

Article

Key Factors Determining the Expected Benefit of Customers When Using Bank Cards: An Analysis on Millennials and Generation Z in Romania

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Abstract: The purpose of this article is to define the level of significance of the different indicators that influence the benefits expected by the customers when deciding on a bank card. The most important indicators that affect the expectations when using the bank card were considered: The level of the credit limit, the existence of rewards programs, the costs associated with the card, the existence of associated services of type e-banking/m-banking, the image and the social status, the possibility to perform ATM cash operations, customer service, ease of use and volume of information on the card. The research was carried out on a sample of 148 bank cardholders in Romania from the Millennials and Generation Z. The values of the indicators for different categories of users of bank cards and different age categories can be determined based on the obtained results and the tests performed. The determined values of the indicators represent the basic elements for building a regression model that will help bank managers to optimize their personalized offers in relation to customer expectations.

Keywords: bank cards; customers' benefits; banking sector; Millennials; Generation Z; regression modelling

1. Introduction

The purpose of the article is to identify the factors that influence the level of satisfaction of the users of bank cards in Romania and to analyze how big the effect of each of them is. In order to explain these effects, we conducted this study both at the level of the entire population of cardholders, as well as separately on two types of generations: Millennials and Generation Z.

In the new economic context, customers have to choose between various offers of alternative cards. Banks, merchants and payment processors are interested in card-use intensity (how much and how people use their cards). As a result, we can talk about the following three dimensions of consumer perception: (1) Card choice determination; (2) utility generated from card use, given the card choice; (3) perception of utility from card use, given the card choice.

In our article, we analyze the perception of utility attained from card use, a perception which can be defined as 'satisfaction'.

From a historical point of view, Reference [1] show that a well-developed banking sector is crucial to the economic prosperity of each country and Reference [2] considers that, regarding the size of the business, the volumes of payments and operations performed, the cross-border development and the impact on the payment methods, the success of the bank card is obvious. Started as a project on the American continent, it has evolved rapidly in Western Europe and then throughout the whole modern world. It is noteworthy that this project is not the creation and merit of a single company, but of a

constellation of participants who have combined three characteristics: A critical mass of individual customers and retailers, the ability to include new technological achievements in the business processes and the ability to implement collaborations beyond the borders of a single country. Reference [3] shows that among the determining factors of the distribution of bank cards among consumers are the market share of banks, their size, level of income, degree of profitability, level of non-performing assets. The research conducted by Reference [4] points out that the phenomenal evolution of the bank cards market is not only the result of a sale by banks to their customers, but it is the result of concerted efforts by banks, states, multinational companies and institutions.

In this regard, Reference [5] evokes the largest financial inclusion program in the world that took place in India and resulted in the opening of 255 million new bank accounts with attached cards for people who had no access to modern banking and financial services before.

As with most new products, and also with banking services, there is an inherent resistance to change that must be managed by banks in order for the market to accelerate acceptance. In this regard, Reference [6] developed a conceptual framework that combines IDT (Innovation Diffusion Theory) with TRA (Theory of Reasoned Action). Moreover, Reference [7] showed that there is an obvious potential for improving the relationships between credit institutions and their customers. In addition, Reference [8] highlights the relationship between customers and banks is based on a mix of people, electronic funds transfers, checks, debit and credit cards, telephone banking, internet banking and other specific technologies.

Bank card technology has evolved rapidly from “classic” to contactless [9] and virtual cards, giving consumers better control over payments and increased transaction speed [10].

In the specialty literature [11] it was analyzed whether consumers make irrational decisions when it comes to selecting banking products. In the case of the credit card, there are several factors of influence with a significant impact on the decision to select a particular product.

The bank cards are adopted differently depending on the type of economy of the respective country. Thus, scientific studies [12] have shown that in developed economies, cards are a common payment tool, while in emerging or transition economies, the penetration rate of this technology is lower and depends on many elements of local perception. However, Reference [13] have shown that once the card is adopted as an alternative payment method, individuals tend to make higher payments through the card than if they would spend in cash. Reference [14] shows that the perceived welfare depends on how the payment instruments are substituted; cash is the most common substitute for debit cards in the case of retail sales, while checks are the most significant when it comes to paying bills.

Banks actually interact with customers every time they use the bank card, thus, maintaining a strong connection with them [15]. Moreover, depending on the degree of acceptance of the cards as payment instruments, the bank card establishes important relationships between bank customers and merchants [16].

According to Reference [17], in the current economic environment with a heightened competitive environment, the ways of predicting as accurately as possible the behavior of customers regarding the adoption of bank cards becomes an increasing challenge for the marketing departments of financial institutions; therefore, the most scientifically grounded information is needed to create effective strategies. Related to this, Reference [18] analyzes specific methods to deliver the message to the final client using modern marketing techniques.

Modern society is divided into several generations of ages, generations that have different behaviors and habits of consumption; this differentiation is manifested both between different age levels and depending on the geographical location. The vast majority of the active population of the planet is currently constituted by members of two generations: Generation Y (Millennials—born between 1980–1996) and Generation Z (born between 1997–2012). Reference [19] shows that from the point of view of the commercial approach, those of generation Y have particular characteristics regarding cultural variables at the individual level. Moreover, Reference [20] showed that in the case of mobile services for consumers of different age categories, the age factor acts as a moderator when

it comes to the relationships between the influencing factors and the perceived level of satisfaction. In the same approach, a study by Ernst and Young shows that Generation Z is that of the digital natives and is completely different from everything seen before [21].

With this in mind, companies are facing major challenges in addressing young people from Generation Z because their characteristics are new and unheard of, so far. Sometimes referred to as iGeneration, the post-Millennial generation or concentrated under the generic name of “digital natives”, Generation Z includes those who were born since the mid-1990s; they represent, for example, more than 25% of the world’s population. Of the 91%, the teenagers that make up this generation, that is the core of Generation Z, have access to the smartphone, 69% of them have access to the tablet and 90% watch YouTube daily. Its members are the first to grow up using social media, mobile technology and certainly the first to use small mobile video technology. Thus, if we took the establishment of YouTube in 2005, as a reference, most of the members of Generation Y remember the existence of a world without mobile video—while most of Generation Z do not remember that. According to the results of the study, the members of Generation Z also have different attitudes, are more oriented to entrepreneurship, have grown up with the search engines and they like to discover content that meets their needs. They also like to be involved in processes, to help find solutions and to be more engaged in various experiences. As a result, the major change that companies have to make in the transition from traditional business-to-business (B2B) models to those based on direct customer relationships is the focus on demand for relevant, detailed information. This need is nowhere better seen than in the unique behaviors and preferences of the members of Generation Z. Reference [22] discusses a belief for a generation that grows in the shadow of unprecedented technological diversity and avalanche, new innovations are no longer considered disruptive. They are, in fact, the new normality.

