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THE CHOICE OF PAYMENT METHOD IN ONLINE STORES DEPENDING ON DEMOGRAPHIC CHARACTERISTICS

ABSTRACT

Purpose: The subject of consideration in this article is to determine differences in the form of payment on the Internet depending on selected characteristics of respondents.

Methodology: The main research problem in this aspect was to answer the question: What types of payment instruments are used in distance transactions depending on gender, place of residence and age? The time scope of the analysis covers the period from October 2022 to February 2023. The basic research method was the CAPI method, based on a questionnaire. In order to verify the hypotheses, statistical analyzes were carried out using the IBM SPSS Statistics 26 package. It was used to analyze basic descriptive statistics together with the Shapiro-Wilk test for normality of distributions of quantitative variables. The study involved 399 people, which is a relatively small sample, so the Mann-Whitney test was an appropriate choice. The Mann-Whitney test was used to compare two independent samples in terms of their distribution. Sample 1 was women and sample 2 was men.

Findings: The Mann-Whitney test showed that the distribution of favorite payment methods among women and men is different. This means that women and men prefer different payment methods.

Both women and men prefer to pay cash for online purchases. For women, the second most popular non-cash payment method is cards, and for men – bank transfer. Other non-cash methods, such as direct debit, voucher, loyalty points or PayPal, are less popular among both groups.

Originality: This study contributes to existing research by offering an analysis of data on Polish consumers' payment methods. The part of the article indicates possible directions of development of the PayTech sector throughout the world and in Poland specifically.

KEYWORDS: *consumer behaviour, electronic payment, payment instruments,*

INTRODUCTION

At present, the issue of electronic payment methods in retail settlements is gaining more and more importance in Poland and in the world. Electronic payments are all financial operations carried out remotely via the Internet using electronic devices, such as computers, telephones, or tablets. Such payments

can be made in various ways. Currently, there are many payment instruments and services related to non-cash transactions available. The main channels are bank transfers, payment cards and special online payment systems (e.g., PayU, Tpay, eService, Blue Media), which include many payment methods. Electronic payment is an up to date topic, not only due to the progressing development of technology that has enabled the automation and digitization of payment processes, but it can certainly be concluded that the Covid-19 pandemic has had a significant impact on the importance of non-cash payments in recent times (Nguyen and Vu, 2020, pp.2019-2020, Bounie et.al., 2016, pp. 55–66, Bergman et. al. 2007, pp 1-32, Piersiala, 2022, p.912).

The e-commerce market, which constitutes a specific barometer of the condition of the economy, has been developing very dynamically in recent years, in particular after the pandemic, both in the world and in Poland. The year 2021, after a period of clear decline due to the pandemic, brought a rebound in the market of online trade in services. The total value of the e-commerce market in 2021 amounted to over PLN 111 billion. According to PMR forecasts, the market of online trade in services in Poland will maintain a strong upward trend in the coming years. The market value will increase from PLN 48.7 billion in 2021 to PLN 97 billion in 2027. This means an increase of nearly 100% (Raport PMR, 2022).

The personal scope of the study included women and men shopping in online stores. On the other hand, the subject matter of the research was consumer behavior, considering the use of various electronic payment methods in online stores. The research issue considered in the article is not only an attempt to organize theoretical knowledge in the area of consumer behaviour, but also an attempt to expand the scientific achievements with another link in the chain of analyses of consumer behaviour. The basis for the recognition and analyses of attitudes and behavior of consumers are the results of the nationwide surveys conducted in the period of October 2022 – February 2023 on a sample of 420 respondents, of which 399 were correctly completed and included in further analysis. The method of the quota selection of research samples was used, selecting respondents within groups isolated according to the basic criteria, i.e., age, gender, place of residence (urban-rural). During the stage related to the selection of research methods and techniques, it was

decided to carry out surveys. The CAPI information collection technique was applied. The questionnaire was anonymous and was preceded by a cover letter addressed to the surveyed consumers, in which the basic issues related to the research were explained. The research related to remote payments on the Internet, and more precisely, to the types of payment instruments used.

