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IDENTIFICATION AND MOTIVES OF MOBILE BANKING USERS

IDENTIFIKACIJA I MOTIVI KORISNIKA MOBILNOG BANKARSTVA

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ABSTRACT

In 1994, Microsoft founder Bill Gates stated "Banking is necessary; banks are not". He predicted the direction in which the banking market was going to move and what that would mean for banks. Today, we are watching these predictions unfold and become a reality. Banks, like any other company or institution, are participants and drivers of economic globalisation and must adapt to the changing landscape for financial services in the digital age. Several global trends have forced banks to redefine how they operate, among them demographic, social, economic and technological changes. Demographic and social changes have created a new generation of customers with different needs and wants. Economic changes have brought new market participants, while technological change refers in particular to digitalisation. The purpose of this paper is to identify the characteristics of mobile banking users in Croatia and to define the influence of three key characteristics of mobile banking, i.e. flexibility, security and finance management, on consumers' motivation to adopt mobile banking. The banking system is slow to adapt to the emerging market trends, in particular to a customer-centric paradigm. To shift to the new paradigm and face the challenges of the digital age successully, banks must gain a deeper understanding of their customers first. This paper aims to identify what motivates consumers to use mobile banking services and their attitudes towards the various aspects of mobile banking. The results show that mobile banking users in Croatia are not overly concerned about the security of mobile applications, but appreciate their flexibility compared to online and traditional modes of banking, and find that they manage their finances more efficiently.

KEYWORDS: mobile banking, banking, digitalisation of banks, consumer motivation

SAŽETAK

Osnivač Microsofta Bill Gates 1994. godine rekao je „Bankarstvo je nužno, ali banke nisu“. Predvidio je tada u kojem se smjeru kreće tržište bankarskih usluga i što to znači za banke. Danas smo svjedoci ostvarenja tih predviđanja. Banke su kao i sve druge tvrtke ili institucije sudionici i pokretači svjetske ekonomske globalizacije i ne mogu biti imune na sve promjene novog doba. Nekoliko je svjetskih trendova koji utječu na ponovno definiranje bankarskog poslovanja: demografske, društvene, ekonomske i tehnološke promjene. Demografske i društvene u smislu novih generacija odraslih u potpuno novom svijetu s novim potrebama i željama. Ekonomske u smislu pojave novih participanata tržištu i tehnološke u smislu digitalizacije. Svrha ovoga rada je identificirati obilježja korisnika mobilnog bankarstva u Hrvatskoj te definirati tri ključne karakteristike mobilnog bankarstva: fleksibilnost, sigurnost i upravljanje financijama u kontekstu motivacije potrošača. Bankarski sustav sporo se prilagođava novonastalim tržišnim uvjetima i posebice novoj paradigmi u kojoj se banke nužno moraju okrenuti svojim potrošačima. No, prije nego to mogu učiniti moraju ih dobro poznavati. U ovom radu provedeno je istraživanje čiji zadatak je otkriti što motivira potrošače mobilnog bankarstva i kako oni ocjenjuju njegove pojedine aspekte. Rezultati su pokazali da su u Hrvatskoj potrošači mobilnog bankarstva manje zabrinuti za sigurnost mobilnih aplikacija, cijene fleksibilnost aplikacija u odnosu na internetsko i klasično bankarstvo te ocjenjuju da bolje upravljaju svojim financijama.

KLJUČNE RIJEČI: mobilno bankarstvo, bankarstvo, digitalizacija banaka, motivacija potrošača

1. INTRODUCTION

Mobile banking, as part of the global digital revolution that started in the 1980s, gained momentum in the new millennium. The traditionally conservative banking sector had to adapt to emerging technological trends that have not only affected the global economy but have also created a new generation of customers looking for fast and cheap 24/7 service. A distinctive feature of mobile banking is that it is a “disruptive innovation”, i.e. over time it disrupts traditional processes, market and communication networks to such a degree that it is able to completely change or replace them (Nicoletti: 2014). Indeed, mobile banking significantly reduces the need for a client to go to a bank, which automatically reduces the number of branch offices and the number of bank employees, as well as the amount of paperwork, thereby reducing the bank's operating costs. At the same time, it presents the bank with new challenges of creating and maintaining a quality mobile application that will satisfy both the user experience and all security, regulatory and bureaucratic requirements. From the marketing aspect, a question arises as to what mobile application users in Croatia want. More specifically, what mobile banking features meet their expectations and which features are important and which are less important or unimportant? To remain competitive in the mobile banking app market in the future, financial institutions will have to closely monitor customer needs and define consumer behaviour profiles specific to the banking industry.