The article is structured as follows: Introduction and research purpose, literature review, research hypotheses and methodology, results, discussions and conclusions.

2. Literature Review

2.1. Expected Benefits from Bank Cards

According to Reference [1], at present, the banking industry is facing strong regulatory and customer needs that are constantly evolving. Ten years ago, Reference [7] conducted a study in which clients of banks and credit unions were investigated in relation to the quality of services specific to these branches of activity. At that time, credit unions were leading in competition with banks regarding the perception of the quality of services by customers. However, half of the customers who used financial services stopped using them because of the poor performance of the services. Research has shown that there is still no perfect bank in customer perception; this result unequivocally suggests that there is an obvious potential for improvements and the improvement of this perception.

According to Reference [23], banks and bank card providers can build and adapt their marketing position and marketing strategies, develop communication strategies and brand-management for the target audience represented by the younger generation. In this way, a basis for policies related to credit cards can be systematically developed, depending on the purchasing preferences of young people.

Also, the use of bank cards can be a real incentive for the economies of developing or emerging countries, contributing to the fluidization of national and international monetary flows [12]. Depending on the degree of bank card adoption in a developing country, refined investors may make certain decisions regarding future investments in that region.

The long-term relationship between a bank and its customers is ensured through a mix of services and products [15], and the bank card is one of the most important components because the client actually uses the bank’s services every time it uses the card. A research study [8] shows that the bank card is part of a mix that includes people, technology, telephone banking, internet banking, automatic money transfers. In the same line of ideas, Reference [24] suggests that a solid relationship between

banks and their customers can be achieved through awareness campaigns of bank cards through social networks.

On the other hand, Reference [15] show that in some cases, more than half of the customer satisfaction in the relationship with banks is determined by receptivity, competence, secure transactions, competitive services. Regarding consumer behavior, Reference [25] showed that the use of credit cards of a particular type (e.g., platinum) helps customers improve their social image and self-esteem. Statistical data show that platinum cards are more likely to be used in social contexts, implying motivations related to social image.

At the same time, some customers are very sensitive to the merchants' acceptance of bank cards. Studies [16] show that the degree of card use may depend on the degree of acceptance by merchants. By analyzing the methods of obtaining new clients, Reference [26] shows that banks can form a stable customer base if young customers (students) purchase a bank card early; later they will be tempted to continue to use other services of the same bank from which they purchased the credit card.

As for costs, Reference [27] shows that the widespread use of debit cards will lead to a significant decrease in the costs of the operations performed with these payment instruments, taking place the phenomenon of economies of scale.

In a study about the adoption of the bank cards by different categories of people, Reference [28] demonstrates that cardholders in the elderly category can be encouraged to adopt new payment technologies and modernize themselves through adoption incentives. According to Reference [9], the users in all categories except the bank card to bring them added value in terms of financial transactions, and this added value can have various connotations: Comfort, security, processing speed. It was pointed out by Reference [24] that the overdraft or credit card facility can boost lending at the individual level, increasing financial flows. As for strengthening customer relationships, Reference [3] shows that the adoption of new technologies by banks can generate new channels of credit card distribution, and thus, strengthen the relationship with their consumers.

In terms of comfort, Reference [29] shows that from a technical point of view, customers also expect any claims regarding card payments to be resolved fluently by banks, so that future payment processes can run without incidents.

Research conducted by Reference [5] reveals that access to bank cards with credit facilities generated encouraged spending, in many families, on medical treatment, which would have remained untreated if the patients had not had access to such of financial instruments. This can be considered as a positive result of the financial inclusion that has manifested globally in recent years.

The conclusions obtained by Reference [30] show that scientific analysis of consumer behavior towards credit cards can lead to important implications for public decision-makers when it comes to over-indebtedness, due to unrealistic optimism from customers. In this way, certain financial slippages which could have adverse consequences on the consumer can be corrected. Moreover, of the same opinion regarding credit cards is [31] who believes that the effects of the expenditures made through such type of credit are not a neutral one. Credit cards have an effect on the level of welfare and the degree of individual happiness, allowing individuals to access a higher level of satisfaction in the short term by using money from the future. In time, however, the use of the credit card has an erosion effect on the individual subjective welfare because it generates additional needs once the current needs are met. It is considered that a thorough analysis of the impact of credit cards will help the regulatory authorities in taking decisions that will calm the possible excesses, due to consumer credit.

In contrast to the excess consumption associated with credit cards, debit cards were studied by Reference [32], and it was found that consumers who received a debit card as a result of financial transfer operations, tended to voluntarily reduce their consumer spending, and thus, managed to save money. Thus, a part of the population that is included in the category of the population affected by poverty has a chance to change their consumption style in order to improve their own financial situation. In the same vein [33] shows that owning a credit card in times of prosperity has the role of

making its owner responsible in times of recession; a concrete example is a fact that if credit cardholders temporarily lose their jobs, during the unemployment period, they tend to use the credit card much less.

S. Agarwal, et al. [34] found that if credit cards are related to other accounts or services provided by the bank, then customers tend to perform more transactions than in cases that there are no such relationships. Due to the existence of relationships between credit cards and other accounts, products or banking services, banks can have significant potential benefits: The information that the credit institution has about the customer can be used to reduce the credit risk associated with the credit card account. In this way, customer scoring is much better grounded, and the decision to grant the credit limit is much less risky.

At the merchant level, studies by Reference [13] show that using debit cards brings at least two immediate benefits: (1) Customers are tempted to spend more when using the card instead of cash; and (2) the costs of card transactions are much lower than the costs of managing cash.

At the state level, Reference [35] considers that the fiscal component is very important, and the widespread use of bank cards determines an increased efficiency of the fiscal operations and the reduction of the tax evasion phenomenon

2.2. The Importance of Bank Cards in Romania

Romania is a member country of the European Union in which the banking system is very strongly regulated by the National Bank of Romania. At the level of 2018–2019, 34 commercial and investment banks are authorized in Romania, with a total of approximately 100-billion-euro bank assets [36].

There are seven banks with an individual market share greater than 5%, nine banks with an individual market share between 1%–5% and 18 banks with a market share of less than 1%. The first seven banks in the system hold together over 76% of the banking assets in Romania, but we can say that there is a real and strong competition between banks, due to their relatively large number. From the point of view of capital structure, the market share of credit institutions with domestic private majority capital is 16.90%, and the market share of credit institutions with foreign majority capital (Austrian, Dutch, German, Greek, Cypriot, Polish) is 63.60%.