The first stage of the conducted research was the analysis of the literary achievements, available secondary sources and information found in numerous Internet sources. This allowed the formulation of the research problem, the objective of which was to determine the tools used in electronic payments. In the next stage, the research objective was defined, and subsequently the research hypothesis was put forward. The last part of the article is the presentation of the research results using statistical methods and the presentation of final conclusions as well as the indication of limitations and recommendations for future research.

LITERATURE REVIEW

In the literature on the subject, there are numerous items devoted to the issue discussed. However, the research focuses particularly on the profound significance of electronic payments in the economy (Turban et. al. 2015, Barnett et.al., 2015, pp. 374–390), reduction in transaction costs, impact of electronic payment methods on sales growth or the competitiveness of Internet infrastructure (Gan, 2019, pp. 397–423, Lindgreen et. al., 2018, pp. 1847–1861 Bergman et.al., 2007, pp. 55–66). Numerous components of online shopping, commercial transactions, and their impact on an increase in the efficiency of trading goods and services in the enterprises are analyzed (Wenner, 2018, pp. 681–705, Ahmad, 2013, pp. 1-6). One of the fundamental aspects discussed in contemporary studies is meeting customer expectations in the context of the effective use of modern electronic banking tools (Al-Sartawi and Sanad, 2019, pp.101-115, Huang et. al., 2011, pp. 406-416). Most analyzes present the development of online banking in the light of the benefits for both enterprises and consumers themselves (Zhang et. al., 2018, pp. 279–295, Carranza et. al., 2021, pp. 1-20). Banking institutions benefit from the possibility of collecting customer data, developing a wide and cheaper

channel for exchanging information with consumers, or reducing service time (Andersen et.al., 2020, pp. 1-30, Brush et.al., 2012, pp. 1499-1515).

In turn, the analyzed determinants that multiply the prevalence of this phenomenon among customers/consumers include price incentives for e-payments, greater convenience of use, variety of modern solutions enabling electronic transactions or the speed of transactions (Oney et. al., 2017, pp. 394–415, Jonker, 2007, pp. 271–303, Kim et. al., 2010, pp. 84-94, Barkhordari et.al. 2017, pp. 89–116).

In the literature on the subject, there is also the discourse on the perception of risk when making e-payments discussed (Malhotra and Singh, 2009, pp. 43-62, Slozko and Pelo, 2015, pp. 42–59). This subject is dominated by issues related to theft, robbery, or loss of money (Nadler et.al. 2019, pp. 75-88). The risk of discomfort, unavailability, fraud, and the risk of anonymity in cyberspace are discussed on a much smaller scale (Simcock et.al., 2006, pp. 355–377, Kañciak, 2013, pp. 109-120, Kahn and Liñares-Zegarra, 2015, pp. 1-39). In order to prevent e-shopping from entailing risk, the research is conducted on behavior, e.g., how to avoid risky situations, how to maintain particular quality measures, or security in terms of online payments, both from the legal and behavioral perspective (Kang et.al., 2018, pp. 94–116, Jahangir and Begum, 2008, pp. 32–40, Maciejewski, 2013, pp. 95-104).

Quantitative and qualitative research methods are also applied to diagnose how users perceive the functionality/practicality of various applications and platforms for e-payments in terms of ease of use, risk, as well as satisfaction with the experience of users and their willingness to continue using (Chen and He, 2020, Hossain et.al., 2020, pp. 14139-14159).

