Prerequisites for BLIK payments – generational perspective

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Abstract— **Technological innovations, the digitization process of financial systems as well as changes in consumer preferences and choices of payment forms have resulted in the emergence of new services, including mobile payments. BLIK system, managed by the company Polski Standard Płatności sp. z o.o. (Polish Payments Standard Ltd.) is one of the organizers and operators of such payments. This FinTech is a dynamically growing leader in the domestic mobile payments market and an important part of the digital transformation experienced by the CEE countries.**

The author's review of the source literature demonstrates weakness related to the scientific recognition of problems concerning the identification, analysis and impact assessment of the perceived risks and benefits that constitute the rationale for using BLIK mobile payments by the representatives of generational cohorts of Poles. These problems define the research purpose of this article.

The study adopts the research perspective set by the theory of reasoned action (TRA) and the net worth model (NVM), and also uses critical analysis of the source literature, descriptive and comparative analysis, a diagnostic survey and statistical methods, i.e. structure analysis or Kendall's Tau correlation analysis. Empirical data were collected in 2023 using the CAWI method. They originated from a representative survey sample of 1,000 Poles.

The conducted studies confirmed the validity of using TRA theory and NVM model in the process of identifying the adoption factors of innovative payment instruments. They proved that the consumers' perceptions of risk as well as monetary and non-monetary benefits strongly influence their decisions to use mobile payments, while both this perception and use show differences for the particular generational cohorts of surveyed Poles.

Keywords— digital innovation; FinTech; mobile payments; adoption factors

I. INTRODUCTION

The process of digitalization in financial systems resulted in the emergence of new services including, e.g., modern payment methods. Mobile payments take an important place among them. BLIK system, managed by the company Polski Standard Płatności (PSP) is one of the organizers and operators of such payments. This FinTech is a leader in the domestic mobile payments market and an important part of the digital transformation in the CCE countries. Due to the popularity of this platform among its users, Poland was ranked 1st in Europe regarding the share of A2A (account-to-account) payments used in e-commerce transactions (The Global Payments Report 2024).

The changes occurring in the economic space in terms of consumer preferences and their choice of payment methods, i.e. the transformation from cash and card payments to the digital payment alternatives was the motivation for undertaking research on identifying, analyzing and assessing the impact of perceived risks and benefits as prerequisites for using BLIK mobile payments by the representatives of four generational cohorts of Poles. As the existing research indicates (Xie et al., 2021; Solarz & Swacha-Lech, 2021; Aggarwal et al., 2023; Singh & Sharma, 2022), members of these generations (i.e. Baby Boomers – BB, X, Y and Z) have different experiences and preferences in using digital technology and present various attitudes towards adopting and using digital financial services. According to the best of the Authors' knowledge, based on their overview of the national and international source literature, there are no studies focused on the problems constituting the purpose of this article.

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The implementation of the adopted research purpose is supported by the structure of the study which, in addition to the introduction and the final remarks presenting both conclusions and recommendations resulting from the research, includes the components presenting: a/the considerations related to the Theory of Reasoned Action (TRA) and the Net Valence Model (NVM), b/the issues linked to innovation in the payment services market, c/the characteristics and statistical features of the BLIK payment system, d/the research method and characteristics of the studied population, and also c/ the results of our own research and discussion focusing on the subject matter of this study.

The set of applied research methods includes: a critical analysis of the source literature, a descriptive and comparative analysis, a diagnostic survey covering the sample of 1,000 Poles carried out in 2023, as well as statistical methods, i.e. structure analysis or Kendall's tau correlation analysis.

II. Literature review

II.1. The theory of reasoned action (TRA) and net valence model (NVM) in the light of methods and factor analysis theory of the adoption of digital payments

The development of digital information technologies imposes a change in the established business models. The leaders of change use the offered opportunities and shape the directions and application areas of the emerging digital technological innovations in the ways they desire. The success of these actors becomes, i.a., the function of speed and extent of acceptance for the services they offer, the consumers of which are guided in their adoption behavior by a variety of prerequisites connected with, e.g.: the availability of particular technology, the convenience of its use, emerging needs, security, personal innovativeness, etc. (Sahi et al., 2021; Pal et al., 2019). The pace of development regarding payment systems is a function of the correlation between technological change and natural barriers/limitations related to the acceptance of new products or services by their consumers, hence it is so important to skillfully identify and explain the principles shaping adoption behavior towards technological innovations.

The classical social psychology theory explaining consumer behavior is the theory of reasoned action (TRA), developed by Fishbein and Azjen (1975). Following its assumptions people are rational in their behavior, anticipate the consequences of their actions, and the decision about a particular behavior results from their comparison of costs and benefits. According to the TRA, a person's involvement in a given behavior depends on three factors, i.e.: a/attitude towards that behavior as a function of awareness about the consequences resulting from a particular action, b/subjective norms shaped by beliefs about the prevalence of the given behavior and the attitude of the immediate social environment towards such behavior, c/a sense of control over the behavior as the consequence of previous experience and believing in the ability to perform the given behavior. This theory has been applied in many studies analyzing the acceptance of innovative digital technologies in the world of finance including those on the determinants underlying the adoption of digital or mobile payments (Balakrishnan, 2021; Kelana et al., 2017; Lou et al., 2017; Thi & Diep, 2021).

