Interestingly, the respondents clearly pointed out to only two main limitations, i.e. the lack of physical contact with the product and the differences between the description and the actual condition of the product. The long waiting time for the ordered product was not perceived as a disadvantage of purchasing goods online. Before buying, iGen representatives look for a range of information about the goods they are interested in. Above all, these are prices, opinions about the product and opinions about the seller. According to the results of the conducted survey, it can be noticed that opinions about the seller are more important for men than women. Men are also more likely than women to look for information about the technical data of the products. For the post-millennials, information about the length of the warranty, payment method, shipping method or, what is particularly interesting - the order processing time turned out to be of little importance.

The sources of the above information for iGens are mainly online advertisements and recommendations from friends/relatives. It is worth emphasizing that the above sources of obtaining data about products are more important for the female part of the respondents. Women from Generation Z exhibit a greater propensity than their male counterparts to be influenced by social media influencers. The study also provided a basis for formulating the conclusion that it is completely unprofitable for organizations that want to reach the post-millennials to invest in leaflets, advertising papers, detailed instructions or advertisements in magazines. The respondents did not consider these sources to be important in searching for information that interests them. When shopping online, post-millennials mainly use Polish online stores and Polish shopping platforms. They are less likely to use the offer of foreign stores and platforms, and if they do make purchases there, men are more willing to do so than women. Group shopping portals, social media platforms or cashback platforms are not very popular among the iGens regardless of their gender.

When choosing the form of delivery, iGen representatives definitely lean towards parcel machines. They are not very interested in the option of courier delivery or collection at points (e.g. Żabka, Orlen) and Post offices. The results obtained are consistent with the expectations that the Generation Z presents regarding the delivery of ordered products. The most important aspect for respondents of both genders turned out to be the possibility of collecting the parcel at a time convenient for them and delegating another person to perform this task. Post-millennials pay for their purchases using dedicated payment services, less often by credit card. The option of paying for purchased products via "cash on delivery" is also not particularly appealing to them.

The research results obtained have significant practical value, especially for e-commerce companies, marketing agencies and sales platforms that want to reach Generation Z consumers more effectively. First of all, understanding the differences in purchasing behavior of women and men allows for better adjustment of marketing strategies. Since women are more often guided by the opinions of friends and relatives or influencers, brands can invest in influencer marketing campaigns aimed at this group, while emphasizing elements of social proof, such as customer reviews or recommendations on social media. In turn, men, who are more likely to use online forums and manufacturer websites, can be more effectively engaged through educational content, product tests and price comparisons. The research results also indicate that the biggest barrier for both genres is the lack of physical contact with the product before purchase. Companies can minimize this obstacle by offering, for example, detailed product photos, videos presenting their effects, the possibility of returning without giving a reason or the option of virtual testing of the item (e.g. in the fashion or cosmetics industry). Another practical application is the optimization of payment and delivery methods. Since both women and men prefer fast online payments, it is worth investing in the development of intuitive and secure payment systems. The popularity of parcel machines as a form of collection suggests the

need to cooperate with logistics operators to provide customers with the widest possible access to this type of service.

The methodological part points out to the limitations of the conducted study. In order to eliminate them, the study can be conducted on a wider group of Generation Z representatives, also going beyond the student community. In addition, it is worth exploring the area of influence of cultural and regional factors on the purchasing preferences of young consumers. An interesting direction of research may also be an attempt to assess the influence of new technologies on the purchasing decisions of this group. The development of artificial intelligence, augmented reality (AR) or shopping in the metaverse¹⁵ may influence the way young consumers make choices and what factors will become key for them in the future.

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¹⁵ Metaverse is a concept that uses the digital environment to penetrate the boundaries of our physical world (Szpringer, 2023, p. 6).

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