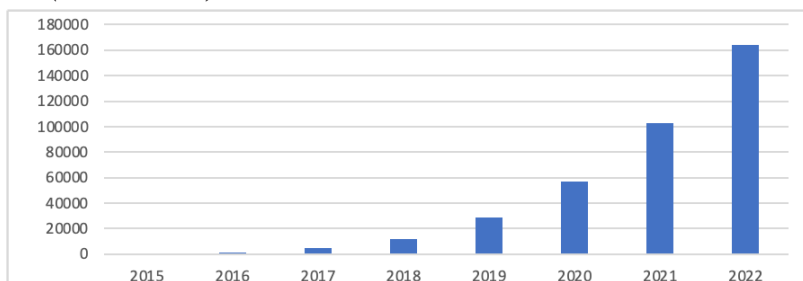
The Covid-19 pandemic has provoked a sharp increase in online shopping, which resulted in massive acceleration in the online business both in developed and developing countries. Therefore, the current case studies are primarily aimed at examining the dynamics of adoption of online shopping in the era of the Covid-19 pandemic (Alessa et.al, 2021, pp. 201-201, Pantano et. al., 2021, pp. 209-2013, Hwang et.al, 2020, pp. 1217–1220). Problems related to online shopping, consumer intentions for shopping in online catalogues depending on the type of products, consumer behavior in the network, etc. are subject to the analysis (Al-Debei et.al. 2015, pp. 707–733, Ko et.al, 2020, Adamczyk et.al., 2020, pp. 593–610).

As a result of the systematic review of the literature, it has been found that there is a research gap in the state of knowledge of the issues identified. According to what has been found, there is no research into the relationship between shopping in online stores and sociodemographic variables or reporting differences in the use of e-payment forms broken down by gender. Therefore, it is considered that the issue raised in this manuscript is important, and the conducted research fills the research gap in this area.

RESEARCH BACKGROUND

When analysing the trend of mobile payments in Poland, it can be stated, that in terms of the number of payments made, BLIK transactions have become a more popular method for online payments than payment cards since the beginning of 2019 (and in the third quarter of 2019 in terms of the value of transactions) (Figure 1). The BLIK payment scheme is operated by Polski Standard Płatności Sp. z o.o. The company was established in February 2015 by six Polish banks as part of a joint initiative. It makes it possible for its users to make online payments, payments from POS terminals, cash withdrawals at ATMs and P2P mobile payments. BLIK is based on a six-digit unique code that is generated by the payment application and displayed on the user's phone screen.

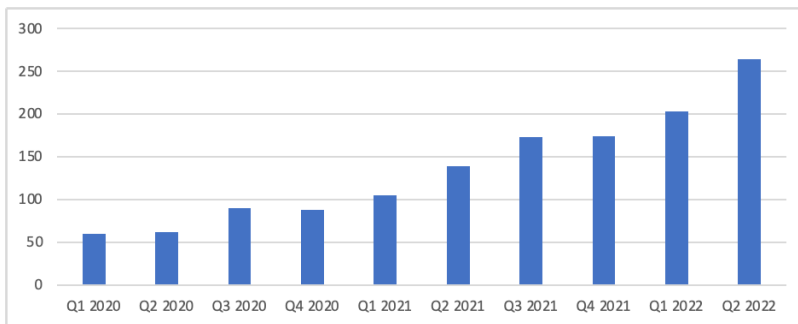
Figure 1. *The total value of the transaction of BLIK in banks in the period from 2015 to 2022 (in PLN billion).*



Source: Narodowy Bank Polski, Departament Systemu Płatniczego, Warszawa, 2023, p. 27-28 (available online <https://nbp.pl/system-platniczy/dane-i-analazy/ocena-funkcjonowania-systemu-platniczego/>. Accessed on 04.12.2023).

Card-based mobile payments (SIM-centric, HCE, Google Pay, Apple Pay, Garmin Pay and Fitbit Pay) were implemented in Poland for the first time in the last quarter of 2012. These payments were made available in a SIM-centric model. The dynamics of growth of these payments is presented in Figure 2.

Figure 2. Number of mobile payments implementations in Poland in the period from 2020 to second quarter of 2022. (in PLN million).



Source: <https://www.cashless.pl/12528-platnosci-mobilne-kontra-karty-2-kw-2022> (Accessed on 04.12.2023).