Based on the TRA, by combining costs and benefits, Peter and Tarpey (1975) developed the net valence model (NVM), the essence of which is the assumption that consumers perceive products and services as items presenting both positive and negative attributes, and the decision to use them becomes a function of maximizing the net valence (i.e. the difference between positive and negative expected utility) resulting from their acceptance. This model takes into account the positive and negative consequences (benefits and costs) of their use. The impact of these constructs on adoption decisions has been empirically confirmed in a number of studies focused on the rationale behind consumer decisions, linked to the use of services offered by both financial institutions (e.g. mobile banking) and FinTechs (Ryu, 2018a; Ali et al., 2021; Al Nawayseh, 2020; Adamek & Solarz, 2023). In research practice, the benefits attributed to innovative digital financial services are usually connected with: the convenience and speed of their use and the diverse economic advantages taking the form of realized savings and financial bonuses, whereas the identified costs appear as varied risks (e.g. financial, legal, personal, operational risks) and consequences arising in the course of their realization (Ozturk et al., 2017; Lee & Kim, 2020).

II.2. Innovations in the payment services market

Digital technologies play an increasingly important role in the economy and have a significant impact on the financial services market including, i.a., forms of payment. The expectations of payment instrument users are undergoing transformations, thus imposing changes in the services offered by their providers. Financial institutions are obliged to implement changes satisfying the demand side better than their competitors in order to maintain and strengthen their competitive position in the market. According Szpringer (2013) these activities bring about innovations implemented by payment service providers, which may be related to: innovative payment instruments, innovative payment channels and methods or innovative forms of money. This author defines an innovative payment service as a service, which introduced new solutions, technologies or standards by bringing in a qualitative change in the previous way of making payments (Szpringer, 2013).

The source literature offers research focused on various types of payment innovations such as e-wallets (Abdul-Halim et al., 2022; Gil-Cordero et al., 2024; Hopali et al., 2022; Rosli et al., 2023), mobile payments (Juniarsih et al., 2024; Khan et al., 2023) or digital currencies (Al-Harbi, 2025; Ozili, 2023). Furthermore, referring to the future of payment market, the National Bank of Poland (2020) indicates, i.a., the growing importance of using artificial intelligence, blockchain technology, biometrics, robotization and automation, and close cooperation with the FinTech sector. Harasim and Mitręga-Niestrój (2018), based on their source literature review, define

FinTech in both broad and narrow terms. In the former one, it refers to using innovative technologies to provide the existing financial services more efficiently and to create new ones, enabling the delivery of new value to customers. As opposed to that, following a narrow approach, FinTech stands for the financial services sector created by the non-traditional financial service providers using innovative technologies to offer the existing financial services more efficiently and to create the new ones which allow delivering new value to customers. Such entities generally specialize in offering selected services or in handling specific phases of the service provision process and frequently have different, more flexible business models than the traditional market participants (banks and other financial institutions). FinTechs have adopted various names depending on the financial services segment they focus their activities on, e.g., LendTech (lending services), InsurTech (insurance), PayTech (payments).

The development of non-bank PayTech entities, according to Polasik et al. (2020) was initiated by the establishment of the Single Euro Payments Area (SEPA) and the first Payment Services Directive (PSD), however, it accelerated only after the implementation of the so-called open banking concept (Zachariadis & Ozcan, 2017) and the second Payment Services Directive (PSD2), whose provisions allowed access to bank accounts for a new category of payment service providers – Third Party Providers (TPPs), including non-bank financial institutions (Drasch et al., 2018).

In Poland, the best-known PayTech is Polski Standard Płatności (Polish Payment Satndard), which has partnered with traditional banks to offer mobile payments as part of the BLIK system. In accordance with the European Central Bank's definition, mobile payments (m-payments) refer to the ones during which a mobile device, e.g., a smartphone is used at least to initiate a payment order, but potentially also to transfer funds. They can involve transactions at traditional points of sale (in a shop, at a petrol station), but also those performed remotely using the Internet (e-commerce) (Klimontowicz, 2013).

Mobile payments are categorized as the so-called radical innovations, as opposed to incremental innovations, which usually mean a modification of an already existing payment instrument or an improvement of the payment process, e.g., contactless cards (Klimontowicz, 2013). The demand for digital payments has increased along with the development of e-commerce, the specifics of which caused that payment for goods and services (especially those purchased online) should not be a separate financial service, but rather "implanted" into the purchase process, i.e. take a remote form (Harasim & Klimontowicz, 2017). A very quickly recognized market niche was filled up by the PayTech entities, including the Polish BLIK payment system.

III. BLIK - ESSENCE, STATISTICAL OVERVIEW

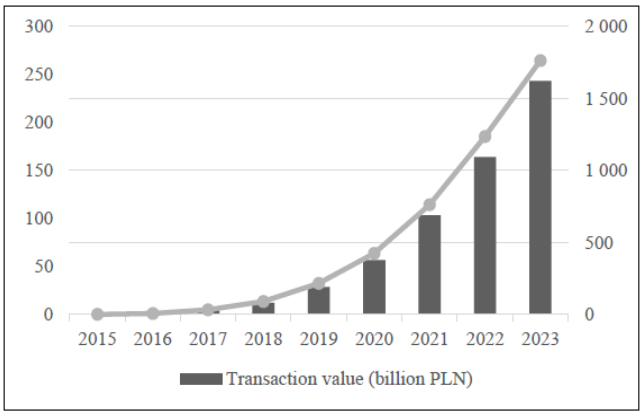
BLIK is a mobile payment system launched in 2015 and managed by the company Polski Standard Płatności (PSP), which received the relevant approval from the National Bank of Poland a year earlier (Król & Starzycki, 2024). The National Clearing House became the operator of the BLIK payment system infrastructure. It allows smartphone users to make cashless payments at stationary and online shops, withdraw and deposit cash at ATMs and make transfers to a phone number as well as generate cheques with a digital code. Users of banking mobile apps on Android or Harmony OS devices can also make contactless payments using BLIK at payment terminals.