According to the official report by Reference [37], at the level of the entire banking system, the number of branches and banking agencies is about 4,500 units, which means a good market penetration from this point of view. Reference [38] shows that the Romanian banks have more than 53,000 employees and this number has been decreasing in the last five years as a result of investments in alternative communication channels, such as e-banking, mobile banking and self-banking.

According to the official information provided by the National Bank of Romania [39], at the level of 2019, the analytical situation of the bank cards in Romania is presented according to Table 1.

Table 1. The analytic data about bank cards in Romania (source: Reference [39]).

Indicator	Number of Units (end of 1st quarter, 2019)
Total number of bank cards	17.506.627
Active cards	13.617.677
Cards with cash function	17.493.107
Cards with debit function	14.579.773
Cards with deferred debit function	7.957
Cards with credit function	2.905.635
Number of ATMs	10.653
Number of POSs	208.887
Number of EFTPOS	205.775

Although the number of the population in Romania has decreased, due to the demographic decline, the values of the indicators in Table 1 have steadily increased in recent years, which means that the percentage of banking population in Romania is on an upward trend.

According to the official reports issued by the National Bank of Romania [40], the quarterly analytical situation for the last three fiscal years (2016–2018) regarding the number of payments, transactions and cash withdrawals from the ATM with the cards issued by the banks in Romania are presented according to the data in Table 2.

Table 2. The number of transactions regarding the Romanian bank cards (source: Reference [40]).

Quarter	Number of Payment Transactions with Debit Cards (residents) (millions)	Number of Credit Card Payment Transactions (residents) (millions)	Number of ATM Cash Withdrawals with Cards (residents) (millions)	Number of ATM Cash Deposits with Cards (residents) (millions)	Number of POS Transactions with Cards (residents) (millions)
Dec. 2018	160	19	70	4	131
Sep. 2018	147	18	69	4	123
Jun. 2018	137	18	68	4	117
Mar. 2018	121	15	63	3	107
Dec. 2017	117	16	66	3	106
Sep. 2017	105	15	64	3	95
Jun. 2017	97	14	64	3	88
Mar. 2017	87	13	59	2	78
Dec. 2016	84	14	61	2	76
Sep. 2016	77	13	61	2	68
Jun. 2016	73	12	61	2	66
Mar. 2016	66	11	57	2	61

For the period of the last three fiscal years (2016–2018), the quarterly value of the payments, transactions and cash operations performed with the cards issued by the commercial banks in Romania is presented according to the Table 3.

Table 3. The values of transactions regarding the Romanian bank cards (source: Reference [40]).

Quarter	Value of Payment Transactions with Debit Cards (residents) (million RON)	Value of Credit Card Payment Transactions (residents) (million RON)	Value of ATM Cash Withdrawals with Cards (residents) (million RON)	Value of ATM Cash Deposits with Cards (residents) (million RON)	Value of POS Transactions with Cards (residents) (million RON)
Dec. 2018	20,436	3538	52,319	7012	14,049
Sep. 2018	18,521	3039	50,549	6487	12,750
Jun. 2018	17,121	2906	47,095	5568	12,032
Mar. 2018	15,005	2517	43,121	4478	10,930
Dec. 2017	15,506	2866	46,076	4528	12,110
Sep. 2017	13,888	2492	44,076	4252	10,524
Jun. 2017	12,627	2346	41,495	3745	9656
Mar. 2017	11,164	2089	37,362	3007	8599
Dec. 2016	11,488	2416	39,356	2997	9268
Sep. 2016	10,409	2097	38,943	2926	7982
Jun. 2016	9641	1934	36,777	2567	7585
Mar. 2016	8638	1705	33,142	2176	6754

According to the analytical data available from the official reports of the banking system in Romania, we conclude that in Romania there is a very strong competition between banks, due to their number (34 accredited banks to an official population of about 20 million Romanians). This conclusion is also confirmed by the total number of cards (over 17 million cards) issued. The evolution of the impact of the cards on the economic and social life of the Romanians is clearly evidenced by the fact that in the last 12 quarters (3 fiscal years), there was an increase of the number and the value of the transactions carried out by means of bank cards, both on the electronic payments component or constantly increased at the POS, as well as at the cash component at the ATM.

2.3. Indicators and Expected Benefits from the Use of Bank Cards

A. Rona-Tas and A. Guseva [4] point out that the problem of the adoption of cards by the population is a chicken-and-egg type because a balance point was needed for both banks and card processors, as well as for consumers regarding the efficiency of the card transactions.

S. Dauda and J. Lee [41] show that banks should focus very strongly on the following four issues: Significantly reducing trading errors, reducing unit transaction cost, waiting time and time required for online learning for card-related online services. Of these four attributes, the most significant impact on customer satisfaction is the waiting time and the transaction cost. In relation to card costs, Reference [14] pointed out that in the United States, low-income customers lose proportionately more than high-income customers when debit cards become more expensive, while in the case of credit cards the situation is exactly the opposite.

The importance of the cost factor is also confirmed by Reference [42] along with the personal attitude towards modern means of payment.

In China, one of the largest markets in terms of the potential for the development of banking products and services, the results obtained by Reference [43] show that having a credit card is influenced by several factors, such as *the level of interest rate associated with the card, the card approval process, the number of persons in the household, the size of the credit limit, the rewards programs*. Moreover, research has shown that the level of education influences the size of the credit limit that customers can obtain from banks.

The study conducted by Reference [44] on a sample of urban consumers demonstrates that the order of the independent variables that determine the decision to adopt bank cards is as follows: Usefulness, ease of use, satisfaction, compulsion, network externality and norms.

C. Blankson, A. Paswan, and K. Boakye [23] scientifically identify the following four key elements regarding the adoption of bank cards by young people: *Customer service, incentives, need for credit and buying power*. References [45] and [35] show that there is a positive relationship between the quality of the services attached to the plastic cards (data confidentiality, quick answers, the competence of the bank staff) and the degree of customer satisfaction. Regarding credit cards, research [11] revealed that there are four factors influencing the consumption decision: The insurance offered by the credit card issuer, the costs associated with the credit card, the programs of rewards that are attached to the credit card and the convenience offered. Of these, the most significant are those related to *the attached costs, the rewards programs and the comfort offered*. Regarding the costs and exchange rates related to the card transactions, Reference [16] showed that the number and volume of the transactions carried out by credit cards are influenced by the variation of the attached costs. A decrease in the attached costs results in an increase in the number of transactions made through cards. Having a similar concern, Reference [24] shows that the perception of financial costs has a negative impact on the decision to select and adopt credit cards. In terms of costs, Reference [32] shows that debit cards are preferred when the costs are low enough to allow monitoring and checking of bank account balances, thus, generating customer confidence in the bank.