Other technological financial innovations introduced to the market in Poland include: smartphone payments (e.g., BLIK), contactless cards, authorisation of bank transactions with a fingerprint, voice login to an account, biometric ATMs, mobile ATM/deposit ATM, ATM loan, payment card with display, card with dynamic CVV/CVC18 code, phone ATM, phone number bank transfer, leasing for kilometres or car insurance for kilometres, etc.

The level of using innovation in the financial sector depends on local conditions, such as the degree of innovation and digitisation of the economy, the level of development of the financial sector, the scale of financial exclusion in society and business, as well as regulatory policies. It should be noted that together with Lithuania and Czechia, Poland is in the group of smaller countries characterised as innovative, the presented division was determined on the basis of three variables: the number of payment service providers located in a given country, the number of payment service providers from other

countries of the European Economic Area (EEA) able to provide services in a given country and the potential strength of export of payment services).

At the same time, it should be noted that the adoption of the contactless functionality took place not only in the technological area, but also for consumer behaviour. The share of contactless transactions in the total number and value of payment card transactions has been steadily increasing. In the first half of 2020, the share of this type of transactions amounted to 92% of the number and 85.8% of the value, respectively (Polasik et.al., 2020). The number of cashless transactions made with payment cards per capita in Poland in 2009 amounted to 21 transactions (17th place out of 27 EU countries), and in 2018 it was already approximately 123 transactions (12th place out of 28 EU countries), which was a six-fold increase in nine years.

The consequence of COVID-19 is the shifting of a huge amount of expenses into the online payment zone. In response to demand, these newer payment technologies have become more accessible (https://www.nbp.pl/systemplatniczy/obrot_bezgotowkowy/paytech.pdf). This is important as it causes further changes in consumer behaviour, which has been presented in many studies (Elhajjar and Ouaida, 2019; Boden et.al. 2019; Miciuła et.al., 2020) and, in particular, affects their financial behaviour.

RESEARCH METHODOLOGY

Based on the literature review, the hypotheses were formulated, which were supported by the quantitative study. The aim of the study is to determine differences in the form of payment on the Internet depending on selected characteristics of respondents. The basis for the accomplishment of the objective was the main hypothesis: shopping in online stores is related to selected payment methods. To justify the main hypothesis, two detailed hypotheses were developed:

H1. There is a relationship between shopping online and sociodemographic variables, such as gender, age and place of residence

H2. Women most often use transfer order, followed by cash payment and card payment. On the other hand, men most often use non-card mobile payment.

The selection of the sample was of a probabilistic nature. The respondents aged 18-59 participated in the research. The consumer research (n=399) was carried out online in Poland in a period of October 2022 – the end of February 2023. Accordingly, the sampling method was a random sample. The advantage of the sampling procedure used is that it is simple and can be applied to the population that is not difficult to access; the disadvantage is that random selection requires expertise. In some cases, it can be laborious and complicated to implement.

The territorial scope was limited. The survey included the Likert scale (0 = I totally disagree; 5 = I totally agree), multiple-choice questions about the respondents' attitudes, payment habits and personal data (basic information about age, education, place of residence). The questions defined on the basis of the literature were posed in such a way as to ensure the confirmation or rejection of the hypotheses. The responses were automatically recorded by sending a completed questionnaire online, and subsequently converted to a binary numerical system for processing.