BLIK codes are an online system, which requires Internet connection. Pre-generated cheque codes are the exception, as they can be used offline during their validity period. Each one-time code is a combination of 6 digits and is valid for 2 minutes, after this time a new code is generated by the banking application. Contactless payments also work offline.

At the end of March 2025, BLIK could be used by customers of 21 banks in Poland, in addition the system is developing dynamically, expanding its range of customers to include more financial institutions, settlement agents and users, and introducing new services, e.g., allowing payments in the Google Play shop.

According to the data provided by the National Bank of Poland (Statistics…, 2024), between 2015 and 2023 the number of BLIK transactions increased impressively from 1.24 million up to 1,762.68 million, with the biggest change recorded at the beginning of the system's operation, when at the end of 2016 the number of transactions went up by as much as 564.5% as compared to the previous year. The value of BLIK transactions grew equally dynamically in the period covered by the study, reaching PLN 243.13 billion at the end of 2023 (Fig. 1).

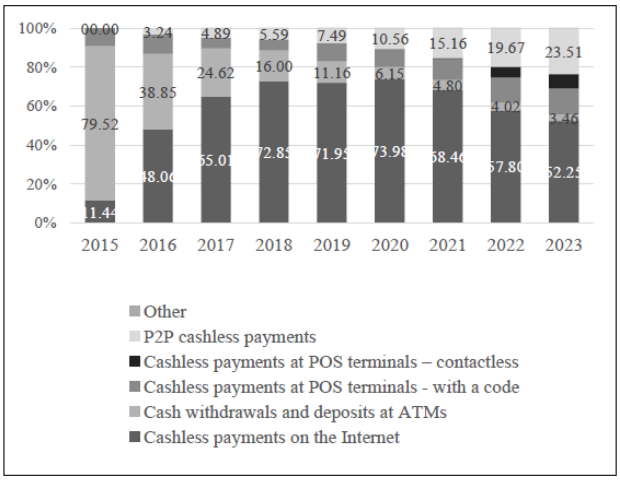
FIGURE 1: NUMBER AND VALUE OF BLIK TRANSACTIONS IN 2015-2023



Source: Author's compilations

The graph (Fig. 2) presents the shares of individual payment types in the total number of BLIK transactions in the period 2015-2023. The data show that the share of cash deposits and withdrawals at ATMs clearly declined during the analyzed period, from 79.52% in 2015 to only 3.46% in 2023, the opposite trend was recorded for cashless online payments (11.44% and 52.25% respectively). The share of cashless payments at POS terminals with a BLIK code remains relatively stable ranging between 5.49% and 13.24%, whereas the interest in BLIK for making P2P (person to person) non-cash payments is increasing – approx. one in four payments in 2023 involved transferring funds between users' personal accounts using a phone number on which a banking application supporting BLIK payments is installed (cf. Fig. 2).

FIGURE 2: SHARE OF INDIVIDUAL PAYMENT TYPES IN THE TOTAL NUMBER OF BLIK TRANSACTIONS IN THE PERIOD 2015-2023



Source: Author's compilations

The average value of payments is an indicator illustrating changes taking place in the BLIK payments market, which doubled from PLN 279 to PLN 138 between 2015 and 2023, demonstrating the increasing use of BLIK for everyday settlements.

The results achieved by the Polish BLIK payment system translate into its high position among the leaders of digital economy solutions in the CEE region. The data provided by the Digital Champions CEE reports prepared by the Digital Poland Foundation show that in 2024 BLIK was ranked 23rd among the top 100 technology companies, and third in the category of FinTechs from 19 countries in the region. However, according to The Global Payments Report (2025), the alternative payment methods, i.e. carried out using other means than cash or payment cards, accounted for 59% of transactions value in the European e-commerce market in 2024. Among national leaders in the category of A2A (account-to-account) payments, BLIK was the leader holding 70% share of this method in the value of e-commerce payments in Poland.

IV. RESEARCH METHODS AND CHARACTERISTICS OF STUDIED POPULATION

The Authors of the study supported the realization of its research purpose (identification, analysis and assessment of the perceived risks and perceived benefits as prerequisites for using BLIK digital payments by the representatives of selected generational cohorts) by formulating answers to the research questions presented below:

What place do the theory of reasoned action (TRA) and the net valence model (NVM) take at the background of the methods and factor analysis theory of the adoption of digital payments?

What is the use of BLIK payments by the surveyed Poles?

What are the demographic and economic characteristics of BLIK payment users/non-users?

Is there a correlation between the perceived benefits and risks and using BLIK payments by the surveyed Poles?

Is there a generational diversification in the perceived benefits combined with using BLIK payments?

Is there a generational diversification in the perceived risks combined with using BLIK payments?

The set of applied research methods included: critical analysis of the source literature, descriptive and comparative analysis, diagnostic survey, and statistical methods, i.e. structure analysis or Kendall's tau correlation analysis. Empirical data were collected through the BioStat Research and Development Centre in June 2023. They originated from a representative research sample covering 1,000 Poles. The maximum statistical error for the whole sample was 3.1%. The survey, conducted using the CAWI method, used the Authors' own survey questionnaire including: 9 single-choice questions, 30 questions rated on a seven-point Likert scale and 5 personal information questions.

The descriptive statistics characterizing the analyzed population of respondents are presented in Table 1. This group was predominantly made up of women – 53.5% of all respondents. BB (Baby Boomers) was the most numerous generation, i.e. people aged 59 and over (33.0%), the representatives of generation X, currently aged between 43 and 58, constituted 7.3 percentage points less numerous group, followed by generation Y – 30.3% of the total number of respondents, and the youngest group under 27 years of age, i.e. generation Z, were represented by 110 individuals out of 1000 respondents.