2. MODERN BANKING

Modern banking is directly associated with developed, rich and urban countries. It is characterised by a high degree of homogenisation, i.e. great similarity in the wealth of banks and countries, stability, regulations and the like, which facilitates business relationships

between such countries. Countries where the free market is still in its infancy are characterised by great heterogeneity because the reasons why they lag behind global trends are often different. For instance, financial repression hinders the development of banking and as a result the development of a country. Financial repression is a term that describes measures whereby government exerts control over the financial market, which can range from absolute control to minor interventions. It refers to prescribing the minimum and/or maximum interest rates, the amount of deposit reserves, mandatory lending to specific government sectors or companies, nationalisation of banks or appointment of government officials in the management and administration of banks, restricting the entry of foreign banks into the banking system of a country, and control and supervision of international transactions.

By contrast, in developed countries a new special feature of modern banking is emerging: the loss of a key role of banking, i.e. intermediation. This term refers to the conducting all monetary transactions through banks. Until recently, banks were the only institutions that acted as an intermediary between individuals, companies, states, and other institutions. However, with the deregulation of the market and the introduction of some completely new regulations, banks are slowly losing their leading role as financial intermediaries. They are no longer the only intermediary if at all. Market disintermediation forces banks to adapt to new circumstances and expand their business to areas that were not part of their core business until recently, such as insurance (Shelagh: 2000). Considering the deregulation and disintermediation of banking in the Western world together with the constant growth and development of new technologies that are rapidly changing the world making it a global village, it is clear that the banking system, which is traditionally conservative, resistant to change and slow, faces great challenges. The current challenges include:

1. Culture - the emphasis is on developing customer-oriented culture and maintaining balance between shareholders and the organisation. In general, the bank must become as automated, agile and simple as possible.
2. Client - today, clients are very demanding, empowered, complex, sometimes confused in their requirements and knowledge, and sometimes ill-intentioned.
3. Competition - competition is increasingly aggressive and global.
4. Technology - new, fast-growing technology, the emergence of new devices (smartphones), the emergence of the Internet.
5. Compliance - with regulations and laws, security requirements; new fraud schemes are emerging; challenges in business management.
6. Costs - pressure on the bank to deliver return on capital quickly. Reducing costs by reducing staff numbers and by outsourcing (Nicoletti: 2014)
   Businesses around the world are facing a variety of challenges in the digital age, and banks are not an exception. Success may not necessarily be achieved by those who are the greatest, richest or most powerful today, but by those who are willing to adapt, those who are able to anticipate upcoming trends, those who know how to recognise new opportunities and, above all, those who are willing to change.

2.1. DIGITAL MONEY

Money has changed throughout centuries depending on states, kingdoms, and socio-political systems. It has appeared (and disappeared) in either the paper or metal form until the digital revolution began when it became virtual, i.e. digital. Digital currency, also called cryptocurrency, is similar to electronic currency. “This term refers to pre-payment systems in the real and the virtual worlds whose purpose is to enhance the effectiveness of existent payment

systems and replace cash and coins in retail transactions" (Hamdi: 2007, in Mataković, Mataković: 2018). It is a new method of payment in which there is no physical transfer of money from one entity to another. However, virtual currency is still one step ahead compared to electronic money. Electronic currency is a digital representation of the existing coin and/or paper money, while virtual currency does not represent physical money but is a direct expression of a certain value. According to the international organisation Financial Action Task Force, virtual money is a digital representation of value that can be traded digitally and functions as:
1.) a medium of exchange;
2.) a unit of account; and
3.) a store of value, but is not an official means of payment in any country (Mataković, Mataković: 2018).

In the context of banking, cryptocurrencies pose a specific problem and challenge for banks. Specifically, cryptocurrencies do not use traditional transaction channels such as banks or some other financial institutions, but rather new technologies via the Internet. One of such payment methods is a peer-to-peer (P2P) system that consists of interconnected nodes that can be independently organised into a network for the purpose of sharing available resources (Mataković, Mataković: 2018). Banks are no longer needed for monetary transactions which take place directly between users. Furthermore, P2P systems are followed by a blockchain system that further decentralises the money transaction thereby further reducing the need for banks, credit card companies or other financial institutions.