When processing the obtained data, it was necessary to purify the sample, i.e., to combine or exclude categories. Due to the small sample size, the population aged over 60 (n=9) was combined with the age group of 50–59 and renamed to the 50+ category. The decision on exclusion was not taken since the thoughts of the older age group were important, and thus frequency difference between age groups also decreased. On the other hand, the respondents with primary education (n=3) were excluded due to the small sample size, since these two responses were not relevant from the point of view of the obtained results. In the tables presented during the analysis, the data are already depicted in such a way. In order to respond to the research questions, statistical analyses were carried out using the IBM SPSS Statistics 26 package. The analysis of basic descriptive statistics along with the Shapiro-Wilk test was carried out, as well as frequency analysis with the chi-square test, the Mann-Whitney test, the chi-square test of independence and the Pearson's r correlation analysis. The level of significance in this chapter was considered $\alpha = 0.05$. In order to verify the hypotheses, statistical analyzes were carried out using the IBM SPSS Statistics 26 package. It was used to analyze basic descriptive statistics together with the Shapiro-Wilk test for normality of distributions of quantitative variables. The study involved 399 people,

which is a relatively small sample, so the Mann-Whitney test was an appropriate choice. The Mann-Whitney test was used to compare two independent samples in terms of their distribution. Sample 1 was women and sample 2 was men. The Mann-Whitney test showed that the distribution of favorite payment methods among women and men is different. This means that women and men prefer different payment methods.

RESEARCH RESULTS

In the first step of the analysis, the distributions of the quantitative variables were checked. For this purpose, the basic descriptive statistics were calculated along with the Shapiro-Wilk test examining the normality of the distribution. The results of the analysis are presented in Table 1.

Table 1. *Basic descriptive statistics of the tested variables along with the Shapiro-Wilk test.*

| Most frequently selected electronic payment methods in online stores | M | Me | SD | Sk. | Kurt. | Min. | Maks. | W | p |
|--|------|------|------|-------|-------|------|-------|------|--------|
| Transfer order | 3,15 | 3,00 | 1,27 | -0,33 | -0,91 | 1,00 | 5,00 | 0,89 | <0,001 |
| Cash delivery payment | 3,05 | 3,00 | 1,27 | -0,24 | -0,87 | 1,00 | 5,00 | 0,89 | <0,001 |
| Other cashless instruments | 3,74 | 4,00 | 1,14 | -0,68 | -0,25 | 1,00 | 5,00 | 0,87 | <0,001 |
| Non-card mobile payments | 2,98 | 3,00 | 1,47 | -0,13 | -1,38 | 1,00 | 5,00 | 0,86 | <0,001 |
| Payment by card | 3,90 | 4,00 | 1,07 | -1,09 | 1,06 | 1,00 | 5,00 | 0,81 | <0,001 |

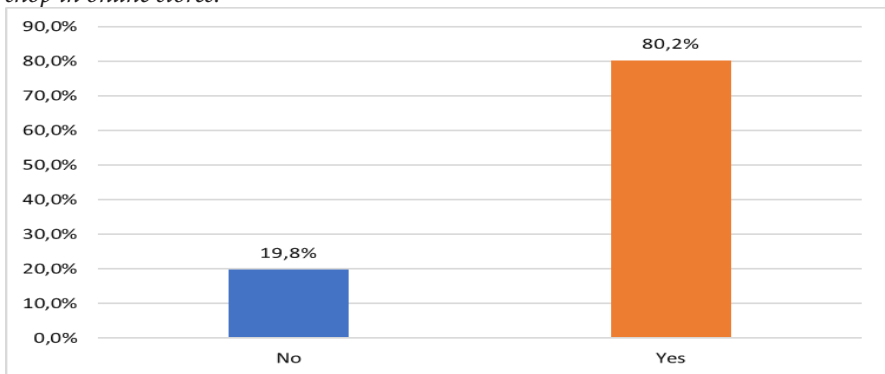
Source: own elaboration

The result of the Shapiro-Wilk test turned out to be statistically important in the case of all the introduced variables, which means that their distributions significantly differ from the normal distribution. However, it should be noted that the skewness of the distribution of all the variables does not exceed the absolute value of 2, which means that their distributions are slightly

asymmetric. Therefore, it is reasonable to conduct an analysis based on parametric tests, provided that the other assumptions are met.

Subsequently, the percentage distributions of the qualitative variables were checked. At first, it was examined what part of the research group does shopping in online stores. The results of the analysis are illustrated in Figure 3.