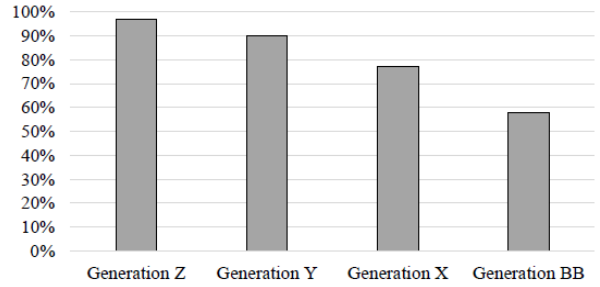
Secondary school graduates accounted for approx. 48% and university degree holders for approx. 40%. More than 31% of the respondents reported income ranging between PLN 2801 and 4000, one in five declared the amount between PLN 1401 and PLN 2800, and nearly 6% of the respondents refused to answer the question about their monthly net income. The respondents resided predominantly in rural areas (40.1%) and cities populated by 20–99 thsnd. residents (19.2%).

V. RESULTS

The percentage of respondents using BLIK payment system amounted to 77%. This level indicates that more than three out of four surveyed Poles use their computer, smartphone or tablet to make such transfers. According to the latest information from the BLIK press office (as at 14.03.2025), the number of active BLIK users (i.e. those making at least one transaction per month) reached 18,5 million.

The percentage of generational cohorts' representatives using BLIK payments in the number of surveyed members of a given generation proves that the representatives of generation Z are the leading age group from the viewpoint of using this tool (cf. Fig. 3). As few as three out of one hundred surveyed "Zoomers" do not use/did not use BLIK payments. The popularity of this tool declines as the age of its users increases, reaching 90% usage for generation Y and 77% and 58% for the representatives of generation X and BB, respectively. These data confirm, i.a., that increasing the number of BLIK users has to be based on the activities for which older people (generation X and BB) remain the target group.

FIGURE 3: PERCENT OD THE GENERATION REPRESENTATIVES USING BLIK PAYMENTS (100 = NUMBER OF MEMBERS OD THE SURVEYED GENERATION)



Source: Author's compilations

Based on the data collected in the survey, a conclusion can be drawn that women slightly outnumber men (52.08% vs. 47.92%) among the total number of BLIK payment users, but when analyzing the data separately in both groups identified by gender, it turns out that among the surveyed men 77.68% and among women 76.38% represent BLIK users (Tab. 2)

While gender is not a factor differentiating the populations of users and non-users of BLIK payments, the situation is different in the case of respondents' age. In the first group, younger people are more numerous than the older ones – 35.32% of BLIK users are Poles from generation Y, every fourth user belongs to generation X, and 24.94% of the respondents using BLIK payments represent generation BB. The intergenerational differences are even more visible in the group of those who do not use BLIK payments, as the oldest generation accounts for as much as 60% of this population (cf. Tab. 2). The remaining characteristics, i.e. education, place of residence and net monthly income, do not differentiate between the compared groups.

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TABLE 1.
CHARACTERISTICS OF THE RESEARCH SAMPLE

Gender (N – 1000)						
Specification	*Women*		*Men*			
Number (n)	525		475			
Percentage (%)	52.5%		47.50%			
Generation (N – 1000)						
Specification	*Generation Z*	*Generation Y*	*Generation X*	*Generation BB*		
Number (n)	110	303	257	330		
Percentage (%)	11.0%	30.3%	25.7%	33.0%		
Education (N – 1000)						
Specification	*Primary and lower secondary*	*Vocational*	*Secondary*	*Higher*		
Number (n)	29	92	478	401		
Percentage (%)	2.9%	9.2%	47.8%	40.1%		
Net monthly income (N – 1000)						
Specification	*Up to PLN 1400*	*From PLN 1401 to PLN 2800*	*From PLN 2801 to PLN 4000*	*From PLN 4001 to 5200*	*Over PLN 5200*	*I decline to answer*
Number (n)	57	203	311	198	167	64
Percentage (%)	5.7%	20.3%	31.1%	19.8%	16.7%	6.4%
Place of residence (N – 1000)						
Specification	*Village*	*City up to 20 thsnd. residents*	*City 20-99 thsnd. residents*	*City 100-199 thsnd. residents*	*City 200-499 thsnd. residents*	*City over 500 thsnd. Residents*
Number (n)	401	131	192	87	73	116
Percentage (%)	40.1%	13.1%	19.2%	8.7%	7.3%	11.6%

Source: Authors' compilation based on the conducted research.

TABLE 2.
DEMOGRAPHIC AND SOCIAL PROFILE OF USERS AND NON-USERS OF BLIK PAYMENTS

Parameter	Number (n)	Number of users	Number of non-users	% of users in N'	% of non-users in N''	% of users in n
Gender (N – 1000; N' – 770; N'' - 230)						
Women	525	401	124	52.08%	53.91%	76.38%
Men	475	369	106	47.92%	46.09%	77.68%
Generation (N – 1000; N' – 770; N' - 230)						
Generation Z	110	107	3	13.90%	1.30%	97.27%
Generation Y	303	272	31	35.32%	13.48%	89.77%
Generation X	257	199	58	25.84%	25.22%	77.43%
Generation BB	330	192	138	24.94%	60.00%	58.18%
Education (N – 1000; N' – 770; N'' - 230)						
Primary/lower secondary	29	24	5	3.12%	2.17%	82.76%
Vocational	92	64	28	8.31%	12.17%	69.57%
Secondary	478	361	117	46.88%	50.87%	75.52%
Higher	401	321	80	41.69%	34.78%	80.05%
Net monthly income (N – 1000; N' – 770; N'' - 230)						
Up to PLN 1400	57	37	20	4.81%	8.70%	64.91%
From PLN 1401 to 2800	203	142	61	18.44%	26.52%	69.95%
From PLN 2801 to 4000	311	246	65	31.95%	28.26%	79.10%
From PLN 4001 to 5200	198	163	35	21.17%	15.22%	82.32%
Over PLN 5200	167	138	29	17.92%	12.61%	82.63%
I decline the answer	64	44	20	5.71%	8.70%	68.75%
Place of residence (N – 1000; N' – 770; N' - 230)						
Village	401	294	107	38.18%	46.52%	73.32%
City up to 20 thsnd. residents	131	99	32	12.86%	13.91%	75.57%
City 20-99 thsnd. residents	192	147	45	19.09%	19.57%	76.56%
City 100-199 thsnd. residents	87	72	15	9.35%	6.52%	82.76%
City 200-499 thsnd. residents	73	63	10	8.18%	4.35%	86.30%
City over 500 thsnd. residents	116	95	21	12.34%	9.13%	81.90%