2.2. MOBILE BANKING

Mobile banking is often referred to as Internet banking or online banking in the literature, various articles and Internet sources. All three terms reflect the essence of this type of banking - carrying out banking operations using the Internet. However, Internet or online banking refers to banking operations carried out through the bank's website and requires a computer, while mobile banking takes place via smartphones or tablets and is accessed via an application of an individual bank using a Wi-Fi network. In general, both mobile and Internet banking provide new values:

- Choice and benefits for the client;
- Attracting high value customers;
- Enhanced bank image;
- Revenue increase;
- Easier business expansion;
- Reduced pressure on other banking channels;
- Reduced costs for both the bank and the client;
- Efficient organisation (Shah, Clarke: 2009)

The term mobile comes from the Latin word mobilis/movere, which means movable/move. This reflects the very essence of mobile banking - the mobility provided by small, practical, pocket-sized devices such as smartphones, which we can carry with us all the time and which allow us to connect with the bank on the go, wherever we are.

Mobile banking first appeared in Germany when PayBox, which was financially supported by Deutsche Bank, launched SMS banking in 1999[1]. SMS banking is the first form of mobile banking that is still in use today, and it works using push and pull SMS messages. Push messages are those that the bank sends to the client and can include various services such as one-time password (OTP), periodic account balance reports, notifications about debt balance, insufficient funds in the account, etc. Pull messages are initiated by the client and include account balance inquiries, electronic payment, transfer of funds from one client account to another, deactivation of credit cards, and the like. The use of SMS banking services was limited mainly due to insufficiently advanced mobile phone technology at the time. Mobile banking as we know it today became available only in 2009 with the appearance of smartphones, whose technology enabled the development of advanced applications that can support all services offered by banks today. For mobile banking to penetrate the market and become one of the most used banking channels, appropriate infrastructure is required, i.e. Wi-Fi network coverage, the latest smartphone technology and, obviously, availability of more affordable smartphones. These are the main preconditions for the development of mobile banking. Mobile banking is highly functional and profitable compared to traditional banking via branches. Its main advantage is that it is convenient and beneficial for both parties: the user and the bank. It is not a trend or a short-term idea, but a completely new direction in banking, i.e. a break from the current way of banking (Krishnan: 2014).

2.3. MOBILE BANKING CONSUMER

Three main groups of mobile banking target audience are:

1. *Young people aged 14 to 18* - they may not be consumers now, but they are future clients who are growing up with new technologies and banks need to reach out to them and target them now.
2. *Young people aged 18 to 26* - open to new technologies, employed and embarking on their careers.
3. *Business people aged 26 to 50* - employed, highly-educated, with an active lifestyle that requires them to have access to mobile banking for both business and private purposes (Tiwari, Buse, Herstatt: 2006). A survey by Statista Research Department conducted in 2015 and 2016 on a sample of 36,843 people showed an increase in the number of mobile banking users in Europe in all age groups:

The majority of mobile banking users in 2015 were aged between 25 and 34 (61%), followed by the 18-24 and 35-44 groups, which both ranked second with 55%. In 2016, a large increase was recorded in the number of users in the 18-24 group, which climbed to the first place to share it with the 25-34 group (68%). The 35-44 group was in the second place with 64% of users. The number of mobile banking users decreased with the increasing age of respondents. The data show that today the target consumer of mobile banking is a young person aged up to 40 years. Given that the main purpose of mobile banking is to allow users to keep track of their personal finances, it can be assumed that the largest number of personal banking users will be employed part-time or full-time. It is to be expected that users will have some form of personal income.

[1] https://www.ukessays.com/essays/information-technology/examining-the-history-of-mobile-banking-information-technology-essay.php

2.4. THE BEHAVIOUR OF MOBILE BANKING CONSUMER

Consumer behaviour is defined as "a process whereby people search, value, choose, buy, use and dispose of products and services to meet their needs and desires" (Kesić: 2003). Given that mobile banking is one of the services offered by a bank as part of a banking package clients choose when opening an account with a bank, the question arises as to how much that particular service can influence the client's decision to choose a particular bank. The decision will certainly be influenced by the availability of branches, banking service fees, interest rates, the number and location of ATMs, and the like. However, taking into consideration the expected future development of mobile and online banking, it is to be assumed that this service will become one of the decisive factors in choosing a bank. Mobile banking users come from different generational groups that have unique needs and desires. Therefore, a multi-generational marketing approach is needed that will target these groups based on their uniqueness. Multi-generational marketing is based on two main principles:
1. product needs change with life stages and
2. promotional messages and products targeting these generational groups (Williams, Page, Petrosky, Hernandez: 2010, p. 1) can reflect their generational values which in turn can drive their consumption behaviour (Williams, Page, Petrosky, Hernandez: 2010, p. 1).