Figure 3. Percentage distribution of responses to the question whether the respondents shop in online stores.



Source: own elaboration.

Another step of the analysis was to verify whether there was a relationship between sociodemographic variables, i.e., gender, age, and place of residence of the respondents and shopping in online stores (H1). First, the chi-square test of independence was used to compare women with men in terms of shopping in online stores. The results of the analysis are presented in Table 2.

Table 2. Comparison of women and men in terms of online shopping.

| | | Women | | Men | | $\chi^2(1)$ | p | φ |
|---------------------------|-----|-------|-----|-----|-------|-------------|-------|-----------|
| | | N | % | N | % | | | |
| Shopping in online stores | No | 28 | 14% | 39 | 19.6% | 1.24 | 0.284 | 0.05 |
| | Yes | 172 | 86% | 160 | 80.4% | | | |

Source: own elaboration

The analysis showed no statistically significant differences between women and men in terms of shopping in online stores. This means that, regardless of the gender of the respondents, they declared with a similar frequency that they buy/not buy in online stores.

Subsequently, it was checked whether people shopping in online stores differ from people who do not purchase – in terms of age. For this purpose, the Mann-Whitney test was conducted, the results of which are presented in Table 3.

Table 3. Comparison of people shopping in online stores and people who do not buy – in terms of age.

| | Shopping in online stores | | | | | | Z | p | η^2 |
|-----|---------------------------|-------|-------|---------------|-------|-------|-------|-------|----------|
| | No (n = 67) | | | Yes (n = 332) | | | | | |
| | Middle rank | M | SD | Middle rank | M | SD | | | |
| Age | 232.60 | 39.14 | 14.77 | 217.12 | 36.70 | 12.32 | -1.06 | 0.291 | <0.01 |

Source: own elaboration

The obtained results did not indicate a statistically significant age difference in the case of those buying and not buying in online stores. It turned out that the group of people purchasing in online stores was characterized by a similar age to the group of people not buying in this type of stores.

Finally, it was verified whether the place of residence of those questioned was related to buying in online stores. For this purpose, the chi-square test of independence was used, the results of which are presented in Table 4.

Table 4. Comparison of people broken down by the place of residence in terms of buying in online stores.

| | | Shopping in online stores | | | | $\chi^2(4)$ | <i>p</i> | Vc |
|--------------------|---|---------------------------|----|----------|----|-------------|----------|------|
| | | No | | Yes | | | | |
| | | <i>N</i> | % | <i>N</i> | % | | | |
| Place of residence | Country | 12 | 18 | 41 | 12 | 5,41 | 0,248 | 0,11 |
| | City up to 50 thousand residents | 12 | 18 | 75 | 23 | | | |
| | City from 50 to 100 thousand residents | 9 | 13 | 72 | 22 | | | |
| | City from 100 to 500 thousand residents | 20 | 30 | 95 | 29 | | | |
| | City over 500 thousand residents | 14 | 21 | 49 | 15 | | | |

Source: own elaboration

The obtained results did not indicate the existence of a statistically significant difference between people broken down by the size of the place of residence in terms of buying in online stores. This means that, regardless of the place of residence of the respondents, they declared with a similar frequency that they buy/ do not buy in the surveyed stores.