Source: Authors' compilation based on the conducted research.

By comparing the collected data regarding the characteristics of the population using BLIK payments against the total number of respondents, a statistical demographic and social profile presenting an average user of this payment type can be identified. It is a young man aged up to 27, i.e. a representative of the Z generation (97.3%), a graduate of primary and lower secondary school (82.8%) or higher education (80.1%), with monthly income of over PLN 4001 (82.5%), living in a large city, i.e. with a population of 200-499 thsnd. residents (86.3%).

The analysis of using BLIK product offer shows a varied use of individual services in general and taking into account the preferences of the surveyed population. The percentage using a particular service ranges from the level of 77% for payments made in online shops to 10% for the sent out transfer requests (Fig. 4). In turn, when assessing generational preferences, certain regularity is noticeable, indicating the leading role of generation Z representatives, who use all services offered by BLIK except for recurring payments, which are most frequently used by the members of generation X. On the other hand, the oldest of the respondents (generations BB and X) are, at the same time, characterized by the lowest percentage of using diversified BLIK payment services. It is among the representatives of these generations and their adoption decisions that development opportunities should be sought, based on the multiplication of their desired features and the improvement of the conditions for using BLIK product range. Moving on to the next research question about the existing correlations between perceived benefits and risks and using BLIK payments by Poles, the Authors applied Kendall's tau correlation coefficient used to examine the strength of a monotonic relationship between the selected characteristics. Applying this tool allows, i.a., to determine whether there occurs a correlation between the above mentioned factors and the use of BLIK payments in the surveyed population. The conducted statistical analysis, which results are presented in Table 3, proved a statistically significant monotonic relationship between the use of BLIK payments and the remaining parameters

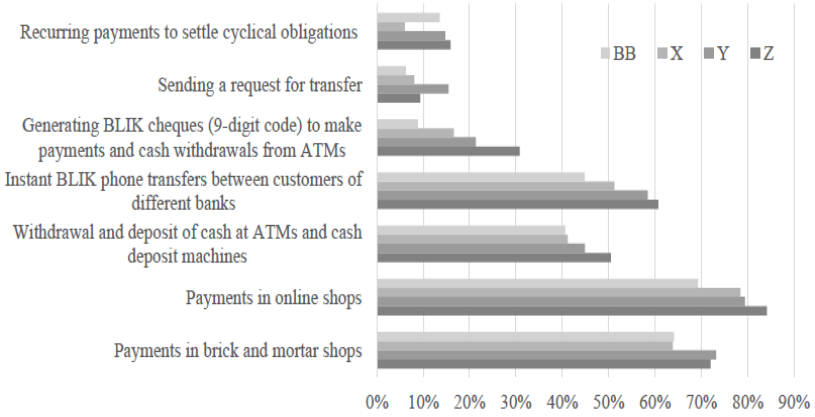
TABLE 3.
KENDALL'S TAU CORRELATION VALUES BETWEEN USING BLIK PAYMENTS AND THE PERCEIVED BENEFITS AND RISKS ASSOCIATED WITH THEIR USE

	PERR	PB	MPB	NMPB	FR	PR	OR	SR
tau	-0.3929	0.5988	0.3419	0.5758	-0.2975	-0.3321	-0.2973	-0.3064
Z statistics	-16.3182	24.8668	14.1985	23.9126	-12.3530	-13.7906	-12.3475	-12.7253
Two-sided p value	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001	<0.000001

PERR-perceived risk, PB-perceived benefits, MPB-perceived monetary benefits, NMPB- perceived non-monetary benefits, FR-financial risk, PR-personal risk, OR-operational risk, SR- psychological risk

Source: Authors' compilation based on the conducted research.

FIGURE 4: TYPES OF BLIK PAYMENTS- USAGE (PERCENTAGE OF USERS)



Source: Author's compilations

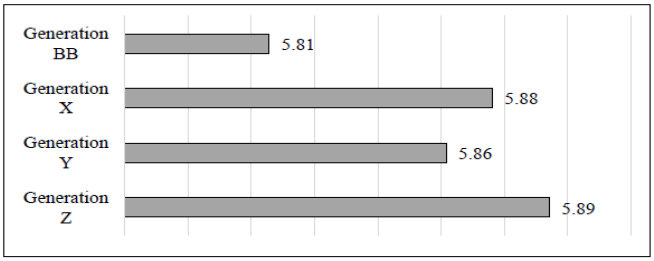
The Kendall's monotonic correlation coefficient, i.e. the strength of the monotonic relationship for these correlations takes positive values for the parameters describing the benefits associated with using BLIK payments, and negative values for the factors referring to various types of risks. In the first case, an increase in the independent variable corresponds to an increase in the dependent variable, i.e. the stronger the benefits associated with making BLIK payments are perceived, the higher the level of using this type of digital payment. It is also worth indicating that the correlation coefficient value is higher for the perceived benefits of a non-monetary (0.58) rather than monetary nature (0.34). In the second case, i.e. factors describing risks, a monotonic decreasing correlation occurs, which should be interpreted as follows – an increase in perceived risks corresponds to a decrease in the intention to use BLIK payments in the surveyed population. Kendall's tau correlation coefficient takes absolute values ranging from 0.3 to 0.4.