Marketing in general should move away from the idea of market segmentation by target group's age and turn to segmentation by generation. Consumers are divided into several different generations based on a period during which they became adults, which was marked by specific economic, political and technological characteristics and level of development that shaped their needs, desires and lifestyle in general. Starting from the assumption that the banking sector is primarily interested in people with regular, average or above-average personal income, it can be concluded that it is necessary to keep track of generations that have not yet retired. The first such generation used as the basis for segmentation are baby boomers, i.e. individuals born between 1946 and 1964 (according to Chaney, Touzani, Slimane: 2017, p. 182, Robert, Manolis: 2000). Commonly, they have high average disposable income, they are work-centred and known for their predilection for materialism; they lack free time, are family-oriented and care for their parents and children; they are more tech savvy than previous generations, especially when it comes to using the Internet, GPS and even video games (Chaney, Touzani, Slimane: 2017, p. 7). The generation of people born between 1965 and 1976, who are now 44 to 55 years old, is called Generation X. This generation is characterised by the acceptance of change, they value family first - in a broad sense that includes one's family, but also friends and partners (according to Williams, Page, Petrosky, Hernandez: 2010, pp. 8, Lager: 2006). Unlike their parents, they want to achieve balance between private life and work. They tend to get married and have children later in life. They are sceptical and disillusioned, they lean towards political pragmatism and want to have fun (according to Williams, Page, Petrosky, Hernandez: 2010, p. 8, Gorrel: 2008). They have witnessed the birth of a new digital era, love technology and highly value technological literacy and knowledge. They read less, are more visual, value diversity, multiculturalism, and global thinking (according to Williams, Page, Petrosky, Hernandez: 2010, p. 9, Cranston: 2008; Francese: 2004; Ritson: 2007). Next is Generation Y or Millennials. They were born between 1977 and 1994. Millennials are sceptical, selfish, emotionally and intellectually expressive, adaptable, and live for today (according to Williams, Page, Petrosky, Hernandez: 2010, p. 9, Eisner: 2005 Novak et al., 2006).

Technology is like an extra limb for them. More than 90% of them are regularly on the Internet and use several different communication channels that allow them to become amateur reporters, producers, advisers. They are addicted to social networks (according to Williams, Page,

Petrosky, Hernandez: 2010, p. 9, Dickey and Sullivan: 2007; Donnelly: 2008). They are highly educated, although they believe that education institutions are not doing an adequate job. They question everything, are innovative and curious (according to Williams, Page, Petrosky, Hernandez: 2010, p. 9, Eisner: 2005). They not only want to balance work and life, but they want to achieve a complete synergy, i.e. they want for their work to be their life and vice versa. They are taught to believe that anything is possible and that they hold the reins (according to Williams, Page, Petrosky, Hernandez: 2010, p. 9, Koco: 2006). Generation Z includes individuals born between 1994 and 2005. They are the most educated, mobile, and connected consumers to date (according to Chaney, Touzani, Slimane: 2017, p. 5, Babin, Harris: 2016). They are socially responsible and tech savvy; they are continuously connected via smartphones and the Internet of Things (IOT); they are innovative and constantly looking for changes. They are highly tolerant, but are wary of violence and pornography in the media. They are exposed to the largest amount of information to date (according to Chaney, Touzani, Slimane: 2017, p. 5, Kardes, Cronley, & Cline: 2014). There are three main types of mobile banking users based on the way these factors affect their behaviour:

- Traditionalists - consumers who are still loyal to traditional banking channels and use digital channels less often. They also use debit and credit cards less frequently but often visit physical branches and ATMs.
- Consumers who embrace digital advancement - consumers who still use some traditional banking channels but are more flexible when it comes to using digital channels. They use the Internet more often than mobile channels.
- Digital adventurers - new generations that are the greatest consumers of banking products and use exclusively digital channels (mobile or Internet).[2]

A common feature of Generations X, Y and Z is that their behaviour, as mobile banking consumers, is influenced by the growing use of technology, networking and access to a large amount of information.

3. FACTORS OF MOBILE BANKING ADOPTION AND THEIR IMPACT ON CONSUMER BEHAVIOUR

The question arises as to what factors influence consumers to adopt mobile banking. They can be divided into the following groups:

- Performance expectance - a factor relating to the perceived usefulness, the benefits of using mobile banking, users' external motives, expected outcomes and the fact how necessary it is in the user's job and how compatible it is with the job.
- Effort expectance - refers to the degree of effort associated with the use of technology.
- Social influence - a factor that refers to the degree to which an individual perceives that important others believe that he/she should use the technology.
- Perceived credibility - a factor that determines the degree to which an individual has trust in mobile banking technology in terms of security risk and credibility.
- Perceived financial cost - a factor that determines the degree to which an individual perceives the financial cost of using mobile banking as justified.
- Facilitating conditions - external conditions that affect the user's choice to use mobile banking, similar to choosing a job or lifestyle.