Based on scientific research, Reference [6] consider the following important factors in consumer decision regarding bank cards in developing countries: Relative advantage, compatibility, customer awareness. The study made by Reference [12] has shown that in transition economies, the factors that determine the decision to adopt credit cards are *perceived usefulness, perceived ease of use, subjective norm, self-efficacy and anxiety*. In these countries, it appears that the financial costs attached are not a significant factor of influence. Regarding the contactless technology, Reference [9] determined several predictors for the process of adopting contactless cards: Perceived usefulness, ease of use, perceived risk, availability of infrastructure. However, Reference [10] discusses the ease of use has a direct effect on the decision to adopt contactless credit cards, while the perceived risk has an insignificant effect.

As shown by Reference [46], it was found that a person's preference for a particular method of payment depends largely on a set of personal characteristics. Customer satisfaction is determined by both the attitude and expectations and the intrinsic performance of the financial payment instrument.

As customer satisfaction increases, it is expected that they will recommend these payment instruments to other potential users.

An interesting study [47] has developed an extended model of TAM (Technology Acceptance Model) and found that for mobile credit cards, a very important factor is *the amount of information on the mobile credit card*. As for credit cards using NFC (Near Field Communication) technology, Reference [48] found that their adoption rate is still quite low, although at first glance the advantages are obvious: The possibility of paying only by approaching the phone with the card reading device, mobility, reducing the trading time. The main influencing factors regarding the use of the cards that have attached the NFC technology refer to *the security risk* in the mobile environment, the perceived trust in the transactions made through the mobile phone, the compatibility of the devices and the costs related to the mobile equipment.

In both developed and developing countries, recent studies [25] have shown that the use of credit cards has a strong connection with the notion of social status or social image. Experiments have shown that customer demand for a platinum card significantly exceeds the demand for an anonymous product with identical benefits, which suggests a clear preference for using the platinum card strictly on the basis of improving the social image and social status. Moreover, the same experiment shows that in the case of credit cards, the request for status is of a psychological nature and that the social image is a substitute for the self-esteem. Reference [49] highlights that one of the most important factors in choosing a credit card refers to the satisfaction offered by social influence. On roughly the same research idea, Reference [31] shows that one of the benefits of using credit cards is increasing the subjective level of individual happiness in the short term. Recent studies [33] have shown that, however, there is self-censorship of the use of credit cards in case the owner loses his job and is unemployed for a longer period of time. Moreover, after the unemployment period, those holders tend to have a lower share of credit card payments in total payments made.

Regarding banking policies related to the use of cards for *ATM withdrawal operations*, Reference [28] shows that the *registration bonuses* proposed by banks generate *different behaviors by age segments*. Thus, seniors are encouraged by offers and sign-up bonuses indefinitely, while young people tend to postpone the decision of whether the offer is available for an unlimited period. Moreover, Reference [26] showed that the decision to purchase a bank card is influenced by specific factors for young students compared to other categories of age. Rewards programs are also addressed by Reference [43], who shows that the increase in the use of bank cards is directly related to the rewards offered to cardholders. Regarding the preference for cash or card payments [50], it shows that young people with above-average income prefer to make card payments; the demographic effects on the use of the cards vary according to regions, types of housing and status within the family. In addition, Reference [27] found that customers' preferences regarding ATM cash use or card payments vary by country, even if those countries are in relatively homogeneous areas from a financial view perspective (such as the area of the European Union, with a developed level of financial intermediation). Reference [51] shows that in developing countries, bank card users prefer them because they offer almost immediate access to money in the form of cash.

In the same vein, Reference [52] shows that early adopters of credit cards are typically urban customers who have a prevalence in using this payment instrument when their payment amounts exceed a certain value level.

According to Reference [24], the clients of the financial institutions are also very interested in *the credit facility* through the bank card. Moreover, Reference [35] shows that in the literature there are many studies on credit cards (those with the possibility of direct credit of consumers), but the specific issue of debit cards is very little analyzed. Subsequently, Reference [32] found that debit cards are preferred by some consumers, due to the fact that they facilitate the consumer *saving process*.

K. Kamalpreet and K. Mandeep [3] believe that the technological aspects and the *e-banking attached services* are closely linked to the decision to adopt credit cards because, at present, the cards can be

integrated into complex packages of products and services within the marketing and sales programs from banks.

P. Nakul, D. Swati and D. Sanjay [1] show that for customers it can be important the way of bank card delivery, especially for the clients from rural areas who had not previously access to modern financial services. Reference [29] notes that although bank cards are payment instruments that are based on advanced technologies, they can often generate problems among customers that need to be solved by directly calling on bank advisers. According to consumer complaints, banks often blame customers themselves and deny their responsibility, subsequently leading to a decline in confidence in the reliability of card payments. As a result, the way banks handle customer complaints has a significant impact on the decision to continue using the card.

In view of the above mentioned researches in the field, we conclude that the most relevant factors regarding the influence on the level of satisfaction and the adoption rate of the bank cards are the following: The costs associated with the bank cards (insurance costs, subscription costs, the size of the interest rate for credit or overdraft), the size of the credit limit offered by the bank, the rewards programs (sign-up bonuses, cashback, bonus points, special offers, etc.), customer service (the card approval process by the bank, how to deliver the card, how to resolve complaints, confidentiality of data), the convenience offered by the use of the card, the ease of use, the volume of information available for the mobile card, the existence of e-banking/m-banking services attached to the card, the social image and the social status offered by the use of the card, the possibility to perform operations with ATM cash (withdrawals and cash deposits).

3. Methodology

3.1. Aim and Hypothesis

The purpose of this research is to define the influence and contribution of the following nine indicators which include: (1) The costs associated with the bank cards; (2) the size of the credit limit offered by the bank; (3) the rewards programs; (4) customer service; (5) ease of use; (6) the volume of information available on the card; (7) the existence of e-banking/m-banking services attached to the card; (8) the social image and the social status offered by the use of the card; (9) the possibility to carry out cash operations at the ATM. The initial hypothesis is that the aforementioned indicators have a statistically significant effect on the expected level of banks customers satisfaction in Romania. In addition, we will test the dependence of these indicators on the socio-demographic variables, such as: Gender, age, monthly income level, user origin (rural vs. urban), education level.