The next two research questions referred, respectively, to the issue of generational differences in perceived benefits and risks connected with using BLIK payments. Taking the perspective of perceived benefits and based on the adopted and described above theory of reasoned action (TRA) and the net valence model (NVM), the results of the conducted empirical research allow formulating conclusions of both general and specific nature.

With regard to the entire population of respondents using BLIK payments, it should be emphasized once again that the correlation between the perceived benefits (PB) and using the discussed payment services amounting to approx. 0.6 indicates a strong positive correlation between these constructs. This conclusion corresponds to the average rating assigned to the so-called overall benefits, both by the surveyed population using BLIK mobile payments (the rating of 5.86 on a seven-point Likert scale) and the analyzed generational cohorts (Fig. 5).

Interestingly, as indicated earlier, the analysis of correlation between the perceived monetary (MPB) and non-monetary (NMPB) benefits and using BLIK payments confirms that non-monetary benefits are higher correlated with this use. Thus, in general, users of BLIK payments find the usefulness of this tool more important and defined, e.g., by: a/the possibility of using it anywhere and anytime, b/the speed of making monetary settlements, or c/convenience, rather than benefits of a financial nature associated, e.g., with: a/the costs of such transactions, b/the possibility of receiving appropriate discounts, financial rewards, or c/using such tools as cashback.

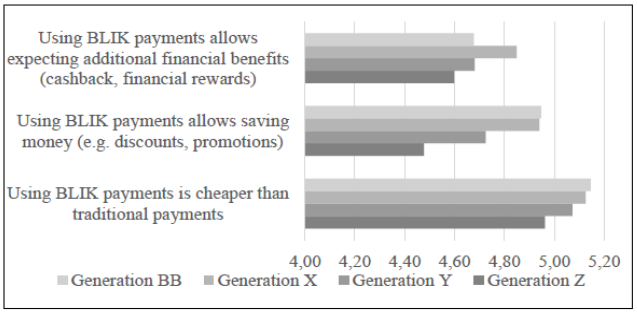
FIGURE 5.
TOTAL BENEFITS – AVERAGE NUMBER OF POINTS ON A 7-POINT LIKERT SCALE



Source: Authors' compilation based on the conducted research.

This situation raises challenges for the service provider as well as its operators. These entities should take the aforementioned preferences into account in their marketing strategies, pricing and sales policies, thus providing them with an opportunity to increase the number and volume of BLIK transactions and to multiply the resulting benefits. In its detailed dimension, relating to the identified generational cohorts (Fig. 6), monetary benefits are rated lowest by the representatives of generation Z. In contrast, they are more important to people from generations X and BB. Therefore, it is the financial aspects of using BLIK payments that appeal to older people and lose their importance in the eyes of "Zoomers".

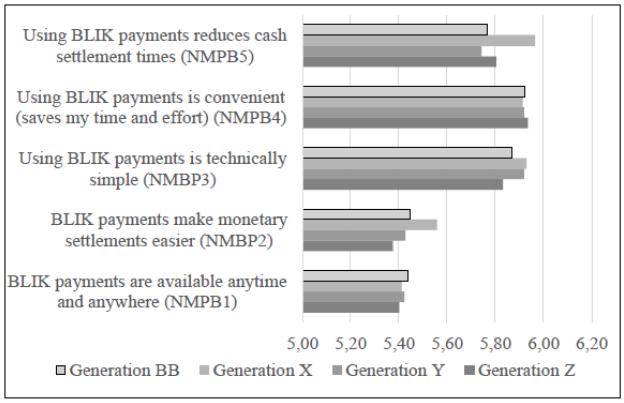
FIGURE 6.
MONETARY BENEFITS – GENERATIONAL PERSPECTIVE
(AVERAGE NUMBER OF POINTS ON A 7-POINT LIKERT SCALE)



Source: Authors' compilation based on the conducted research.

A similar trend in terms of rating is true for non-monetary benefits (Fig. 7). Again, these benefits are best perceived by the generation X cohort (mean score 5.76), for whom, i. a., saving time in making a transaction and technical ease of use constitute the important attributes in favor of using BLIK payments.

FIGURE 7.
NON-MONETARY BENEFITS – GENERATIONAL PERSPECTIVE
(AVERAGE NUMBER OF POINTS ON A 7-POINT LIKERT SCALE)



Source: Authors' compilation based on the conducted research.

Perceived risk is also an important factor in deciding whether to use BLIK payments. The majority, i.e. 68.2%, of the respondents disagree with the statement that using BLIK payments involves high level of risk, with only 14.7% presenting the opposite viewpoint (Fig. 8). 15.5% of the respondents strongly deny that such payments expose their user to negative financial consequences, and overall, this statement has been negated by approx. 70% of BLIK users. Only 2 percentage points fewer respondents disagree that using BLIK payments is less beneficial than using traditional payment instruments.