[2] https://www2.deloitte.com/hr/hr/pages/press/articles/digital-transformation-in-banking-global-customer-survey.html

- Perceived self-efficacy - a factor that describes an individual's belief in their own abilities.
- Age
- Gender (Yu: 2012, pp. 107-109)

Research conducted at Shih Chien University in China shows that the most significant factor influencing the adoption of mobile banking is social influence, while self-efficacy was perceived to be the least significant factor. In terms of the respondents' age, effort expectance and perceived credibility were found to have the greatest influence. Effort expectance was perceived as more important by older respondents and less important by younger respondents (Yu: 2012, pp. 113-117).

4. RESEARCH METHODOLOGY

An electronic questionnaire was administered in the period from early October to the end of December 2019. The sample was intentional, i.e. it did not include individuals who did not use mobile banking and minors as they cannot hold a current account in the bank. The questionnaire was completed by natural persons over the age of 18 who had access to the Internet and who were independent users of banking services. A total of 174 respondents responded to the survey of which 21 did not use mobile banking and were filtered out by questions 5 and 6. 153 respondents continued with the survey. The number of respondents decreased with other filter questions that followed, leaving a total of 137 respondents who completed the survey. The tables show in detail how many respondents answered an individual question or rated a statement. The data obtained are presented using the appropriate tables and graphs. The survey questionnaire, which contained 14 questions, was divided into three sections. The first section contained questions aimed at determining the respondents' demographic profile. These questions required the respondents to choose only one from a list of several options. The second group of questions contained questions designed to filter out the respondents who do not use mobile banking, but also define the reasons why they do not use it. These questions were also multiple-choice questions but the respondents were asked to choose a single answer or write their own. The third section of the questionnaire contained questions that examined the respondents' attitudes towards mobile applications. There were two multiple-choice questions with a possibility to offer a single answer. The remaining questions were Likert scale questions where the respondents were asked to express how much they agree or disagree with a particular statement on a scale of 1 to 5, 1 being "I completely agree" and 5 being "I completely disagree".

The purpose of the research was to prove the importance of identifying the consumers and understanding their behaviour as a basis for developing mobile banking and improving user experience.

The goals of the research were to:

1. identify mobile banking users in Croatia and
2. define their main motivations for mobile banking adoption and behaviour

Hypothesis H1: *The users of mobile banking in Croatia are mostly under the age of 40.*
Rationale: Modern banking implies adopting a customer-centric approach and redefining the relationship between the client and the bank. Modern information and communication technologies have facilitated numerous innovations in banking, primarily as a result of the

introduction of mobile banking. Clients no longer need to come to the branch to complete a transaction, now they can do that via their mobile phone. As this is a new, innovative product both in the banking business and in the smartphone industry, it is to be expected that the users are under the age of 40.

Auxiliary Hypothesis H1A: Mobile application users are not concerned about the security of financial transactions.
Rationale: The development of mobile applications will depend on how well the banks understand their users. Regulators are in charge of the security aspect of mobile transactions, which guarantees a certain mandatory level of security for all mobile applications on the market. Any additional effort in strengthening the security of applications will also depend on the interest of the application users.

Auxiliary Hypothesis H1B: Security and flexibility of a mobile application are not positively correlated.

Rationale: According to hypothesis H1, which proposes that mobile app users are under the age of 40, the assumption is that users will be more concerned with the flexibility of the application than its security. Thus, no positive correlation is expected between these two mobile banking features.

Hypothesis H2: Mobile banking users are primarily motivated by the possibility of continuous management of their finances.

Rationale: A mobile application provides a variety of benefits to all users. It is assumed that its greatest advantage is the users' ability to monitor their finances. Mobile banking services save time and money because they allow users to check the balance on their accounts wherever they are and avoid unplanned transactions.