Most previous studies regarding the decision to adopt a bank card analyze individual factors or groups of individual factors. The importance of this article consists in the scientific systematization and the broad analysis of the influencing factors on the decision to adopt and the level of satisfaction in the use of bank cards, so as to obtain a fuller picture of this process. As a result, in our research, the selected indicators are those for which a different level of significance and the direction of the correlation with the expected level of bank card benefits can be expected. Each of the nine selected indicators will be evaluated as a separate hypothesis: **H_{1a}**: The costs associated with the bank card have a significant impact on fulfilling the benefits expected by the consumer from the use of bank cards; **H_{1b}**: A higher credit limit offered by the bank on the card, has a significant impact on the fulfillment of the benefits expected by the customer from the use of bank cards; **H_{1c}**: The existence of the rewards programs has a significant impact on the fulfillment of the benefits expected by the customer from the use of bank cards; **H_{1d}**: Better customer service has a significant impact on fulfilling the benefits expected by the customer from using bank cards; **H_{1e}**: Ease of use of the card has a significant impact on fulfilling the benefits expected by the customer from the use of bank cards; **H_{1f}**: A larger volume of information available for the mobile card has a significant impact on fulfilling the benefits expected by the customer from the use of bank cards; **H_{1g}**: The existence of e-banking or m-banking services attached to the card has a significant impact on fulfilling the benefits expected by the customer from

the use of bank cards; **H_{1h}**: The social image and the social status offered by the use of the card have a significant impact on the fulfillment of the benefits expected by the customer from the use of bank cards; **H_{1i}**: The possibility to perform different ATM cash transactions has a significant impact on fulfilling the benefits expected by the customer from the use of bank cards.

In addition, the characteristics related to the degree of development of the banking sector, the purchasing power, as well as the demographic characteristics of the population, can lead to different expectations from customers on different segments. Taking into account the differences in the observed characteristics, the research will focus on identifying the differences between the consumers that are different by the socio-demographic variables, such as: Gender, age, monthly income level, type of area of origin (rural vs. urban), level of education. In this context, we propose the following group of research hypotheses: **H_{2a}**: The benefits expected by consumers through the use of bank cards differ according to gender; **H_{2b}**: The benefits expected by consumers through the use of bank cards differ according to age; **H_{2c}**: The benefits expected by consumers through the use of bank cards differ depending on the level of monthly income; **H_{2d}**: The benefits expected by consumers through the use of bank cards differ depending on the area of origin (rural vs. urban); **H_{2e}**: The benefits expected by consumers through the use of bank cards differ depending on the level of education.

3.2. Measurement Variables and Instruments

The research includes several variables that have been used to confirm or reject the set of hypotheses. The independent grouping variables are gender, age, monthly income level, area of origin (rural vs. urban), level of education. The independent variables of the interval type measurements are the following indicators: The costs associated with the credit card, the credit limit offered by the bank, the existence of rewards programs for the card users, customer service, the ease of use, the volume of information available for the mobile card, the existence of e-banking/m-banking services attached to the card, the social image and the social status offered by the use of the card, the possibility to carry out cash operations at the ATM.

The expected benefit of the clients was evaluated on the basis of a questionnaire consisting of 14 questions; nine questions refer to indicators and five questions refer to demographic characteristics. Respondents were asked to evaluate the significance of each indicator analyzed for the expected benefit from using the bank card, where score 1 indicates that the variable has no effect on the client's expectations, while score 5 indicates that the client has a high degree of expectation from that indicator. The questionnaire is defined so that each indicator is measured by a five-point Likert scale: (1) To what extent does the bank card meet your expectations? (2) How much does the card cost in your decision to buy a card? (3) How important is the credit limit offered by the bank to you when you decide to purchase a bank card? (4) How important is customer service to your use of the card? (5) How much does the image and social status offered by the card in different circumstances matter to you?

3.3. Sample

Modern society is divided into several generations of ages, generations that have different behaviors and habits of consumption; this differentiation is manifested both between different age levels and depending on the geographical location. The vast majority of the active population of the planet is currently constituted by members of two generations: Generation Y (Millennials—born between 1980–1996), and Generation Z (born between 1997–2012). Reference [19] shows that from the point of view of the commercial approach, those of generation Y have particular characteristics regarding cultural variables at the individual level.

This study included 148 respondents. The minimum sample size suggested by Raosoft (raosoft.com/samplesize.html) at 95% confidence level was 139, so our sample is adequate. The research literature, References [53,54], has many types of test for the normal distribution: KS (Kolmogorov-Smirnov), AD (Anderson-Darling), SW (Shapiro-Wilk). The distribution of the respondents, according to the significant properties shows a normal distribution. Thus, it can be

estimated that they represent the properties of an entire population in the analyzed market segment. In terms of gender, the sample consists of 37.8% male respondents and 62.2% female respondents. The largest number of respondents hold a graduation degree from the faculty (59.5%), 35.1% have a master's degree, 4.1% have a doctoral degree, and 1.5% have a high school diploma. 89.2% of the respondents come from the urban area, and from the rural area 10.8%. In terms of age, 51.4% fall within the range of 23–39 years (Millennials category), while 48.6% are under the age of 23 years (Generation Z category). For the variable “income level”, there are several distinct categories—8.1% of the respondents have below average incomes, 68.9% have incomes in the range of Romanian earnings, 23.0% have above average incomes.

3.4. Procedure and Statistical Analysis of Data

The questionnaire was applied during June, July, August, 2019, in Romania. The questionnaire was distributed anonymously in electronic format to persons under the age of 40 (Millennials and Generation Z). The data collected from the research were analyzed with IBM SPSS Statistics version 21. The answers obtained from the respondents were described by means of descriptive statistics. The average values, as well as the deviation for each variable, are presented. The accuracy of the sets of hypotheses is analyzed by different statistical analyzes multiple regression analysis, multivariate analysis of variance, and Pearson correlation

4. Results

The values of the descriptive statistics for the dependent variable (level of satisfaction regarding the card held) and the specific indicators are presented in Table 4. As it can be seen, the respondents consider that the level of satisfaction regarding the bank card is affected to a large extent by the ease of use of the card ($M = 4.66$), the existence of associated services, such as e-banking or m-banking ($M = 4.61$) and the possibility of carrying out cash transactions at ATMs ($M = 4.41$). In the same context, a low level of satisfaction is associated with the image and social status ($M = 2.38$), the size of the credit limit offered by the bank on the bank card ($M = 3.54$) and the rewards offered for using the card ($M = 3.84$).

Table 4. Values of descriptive statistics for dependent variable and indicators.