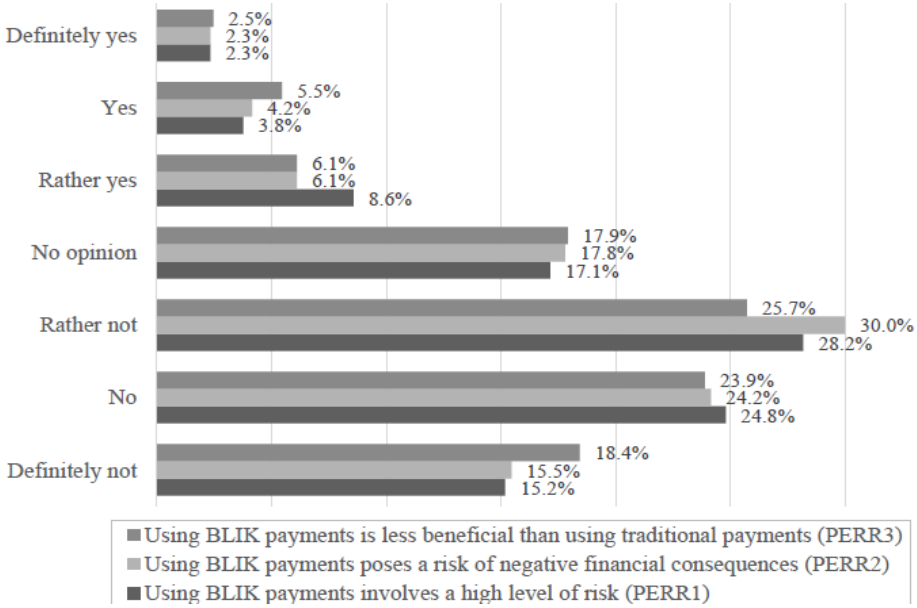
The average rating of the perceived risk, determined based on the respondents' answers is 3.31 which, on the adopted Likert scale, means "I rather disagree with the statement". Thus, it can be concluded that BLIK payment users have not experienced and/or do not perceive this problem. When analyzing the respondents' perceived risks by type, i.e. financial, operational, personal and psychological risks, some differences are noticeable. The lowest rating was assigned to financial risk (3.17) which could manifest itself as an increase in the likelihood of financial losses or exposure to unpredicted charges (Tab. 4).

A slightly higher rating was assigned to personal risk (3.19), which results, i.a., from concerns that BLIK payments expose users to the leakage of their financial data – insight into account balances, transactions made (3.25). The next two types of risk – operational and psychological – were scored equally at 3.44 points each, with the most significant concerns about the operation of BLIK payment system which may malfunction, thus hindering or limiting access to the execution of monetary settlements and/or causing problems in the processing of payments made (3.51) and the fear that failures of the BLIK payment system may cause its user's distress (4.06).

The youngest of the analyzed generations, i.e. generation Z, rated various risks connected with making BLIK payments the highest (3.50-3.71), and only in the case of psychological risk the rating was lower by 0.15 points. The representatives of BB generation perceive the risks of using BLIK payments as lowest

(from 2.79 for financial risks to 3.24 for psychological risks). Based on the data presented in Table 4, it can be concluded that there is a generational diversification in the perceived risks associated with using BLIK payments, whereas the assigned ratings decline along with the age of their users.

FIGURE 8: ASSESSMENT OF THE TRUTHFULNESS OF STATEMENTS PROVIDED BY BLIK PAYMENT USERS REGARDING PERCEIVED RISK



Source: Author's compilations

TABLE 4.
ASSESSMENT OF THE RISK TYPES PERCEIVED BY BLIK USERS

Risk		Total	Generation			
			Z	Y	X	BB
Financial	Using BLIK payments increases the likelihood of financial loss (FR1)	3.04	3.48	3.34	2.80	2.61
	Using BLIK payments increases the likelihood of financial fraud (FR2)	3.43	3.93	3.68	3.17	3.07
	Using BLIK payments exposes me to unpredictable charges (FR3)	3.04	3.36	3.33	2.80	2.70
	Mean	3.17	3.59	3.45	2.93	2.79
Personal	Using BLIK payments exposes me to personal data loss (PR1)	3.14	3.53	3.37	2.89	2.86
	Using BLIK payments exposes me to the leakage of my financial data (insight into my account balance, transactions made) (PR2)	3.25	3.48	3.50	3.01	3.04
	Using BLIK payments exposes me to my data being used for illegal purposes by third parties (PR3)	3.18	3.50	3.40	2.97	2.89
	Mean	3.19	3.50	3.42	2.95	2.93
Operational	The BLIK payment system may malfunction, thus hindering or limiting access to the execution of monetary settlements and/or causing problems in the processing of payments (OR1)	3.57	3.90	3.81	3.27	3.35
	The BLIK payment security system is not effective enough to protect its user's funds (OR2)	3.41	3.61	3.64	3.26	3.13
	The operation of the BLIK payment system does not provide adequate legal protection for the interests of its users (OR3)	3.35	3.64	3.56	3.15	3.10
	Mean	3.44	3.71	3.67	3.23	3.19
Psychological	Using BLIK payments can result in unnecessary tension and concerns regarding the consequences of mistakes made in their use or operation (PS1)	3.27	3.44	3.61	2.97	3.01
	Failures of the BLIK payment system may cause its user's distress (PS2)	4.06	4.07	4.25	3.90	3.95
	Using BLIK payments can cause discomfort (PS3)	3.00	3.14	3.24	2.81	2.77
	Mean	3.44	3.55	3.70	3.23	3.24

Source: Authors' compilation based on the conducted research.

VI. DISCUSSIONS

The research findings show that the percentage of respondents using BLIK payment system is high, amounting to 77% of Poles, with the representatives of generation Z as the leading age group in terms of using this payment instrument. The popularity of using BLIK declines along with the increasing age of its users, reaching 97% in the case of generation Z, and 90%, 77% and 58% for the representatives of generations Y, X and BB, respectively. Therefore, the Authors' findings confirm the results published by Kaczmarek, which identify the differences in the frequency of using the following BLIK functions between people representing different generations: online transfer, transfer to a phone (P2P) and payment at a POS using a code (Kaczmarek, 2023).