4.1. RESEARCH RESULTS

Of a total of 174 respondents who took the survey, 62 respondents (35.63%) were male and 112 (64.37%) were female. There is a lack of gender balance in the research sample as most of the respondents were women. Seventy (70) or 40.23% of the respondents were aged 31-40, accounting for the largest share of the sample. Sixty (60) or 34.48% of the respondents were aged 41-50. Twenty-nine (29) respondents were aged 18-30, comprising 16.67% of the sample. Nine (9) persons were in the age group 51-60, accounting for 5.17% of the total number of respondents, and 6 people were over the age of 60, making up 3.45% of the total number of respondents.

Table 1. Sample description (n = 137)

	n	%
GENDER		
Male	62	35.63%
Female	112	64.37%
AGE GROUPS		
18-30	29	16.67%

31-40	70	40.23%
41-50	60	34.48%
51-60	9	5.17%
60+	6	3.45%
LEVEL OF EDUCATION		
Primary	0	0.00%
Secondary	46	26.44%
Two-year postsecondary education/ Bachelor's degree	48	27.59%
Master's degree	66	37.93%
PhD, postgraduate degree	14	8.05%
HOUSEHOLD INCOME		
Up to HRK 4.000		
HRK 4.001 - 6.000		
HRK 6.001 - do 8.000		
HRK 8.001 - 10.000		
More than HRK 10.000		

Source: authors' work

Persons under the age of 18 did not participate in the survey, as intended. The largest group of respondents were in the 31-50 age group. Of 174 respondents, 144 (82.76%) were employed, while 10 (5.75%) were unemployed. Nine (5.17%) respondents were students, 7 (4.02%) were retired, and 4 (2.30%) did not state their employment status. Considering the age of the respondents, the described distribution by employment status is expected because the majority of respondents (as many as 130) are between 31 and 50, i.e. working age population. When it comes to the level of education, the largest share of respondents (66 or 37.93% of the total number of respondents) have a Master's degree. They are closely followed by respondents with a two-year postsecondary education or a Bachelor's degree (48), and those with a high school diploma (46), accounting for 27.59% and 26.44% of the total number of respondents, respectively. 8.05% of the respondents or 14 of them have a PhD or a postgraduate degree. There were no respondents whose formal education ended with primary school. According to the 2011 census data from the Central Bureau of Statistics, 5.84% of the population had a two-year postsecondary education or a Bachelor's degree, while 10.55% of the population over the age of 15 had a PhD or a postgraduate degree[3]. It can be assumed that this is possibly the result of increase in the number of people with post-secondary education in the past ten years, but there is still a big difference of 65.52% in the number of respondents in this group compared to the total population. This raises the question whether the sample adequately represents the target population, i.e. Croatian citizens.

[3] https://www.dzs.hr/Hrv_Eng/publication/2016/SI-1582.pdf (accessed on: 5 August 2020)

The Cronbach-alpha coefficient of 0.85, as shown in Table 2, which refers to 32 items, indicates the reliability of the set variables.

Table 2. Cronbach-Alpha coefficient

Which of the following services have motivated you to use mobile banking?		
Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
0.78	0.85	32

Source: authors' work

Table 3 provides a detailed statistical presentation of the obtained data. The results show that the opinions of the respondents are quite dispersed and varied. The largest dispersion is found in the statement *Notification about new bank offers* (66%) and the statement *Possibility to make loan payments* (58%). The lowest dispersion was found is in the statement *Possibility to monitor my current/foreign currency/giro account balance/transactions* (14%). The respondents were asked to rate from 1 (strongly disagree) to 5 (strongly agree) six different statements formulated as an answer to the question "*Which of the following services motivated you to use mobile banking?"* where 1 means the lowest and 5 the highest score. The highest average score of 4.73 was given to the statement *Possibility to monitor my current/foreign currency/giro account balance/transactions*, which was rated by 147 respondents. The second highest average score of 4.73 was given to the statement *Possibility to pay my bills*, which was also rated by 147 respondents.

The same number of respondents rated the statement *Possibility to monitor my credit card balance/transactions* with an average score of 3.82. The statement *Possibility to monitor my savings account* was rated with an average score of 3.24 by 142 respondents. The lowest scores were given to the statement *Possibility to monitor my loan payments* (2.97), which was rated by 144 respondents, and the statement *Notifications about new services*, which was rated with a score of 2.41 by 146 respondents. The largest share of respondents (121 or 82.31%) rated with 5, which is the highest possible score, the statement *Possibility to monitor my current/foreign currency/giro account balance/transactions*, while the lowest score was given to the statement *Notifications about new services*, which was rated by 67 respondents, i.e. 45.89% of them. Although one of the advantages of mobile compared to traditional banking is personalised service grounded in a deep understanding of clients, and although we can assume that most people want a personalised service, it is interesting that the statement *Notifications about new services* was given the lowest score.