Indicators	Sample Size	Min	Max	Mean	Std. Deviation
Credit limit/Overdraft	148	1.00	5.00	3.5473	1.24176
Rewards	148	1.75	5.00	3.8446	0.70434
Customer Service	148	1.75	5.00	4.1520	0.63597
Ease of use	148	2.00	5.00	4.6622	0.60107
Costs	148	2.00	5.00	4.2466	0.51259
Volume of Information	148	1.00	5.00	4.2297	0.78328
E-banking/M-banking services	148	2.75	5.00	4.6182	0.64973
Image and social status	148	1.00	5.00	2.3851	1.25369
Cash ATM transactions	148	2.00	5.00	4.4122	0.58820
Level of satisfaction with the bank card	148	3.00	5.00	4.2838	0.60655

These values that were obtained from our research confirm some previous research related to the associated services of e-banking and m-banking [3], ease of use of the card [11] and performing ATM cash operations [27,28]

To test the hypotheses in area H_{1a} - H_{1i} , multiple linear regression analysis was used to try to predict the dependent variable (the satisfaction level in using the bank card) based on a set of independent variables: The importance of the credit limit size, the rewards programs, customer service level, ease of use of the card, the costs associated with the bank card, the size of the information available on the card, associated services, such as e-banking/m-banking, the image/social status, the possibility to perform ATM operations. In order to relate the variables, linear association model was used. In the research

literature there are many alternate, linear regression methods: Reference [55] proposed an approach for modelling the dependency with exponential, power or inversed equations, while Reference [56] address the multiple linear regressions by maximizing the likelihood under the assumption of generalized Gauss-Laplace distribution of the error. In our research, the Enter method was used for multiple linear regression model, which includes all variables in the analysis, and thus, all variables start with the same initial value. The contributions of each indicator are presented in Table 5, where the column Beta reflects the values of the standardized slope.

Table 5. The contribution of independent predictors to criterion variable description.

Model	Standardized Coefficients Beta	t	Sig.
Credit limit/Overdraft	−0.106 *	−2.088	0.039
Rewards	0.141 *	2.313	0.022
Customer Service	−0.092	−1.653	0.101
Ease of use	−0.035	−0.605	0.546
Costs	0.360 **	6.005	0.000
Volume of Information	0.082	1.500	0.136
E-banking/M-banking services	0.590**	11.035	0.000
Image and social status	0.113 *	2.197	0.030
Cash ATM transactions	0.118 *	2.084	0.039

Note: * Significant at the level 5%, ** significant at the level 1%.

Based on the results obtained from the regression analysis, we can conclude that a set of these indicators predict statistically significantly dependent variables ($F = 33.945$, $p < 0.01$). Adjusted R Square has a value of 0.66.

According to Reference [57], the condition to use multiple linear regression is that the dependent variable reconstitutes a normal distribution. In order to be sure that our model is relevant, we tested the multicollinearity of the explanatory variables by using variance inflation factor (VIF), and we obtained the data from Table 6.

Table 6. Collinearity statistics for the explanatory variables.

Explanatory Variable	Collinearity Statistics	
	Tolerance	VIF
Credit limit/Overdraft	0.881	1.134
Rewards	0.610	1.639
Customer Service	0.720	1.388
Ease of use	0.656	1.524
Costs	0.626	1.597
Volume of Information	0.754	1.326
E-banking/M-banking services	0.788	1.269
Image and social status	0.847	1.180
Cash ATM transactions	0.706	1.417

Having into considerations that all VIF values are less than 2.00, it is clear that there is no multicollinearity in our model.

Regarding the individual contribution of each indicator, based on the data in Table 5 it can be seen the existence of associated services of e-banking/m-banking acting in a positive direction (Beta = 0.590) to describe the variance of the dependent variable, which means that this indicator most significantly affects the perception of satisfaction with the use of the card. Users want to have fast electronic access to both card balance information and electronic and mobile transactions. The costs associated with the card (Beta = 0.360), the possibility to perform ATM cash operations (Beta = 0.118), the rewards received as a result of the consistent use of the card ($M = 0.141$) and the image/social status ($M = 0.113$) have a

significant statistical impact on the perception of the satisfaction of using the bank card. On the other hand, the credit limit ($\text{Beta} = -0.106$) has an influence in the negative direction. The variables that according to the respondents do not provide satisfaction with the use of the bank card are the level of customer service, the volume of information on the card and the ease of use of this payment instrument.

In view of the results obtained, it can be concluded that hypotheses H_{1a} , H_{1c} , H_{1g} , H_{1h} , H_{1i} are confirmed. This means that the correlations are confirmed for the variables regarding the costs associated with the card, the rewards programs for the use of the card, the associated services of e-banking/m-banking type, the image/social status offered by having a certain type of card, the possibility to perform ATM cash operations. The assumptions are not confirmed for the variable H_{1d} customer service, which means that for the researched sample, the level of satisfaction regarding the use of the bank card is not statistically significantly influenced by the level of customer service; ease of use of H_{1e} and volume of existing information on the card H_{1f} . Hypothesis H_{1b} is confirmed, but in a negative direction. This means that an increase in the credit limit for the bank card will lead to a decrease in the satisfaction level for the user of that card. This result is consistent with the results obtained by References [31] and [30], because in the long term, taking care of debt on the credit card can create dissatisfaction.

To test the second group of research hypotheses H_{2a} – H_{2e} , a multivariate analysis of variance was applied to see if the expected satisfaction in terms of rewards, costs, e-banking/m-banking, image/social status, ATM transactions, customer service, ease of use and volume of information on the card differs depending on the socio-demographic variables: Gender, age, education, income level and place of residence. It is found that the individual contribution was made only by the sociodemographic variable Age H_{2b} (Millennials vs. Generation Z). This means that users differ in terms of satisfaction with the adoption of bank cards according to age, that is, whether they belong to the Y generation (Millennials) or Generation Z. The biggest differences between the Millennials and Generation Z are reflected in the variables: Customer service ($F = 7.612$, $p < 0.01$), ease of use of the card ($F = 17.197$, $p < 0.01$), volume of information on the card ($F = 30.199$, $p < 0.01$) and image/social status ($F = 8.923$, $p < 0.01$). Significant differences in satisfaction with the use of the bank card are partially manifested in three other sociodemographic variables: Gender H_{2a} , Income level H_{2c} and Education level H_{2e} . Gender generates a statistically significant difference for the variable Volume information on the card ($F = 18,255$, $p < 0.01$), income level generates statistically significant differences for the variable costs ($F = 5,226$, $p < 0.01$) and volume information on the card ($F = 19,879$, $p < 0.01$), while education level generates a statistically significant difference for the variable volume information on the card ($F = 3.534$, $p < 0.05$). Since the level of satisfaction of the card users does not differ according to the environment of origin (rural/urban), the conclusion is that there is no statistical significance in the mix of the contributions of the five remaining socio-demographic variables.