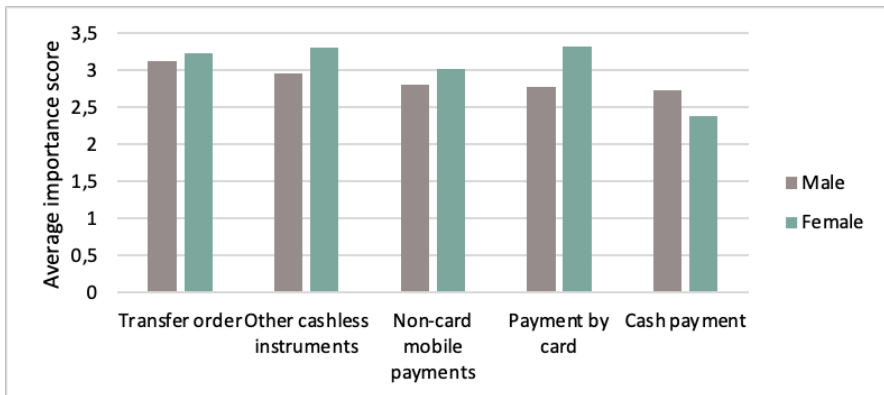
When conducting the research, the hypothesis (H2) was put forward that women most often use transfer orders, then cash delivery payments and payment by cards. Men, on the other hand, prefer to use non-card mobile payments. The survey explains that payment cards include debit cards, credit cards and mobile card payments. A transfer order is a traditional transfer or a pay-by-link transfer. Other cashless instruments include: direct debit, gift card, voucher, loyalty points or PayPal. Non-card mobile payments also include payment by BLIK. Table 5 shows the share of different types of payment instruments according to gender.

Table 5. Relationships between different types of payment instruments and gender.

| Variable | Gender | Average importance score | Standard deviation | Average ratios difference | t ratio | Relevance (double-sided) |
|----------------------------|--------|--------------------------|--------------------|---------------------------|---------|--------------------------|
| Transfer order | Male | 3,120 | 1,365 | -0,106 | -0,483 | 0,630 |
| | Female | 3,226 | 1,341 | | | |
| Cash delivery payment | Male | 2,720 | 1,400 | 0,347 | 1,520 | 0,131 |
| | Female | 2,373 | 1,393 | | | |
| Other cashless instruments | Male | 2,960 | 1,246 | -0,347 | -1,787 | 0,076 |
| | Female | 3,307 | 1,127 | | | |
| Non-card mobile payments | Male | 2,800 | 1,394 | -0,213 | -0,969 | 0,334 |
| | Female | 3,013 | 1,300 | | | |
| Payment by card | Male | 2,773 | 1,439 | -0,547 | -2,330 | 0,021 |
| | Female | 3,320 | 1,435 | | | |

Source: own elaboration.

The hypothesis of equality of averages in groups should be rejected at the level of significance $\alpha=0.05$, so there is a relationship between gender and the method of remote payments on the Internet. There is, therefore, no basis for assuming hypothesis 2 in the part relating to direct debit payments, cash delivery, non-card mobile payments and other cashless methods. When analysing Table 5 and Figure 4, it can be concluded that the distribution of responses for favourite types of payment instruments used in remote payments is different for both genders. The most popular cashless payment method in e-commerce among the surveyed women were cards (29%). Then, other cashless methods (direct debit, voucher, loyalty points or PayPal) were very popular. On the other hand, women are most reluctant to pay in cash delivery on the Internet. For men, the favourite means of payment is transfer order (including pay-by-link solutions), and the least favourite is cash delivery. It can also be noticed that, for both women and men, cash delivery is the instrument they are most reluctant to use for remote payments (Figure 4).

Figure 4. *Payment instruments and gender.*

Source: own elaboration.

To sum up, the conclusion reached for the hypothesis *Women most often use transfer orders, then cash delivery and card payment, men, on the other hand, prefer to use non-card mobile* should not be adopted.

DISCUSSION

The research results partially confirmed the accepted hypotheses. The first stage of the research was to verify whether there are sociodemographic relationships in buying online. The conducted research indicated that, regardless of the gender of the respondents, they declared with a similar frequency that they buy/ do not buy in online stores. Subsequently, it was examined whether there are differences between people buying and not buying online depending on age. The obtained results did not indicate statistically significant age differentiation in that case. It turned out that the group of buyers in online stores was characterized by a similar age to the group of people not purchasing in this type of shops. The last variable was the place of residents and indication whether it is related to buying in online stores. It should be concluded that, regardless of the place of residence of the respondents, they declared with a similar frequency that they buy/ do not buy in e-stores.