Table 3. Motivations for using mobile banking

Which of the following services have motivated you to use mobile banking?	Arithmetic mean	Standard deviation	Variance
Possibility to pay my bills	4.48	1.023	23
Possibility to monitor my current/foreign currency/giro account balance/transactions	4.73	0.665	14
Possibility to monitor my savings account	3.24	1.624	50

Possibility to monitor my credit card balance/transactions	3.82	1.508	40
Possibility to monitor my loan payments	2.97	1.711	58
Notifications about new services	2.41	1.592	66

Source: authors' work

Table 4 contains a detailed statistical presentation of the obtained data. The results show that the distribution of respondents' opinions on the subject examined is extremely dispersed and varied. The greatest dispersion was found in the statements *Banking security is not that important to me* (71%) and *I have never even thought about the issue of mobile banking security* (62%), while the lowest dispersion was found in the statement *I believe that all banking services are equally secure, mobile banking included* (28%).

137 respondents answered the question concerning the security of mobile banking. The highest average score of 3.86 was given to the statement *I believe that all banking services are equally secure, mobile banking included*, which was rated by all 137 respondents.

The statement *I believe that banks make sure that a mobile application is safe to use* was also rated by all 137 respondents with an average score of 3.85. The statement *The security of my accounts is my top priority and that is why I use mobile banking* was rated by 136 respondents with a score of 3.75.

The statement *I often think about the security when using my mobile application* was rated with an average score of 2.95 by all 137 respondents. The statement *Mobile banking is safer than internet banking* was also rated by 137 respondents with a score of 2.88. *I have never even thought about the security of mobile banking* was rated by 137 respondents with a score of 2.16, while the statement *Banking security is not that important to me* was rated with a score of 1.74 by 136 respondents.

Table 4. Mobile banking security

Which of the following statements best describe(s) your attitude towards the security of mobile banking?	Arithmetic mean	Standard deviation	Variance
I believe that all banking services are equally secure, mobile banking included.	3.86	1.099	28
I believe that banks make sure that a mobile application is safe to use.	3.85	1.111	29
The security of my accounts is my top priority and that is why I use mobile banking.	3.75	1.11	30
I often think about the security when using a mobile application.	2.95	1.297	44
Mobile banking is safer than internet banking.	2.88	1.303	45
I have never even thought about the security of mobile banking.	2.16	1.346	62
Banking safety is not that important to me.	1.74	1.226	71

Source: authors' work

The largest share of respondents (51 or 37.23%) rated with the highest score 5 the statement *I believe that all banking services are equally secure, mobile banking included*, while the lowest

score 1 was given to the statement *Banking safety is not that important to me* by 92 respondents (67.65%). The statistical data obtained are presented in Table 5. The results show that the opinions of respondents on this subject are also scattered and heterogeneous. The highest dispersion was found in the statement *It is important to me that I can check my credit card balance when shopping* (36%) and the statement *It is important to me that I do not have to use a computer for most of the banking services I use* (28%), while the lowest dispersion was found in the statement *It is important to me that I no longer need to go to the bank for most of the banking services I use* (13%).

Table 5. Flexibility of mobile banking

Which of the following statements best describe(s) your attitude towards the flexibility of banking services?	Arithmetic mean	Standard deviation	Variance
It is important to me that I can check the balance on my accounts 24/7.	4.68	0.696	15
It is important to me that I can check my savings account/credit card balance 24/7.	4.24	1.112	26
It is important to me that I can pay my bills 24/7.	4.68	0.737	16
It is important to me that I can check if I have enough money in my account when I am shopping.	4.44	1.035	23
It is important to me that I can check my credit card balance when shopping.	3.93	1.431	36
It is important to me that various transactions (e.g. payment of bills) can be done in situations where I would otherwise feel like I am wasting time (e.g. when I am commuting, waiting in the waiting room, queuing, etc.).	4.43	1.016	23
It is important to me that I no longer need to go to a bank for most of the banking services I use.	4.74	0.607	13
It is important to me that I do not need a computer for most of the banking services I use.	4.04	1.134	28