Considering the above analysis and the data in Table 7, there are partially confirmed the hypotheses H_{2a} , H_{2c} , H_{2e} regarding the socio-demographic variables gender, income level and education level. Hypothesis H_{2d} is not confirmed.

In the analysis of the group of socio-demographic variables, the tests revealed statistically significant differences only for the Age H_{2b} variable (Millennials vs. Generation Z). As a result, the analysis will focus on the deviations between these two groups of respondents. Multiple regression analysis was used to determine the differences between generations. The results of the multiple regression analysis tests are presented in Table 8.

Table 7. The contributions of predictors to the explanation of the dependent variables.

Source/Dependent Variable		F	Sig.
Age	Credit limit/Overdraft	0.000	0.989
	Rewards	2.109	0.149
	Customer Service	7.612 **	0.007
	Ease of use	17.197 **	0.000
	Costs	0.269	0.605
	Volume of Information	30.199 **	0.000
	E-banking/M-banking services	0.237	0.627
Gender	Image and social status	8.923 **	0.003
	Cash ATM transactions	0.198	0.657
	Credit limit/Overdraft	0.039	0.843
	Rewards	0.447	0.505
	Customer Service	2.598	0.110
	Ease of use	1.733	0.191
	Costs	3.859	0.052
Income Level	Volume of Information	18.255 **	0.000
	E-banking/M-banking services	2.357	0.127
	Image and social status	1.093	0.298
	Cash ATM transactions	0.135	0.714
	Credit limit/Overdraft	1.980	0.121
	Rewards	1.465	0.228
	Customer Service	1.334	0.267
Place of residence (rural/urban)	Ease of use	1.701	0.171
	Costs	5.226 **	0.002
	Volume of Information	19.879 **	0.000
	E-banking/M-banking services	1.406	0.245
	Image and social status	2.430	0.069
	Cash ATM transactions	2.117	0.102
	Credit limit/Overdraft	1.144	0.287
Level of education	Rewards	1.200	0.276
	Customer Service	0.547	0.461
	Ease of use	0.362	0.548
	Costs	2.275	0.134
	Volume of Information	0.338	0.562
	E-banking/M-banking services	0.260	0.611
	Image and social status	0.196	0.659
	Cash ATM transactions	0.432	0.512
	Credit limit/Overdraft	1.449	0.232
	Rewards	0.546	0.652
	Customer Service	2.551	0.059
	Ease of use	1.927	0.129
	Costs	0.947	0.420
	Volume of Information	3.534 *	0.017
	E-banking/M-banking services	0.797	0.498
	Image and social status	1.466	0.227
	Cash ATM transactions	0.283	0.838

Note: * Significant at the level 5%, ** significant at the level 1%.

The regression equations obtained are statistically significant for each of the groups analyzed (Millennials – $F = 14,157$; $p < 0.01$; Generation Z – $F = 24,530$; $p < 0.01$) and it can be concluded that the differences between respondents from the Millennials generation and those from Generation Z significantly affects the differences regarding the satisfaction offered by the use of the bank card. Based on the data in Table 8, it can be concluded that the satisfaction level regarding the bank card for the Millennials generation respondents can be predicted in a positive sense based on the rewards programs (Beta = 0.216), the costs associated with the card (Beta = 0.268) and associated e-banking/m-banking services (Beta = 0.423). Moreover, for the Millennials generation, credit limit variables (Beta = -0.104 ,

$p > 0.05$), customer service (Beta = -0.067 , $p > 0.05$), ease of use of the card (Beta = 0.026 , $p > 0.05$), volume of information (Beta = 0.082 , $p > 0.05$), social image/status (Beta = 0.136 , $p > 0.05$) and the possibility of ATM cash operations (Beta = 0.130 , $p > 0.05$) did not have a statistically significant impact. Regarding Generation Z sample, the level of satisfaction in using the card depends in a positive sense on the variables related to costs (Beta = 0.432 , $p < 0.01$), the volume of information on the card (Beta = 0.196 , $p < 0.01$), the associated e-banking/mobile banking services (Beta = 0.692 , $p < 0.01$) and the possibility of ATM cash operations (Beta = 0.223 , $p < 0.01$). Significant influence, but in a negative sense, have the variables customer service (Beta = -0.172 , $p < 0.05$) and ease of use of the card (Beta = -0.156 , $p < 0.05$). The variables that do not have a statistically significant influence are those related to the credit limit (Beta = -0.018 , $p > 0.05$), the rewards programs (Beta = 0.104 , $p > 0.05$) and the image/social status (Beta = 0.091 , $p > 0.05$).

Table 8. Regression analysis for Millennials vs. Generation Z.

Model	Millennials Standardized Coefficients Beta	Sig.	Generation Z Standardized Coefficients Beta	Sig.
Credit limit/Overdraft	−0.104	0.189	−0.018	0.789
Rewards	0.216 *	0.023	0.104	0.215
Customer Service	−0.067	0.425	−0.172 *	0.035
Ease of use	0.026	0.785	−0.156 *	0.034
Costs	0.268 **	0.008	0.432 **	0.000
Volume of Information	0.082	0.363	0.196 **	0.008
E-banking/M-banking services	0.423 **	0.000	0.692 **	0.000
Image and social status	0.136	0.075	0.091	0.241
Cash ATM transactions	0.130	0.125	0.223 **	0.008

Note: * Significant at the level 5%, ** significant at the level 1%.

The degree of significance for the indicators analyzed in the two age groups (Millennials vs. Generation Z) can also be graphically represented (Figure 1) to provide a clearer picture of the level of influence of each indicator in the regression model.