The results of the Authors' own research confirm the validity of using the TRA-based NVM model in the process of

identifying and assessing the impact of perceived benefits and risks on using innovative digital technologies which, beyond any doubt, include the BLIK mobile payment system. The usefulness of this model has also been confirmed in scientific articles such as: Ryu (2018a), Ali et al. (2021), Pal et al. (2019). The obtained values of Kendall's tau correlation coefficient prove the occurrence of a statistically significant monotonic correlation between using BLIK payments and the other parameters, with the strength of the relationship for these correlations reaching positive values regarding the benefits associated with using BLIK payments and negative values for factors relating to different types of risks. This conclusion is in line with the results of research conducted by: Ryu (2018b), Ozturk et al. (2017), Xie et al. (2021).

In addition, non-monetary benefits (0.58) have greater impact than the monetary ones (0.34). The analysis has identified the occurrence of a clear generational diversification, as monetary benefits are rated lowest by the representatives of generation Z, while for generation X and BB they become more important. Non-material benefits, in turn, are best perceived by the generation X cohort, for whom convenience, technical ease of use and time savings in making transactions constitute the important attributes supporting the continued use of BLIK payments. This conclusion is consistent with the results of research conducted by Fisher et al. (2017), which prove, among other things, that younger generations consider mobile payment procedures to be more useful and user-friendly than older ones.

It should also be noted that there is a generational diversification in the perceived risks associated with using BLIK payments, and the assigned ratings decline along with their users' age. The youngest of the analyzed generations rated various risks resulting from making mobile payments the highest (except for psychological risks), whereas the representatives of BB generation perceive the risks of using BLIK payments the lowest. These behaviors are in contrast to the attitudes adopted by older people, described in studies by Kim et al. (2017), Liébana-Cabanillas (2014), Wong et al. (2022), among others. Their results suggest that as so-called digital immigrants, older people are more susceptible to risk perception in relation to the use of mobile payments, tend to take less risk than younger people, and prefer to have more control over their financial resources

VII. Conclusions

The conducted studies confirmed the validity of using TRA theory and NVM model in the process of identifying the adoption factors of innovative payment instruments. They proved that the consumers' perceptions of risk as well as monetary and non-monetary benefits strongly influence their decisions to use mobile payments, while both this perception and use show differences for the particular generational cohorts of surveyed Poles.

The above conclusions resulting from the Authors' own research, based on primary and secondary data, allow formulating recommendations for the stakeholders of BLIK system and to outline the desired directions of research focused on the problem of mobile payment adoption and use. Possible scenarios for the future of the analyzed payment instrument focus on various spheres. One of them is the technological area, the platform operator should continue to develop the platform by adding new features and services providing even more benefits and opportunities for its users. A very promising direction is the introduction of the "Buy Now, Pay Later" function – BNPL, i.e. deferred payment. The popularity of this financial service is growing at a very fast pace, as the size of the global market (BNPL) was valued at $380.0 billion in 2024 and is expected to grow approx. 25.5% annually in the coming years (Buy Now, Pay Later 2025 - Statista Report). On the other hand, according to Kearney's European Retail Banking Radar (2023), 64% of the surveyed 500 Poles declared using BNPL, which is 7 percentage points higher than the average for Europe. Considering the presented statistics and the clear openness towards using BLIK payments of the Poles surveyed by the Authors, a conclusion can be drawn that this service will be developing dynamically in the future. It will also pose new challenges, as there are no separate regulations in the Polish legal system that relate directly to deferred payments. In principle, the rules on granting consumer credit, as provided in the Act of May 12, 2011 on consumer credit, which, by November 2025, are to take into account the guidelines contained in Directive (EU) 2023/2225 of the European Parliament and of the Council of 18 October 2023 on credit agreements for consumers and repealing Directtive 2008/48/EC (2023).

One of the most important factors influencing the dissemination and further dynamic development of new solutions in the payment services market, such as the BLIK system is the parallel development of individual markets using payment systems. In addition to e-commerce which, as already mentioned, has contributed to the emergence and adoption of digital payments, according to the Authors, it is important to pay attention to and look for development opportunities in e-Administration. As of March 2023, Polish taxpayers were provided with the opportunity to pay their annual PIT in the e-Tax Office (e-US) service and Your e-PIT service using the BLIK payment system. Launching this type of payment was possible owing to the cooperation of the Ministry of Finance with the BLIK operator and Bank Gospodarstwa Krajowego (The National Development Bank). Thus, the subject matter of digital payments in e-Administration constitutes a valuable, future-oriented and still unexplored research area.

While the Authors' own research covered identifying factors influencing the use of BLIK payments, they believe that research focused on the population of individuals neither using nor intending to use digital payments in the future could provide equally interesting conclusions. Identifying the reasons for such declarations would allow recommending specific actions aimed at convincing these people to include BLIK payments as an alternative to the payment instruments they have been using so far. One of such actions could take the form of education intended to raise awareness about the benefits of making payments using BLIK or building trust in the system. The

system operator or financial institutions could take up the role of an educator, thus becoming a part of the Corporate Social Responsibility (CSR) initiative.

It is also important for the theory and practice of the discussed problems that the conducted analyses address a geographically narrow research area. Based on the Global Payment Report 2025, it would be interesting to carry out comparative studies identifying both factors and reasons underlying the use of particular payment instruments in terms indicating, e.g., cultural differences that characterize representatives of European countries.

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