In the further part of the analysis of research results, the most popular cashless payment methods in e-commerce among the surveyed women were payment cards. Other payment methods with high popularity are payment order, voucher, loyalty points or PayPal. For men, the preferred form of payment is transfer order, including pay-by-link solutions. On the other hand, both women and men are least willing to pay in cash for online delivery.

The obtained results correspond to the general trend in the global e-payment market. In the near future, the COVID-19 pandemic may have an impact on the directions of development of the PayTech market (Elhajjar and Ouaida, 2019). According to the results of the Mastercard global transaction data and consumer research survey (in which 19 countries participated), there was a 40% increase in contactless payments in the first quarter of 2020, which is justified by safety and hygiene, as well as trust in new technologies, convenience and speed by almost 80% of respondents. Similarly, according to the results of the Visa Back to Business Study¹²⁹, 50% of consumers do not want to make purchases in shops that only offer payments that require contact with a cashier or device, 48% of consumers use contactless payments, 78% of consumers have adjusted their payment method due to the need to ensure safety, and 67% of SMEs have adopted a new approach to trade and payments since the start of the pandemic. The conclusions of the economic report of the BIS Central banks and payments in the digital era indicate the impact of the pandemic on the likely sustained increase in contactless payments and e-commerce, the decline in cross-border transactions and the forecast decrease in the value of migrants' money transfers.

CONCLUSIONS

In the longer term, the development directions of the PayTech sector should be approached from the point of view of digital transformation processes in traditional financial institutions. The demand for fast and cashless payments (transfer of value), in addition to the development of the above-mentioned digital transformation processes in traditional financial institutions, is also an impulse for the development of new technologies and entities in the PayTech sector.

Studies show that there is a need for more research in different countries to show the impact of increased digitisation of financial services. Furthermore, as COVID-19 has shifted a large proportion of online spending and these newer payment technologies have become more accessible, there is a need to better understand how they affect consumers' financial behaviour. As we have argued previously, the world is moving quickly towards forsaking cash for digital financial tools, and the ongoing COVID-19 pandemic has been an accelerator of this change.

The development of individual areas of electronic economy, primarily e-banking or e-commerce, would not be possible without a well-functioning electronic payment system. Traditional forms of transfer of the means of payment between business partners give way to modern, technologically advanced instruments, using electronic communication channels.

The diagnosis of the obtained research results showed that there is no significant difference between women and men in terms of the frequency of online shopping. There is also no significant difference between online shoppers and non-shoppers in terms of age. Where you live has no impact on whether a person shops online or not. People living in cities of different sizes have similar tendencies to shop online. In turn, there is a relationship between gender and the method of remote payments on the Internet. Women most often choose payment cards as a payment method, and men most often choose bank transfers. Women and men are least likely to choose cash on delivery when shopping online. The study was conducted on a convenience sample and used self-declared data, which means that the results may not be generalized to the entire population and may be subject to error.

This study extends current understanding by providing analysis on selected payment methods used by consumers in Poland. The results of this study may have implications for various sectors, including electronic payments, banking and retail companies. The results of the presented research have the potential to influence the development of the payments sector in Poland and can be used to make strategic decisions by companies and to inspire further research on the dynamics of the payments market. In the future, it is planned to conduct a comparative analysis of the payment preferences of Polish consumers

with those from other European countries. The research can provide broader context and identify unique features of the Polish market.

The study did not control for all potential confounding variables, so it is possible that the observed relationships are not causal. Further research should be conducted to identify the causes of differences between women and men in their preferred online remote payment methods using more rigorous research methods such as experimental studies.

The article does not close the undertaken research direction, indicating possible directions for further analyses. Most of all, the aspect of the impact of the COVID-19 pandemic on the change in the consumer purchasing behavior is interesting and relevant. Today there is no doubt that the market behavior of consumers should be a source of inspiration for enterprises as well as the basis for shaping and verifying market decisions.

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