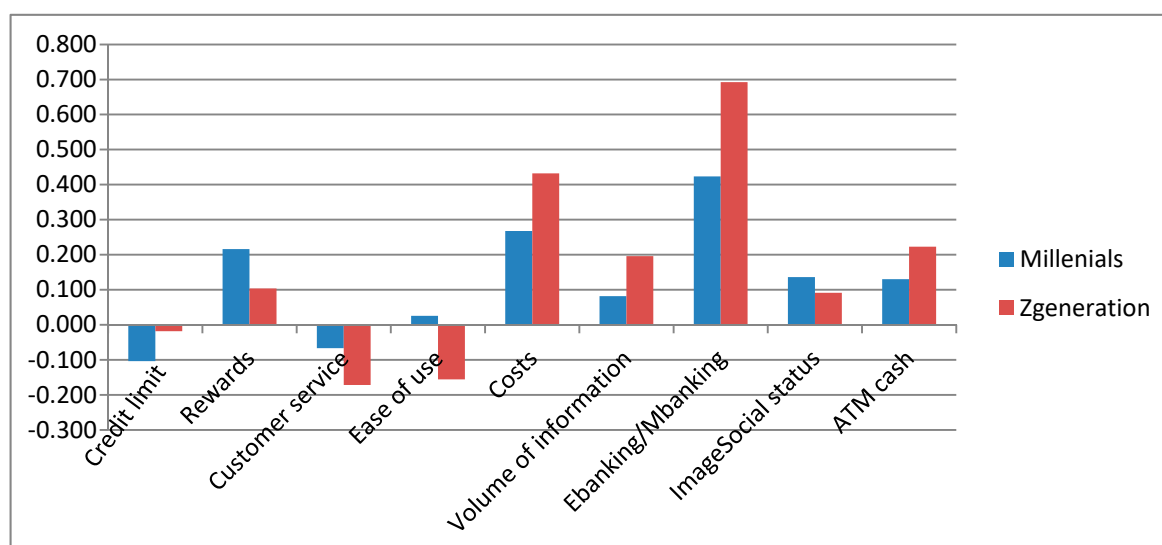


Figure 1. Differences in the expected satisfaction rate in terms of analyzed indicators (Millennials/Generation Z).

The regression analysis conducted in the research confirms that there are statistically significant differences between the bank customers of the Millennials generation and those of Generation Z

regarding the level of satisfaction of using the card when it comes to credit limit, rewards programs, customer service, ease of use, associated costs, volume of information on the card, e-banking/m-banking services, image and social status, the possibility to perform ATM cash operations.

5. Discussion

The performed analyzes and tests showed that the level of satisfaction in the use of the bank card for the clients of the categories Millennials and Generation Z is correlated with the credit limit, the rewards program, the costs associated with the card, the services attached of type e-banking/m-banking, image and social status, the possibility of ATM cash operations. The multiple regression equation for the entire sample of Millennials and Generation Z respondents indicates that the level of satisfaction can be predicted based on the selected indicators. The linear regression model (equation) that includes only statistically significant contributions (intercept and slopes) can be represented as follows:

$$Y = -0.757 - 0.106x_1 + 0.141x_2 + 0.360x_3 + 0.590x_4 + 0.113x_5 + 0.118x_6, \quad (1)$$

In the above equation, y represents the dependent variable (the satisfaction level of bank card users), while the variables x are independent variables, as follows: x_1 —credit limit; x_2 —rewards; x_3 —costs; x_4 —e-banking/m-banking services; x_5 —image/social status; x_6 —ATM cash operations. The model has a negative value for intercept, meaning that the level of satisfaction is negative if the other parameters have a value of zero.

The equation shows that the satisfaction level of bank card users can be predicted through 6 of the nine indicators included in the questionnaire. Thus, in order to increase the satisfaction of card users, banks must optimize, develop and promote these indicators that are important to consumers. These results are in agreement with the partial results obtained by References [7,11,15,25,28,30].

The multiple regression equations for the two subgroups of respondents in the Millennials and Generation Z categories show that the degree of customer satisfaction of bank cards can be predicted by different indicators at the level of each subgroup. The following two equations represent the linear regression models of the degree of satisfaction perceived by card users in the two age categories: Millennials (2)/Generation Z (3).

$$Y = -0.507 + 0.216x_1 + 0.268x_2 + 0.423x_3, \quad (2)$$

$$y = -0.962 - 0.172x_1 - 0.156x_2 + 0.432x_3 + 0.196x_4 + 0.692x_5 + 0.223x_6. \quad (3)$$

In the case of the Millennials generation, we have three statistically significant variables: x_1 —rewards; x_2 —costs; x_3 —e-banking/m-banking services, while in the case of Generation Z we have six statistically significant variables: x_1 —customer service; x_2 —ease of use; x_3 —costs; x_4 —volume of information; x_5 —e-banking/m-banking services; x_6 —ATM cash operations.

Regarding the influence of the demographic factors on the various analyzed variables, from the analysis of hypotheses H_{2a} – H_{2e} it is found that the level of the variable *Volume of information* is influenced by almost all the factors considered: Age, gender, income, education level.

Given the two models expressed by the regression equations for Millennials and Generation Z, we can see very clearly that the satisfaction level of Generation Z card users depends on six different variables, while users of the Millennials generation are sensitive to only three variables. Moreover, the research highlights that rewards programs are not of interest to Generation Z users, while Millennials users are insensitive to issues, such as ATM cash transactions, customer service, ease of use. As a result, we can conclude that banks will have to tailor their offers to the two age categories of customers in a highly personalized way.

6. Conclusions

The need to investigate the connection between the degree of satisfaction of the use of bank cards and various variables stems from the fact that we become more and more obvious towards a technological world, where electronic payments have a growing share. Moreover, bank customers are different in behavior from one country to another in terms of profile. The data show that in Romania the number of bank cards and users is increasing, which means that the management of banks must be very attentive to the specific needs of each category of clients and to the incentives to which they react. *The research and the tests performed have shown* that the most important impact from the point of view of the statistical significance on the degree of satisfaction in the use of bank cards is exerted by the existence of the attached e-banking/m-banking services and of the costs associated with the card (for the Millennials), while Generation Z is also interested in ATM cash operations and the volume of information on the card. These aspects, in fact, reflect the practical contribution of this research that could indicate to the management of banks what indicators should be promoted for a particular group of clients; also, these indicators could be developed in order to positively influence the perception of the used bank card. The research has shown that clients with different socio-demographic variables (excluding the division between Millennials and Generation Z) are not different in the level of perception on the satisfaction offered by the bank card. According to Reference [58], banking management should have good communication with customers in order to understand their characteristics.

Regarding *the limitations of the research*, they refer to: (a) The territorial limits of the research, exclusively on the territory of Romania. An objective reason for this limitation is that the banking markets and the related customers are different from one country to another, even within the same geographical region, (b) nine indicators/variables were analyzed in this study, which may lead to a simplified conclusion. Objectively, there is a need to expand research using more indicators and different types of subgroups.

Regarding *the future directions*, the current topic could be extended by a regional comparative study in several countries in Central and Eastern Europe and possibly between different continents. Such a comparative study between the western, northern and eastern areas of Europe can be a priority direction having into consideration that according to Reference [59] there are many clusters influencing competitiveness. A more in-depth study and a more detailed analysis of subgroups may be needed within existing indicators. An example could be related to the indicator regarding benefits programs, in the sense of analyzing preferences for discounts to traders, cash-back benefits, bonus points or other types.

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