Source: authors' work

To the question concerning the flexibility of mobile banking use, the respondents answered as follows: 137 respondents rated the statement *It is important to me that I no longer need to go to a bank for most of the banking services I use* with the highest average score of 4.74. High average scores were also given to the statements *It is important to me that I can check the balance on my accounts 24/7*, which was rated by 136 respondents, and *It is important to me*

that I can pay my bills 24/7, which was rated by 137 respondents - both received a score of 4.68. The statement *It is important to me that I can check if I have enough money in my account when I am shopping* was rated by 137 respondents and received an average score of 4.44. It is followed by the statement *It is important to me that various transactions (e.g. payment of bills) can be done in situations where I would otherwise feel like I am wasting time (e.g. when I am commuting, waiting in the waiting room, queuing, etc.),* which was rated by 136 respondents with an average score of 4.43. 136 respondents also rated the statement *It is important to me that I can check my savings account/credit card balance 24/7* with an average score of 4.24. The statements *It is important to me that I do not need a computer for most of the banking services I use* and the statement *It is important to me that I can check my credit card balance when shopping* were rated with an average rating of 4.04 and 3.93 respectively, and both were answered by all 137 respondents. 111 respondents (81.02%) rated the statement *It is important to me that I no longer need to go to a bank for most of the banking services I use* with the highest score. 16 respondents, or 11.68% of the total number, rated the statement *It is important to me that I can check my credit card balance when shopping* with the lowest score. The data reaffirms that the most important factor for customers is that they no longer need to go to a bank, which saves them time and money, and, as already mentioned, lowers operating costs for the bank. It is also important for them to be able to check the balance on their bank and savings accounts and make payments at any time. The least important factor for them is the ability to check the balance on their credit cards.

4.2. RESEARCH CONCLUSION

Hypothesis H1: The users of mobile banking in Croatia are mostly under the age of 40.

This hypothesis is confirmed.

Justification: This hypothesis was confirmed by the respondents' answers to question number 2: "How old are you?" and question number 6: "Do you use mobile banking services?". Of 174 respondents in total, 21 do not use mobile banking services, of which 14 or 57.14% are above the age of 40. Among the respondents who use mobile banking, 60.13% or 92 individuals are under the age of 40. It is evident from the relevant graph that as the age of respondents increases, the number of individuals who are not using mobile banking increases.

Auxiliary hypothesis H1A: Mobile application users are not concerned about the security of financial transactions.

This hypothesis is confirmed.

Justification: Based on the respondents' answers to question number 12 relating to the security of mobile banking, it can be concluded that they believe that banking services are generally safe, given that the highest scores were given to the statements *I believe that all banking services are equally secure, mobile banking included* and *The security of my accounts is my top priority and that is why I use mobile banking*. Moreover, a low score was given to the statement that the security of banking services is not that important to them.

The statement under Question 11 *I use mobile banking because: I believe that mobile banking is the safest way to pay bills* ranked 4th of 5 places. The statements *I can check the balance on my accounts, Payment via mobile banking saves my time and money, It is important to me that the banking service is dynamic and flexible* ranked higher in terms of average scores.

Auxiliary hypothesis H1A was confirmed because for most mobile banking users the issue of security is less important than other features of mobile banking. In addition, they consider that all banking services are equally secure and do not have any doubts about the security of mobile banking in general.

Auxiliary hypothesis H1B: The security and flexibility of a mobile application are not positively correlated.

This hypothesis was not confirmed.

Justification: The Pearson correlation coefficient was used to test the correlation between three statements under question 12 concerning the security of applications and three statements under question 13 concerning the flexibility of applications. The statements with the highest average scores and those with which most respondents completely agreed (5) were selected. The obtained results show that there is a negative correlation only between the statements *It is important to me to be able to pay my bills 24/7* and *I believe that all banking services are equally secure, mobile banking included*. All other statements are positively correlated thereby refuting the auxiliary hypothesis H1B.

Hypothesis H2: Mobile banking users are primarily motivated by the possibility of continuous management of their finances.

This hypothesis was confirmed.

Justification: This hypothesis was confirmed by the respondents' answers to question 11 where they rated with the highest score the statement *I can check the balance of my accounts 24/7*, putting it before the security and flexibility of mobile banking.

In addition, under question 14, the highest average score was given to the statement that they pay their bills more promptly since they started using mobile banking, and although they believe that their personal spending has not changed, they find that they now manage their finances more efficiently. The respondents also believe that having access to their accounts at all times has positively changed the way they spend their money. The statement that they have been spending more money since they started using mobile banking was given the lowest score.

4.3. RESEARCH LIMITATIONS

Sample - There is gender imbalance in the composition of the respondents who took the survey. The questionnaire was answered by 62 men, which accounts for 35.63% of the total number, and 112 women, which accounts for 64.37% of the total number of respondents. Although there is no evidence that gender influences the use of a mobile application, it is necessary to take into account this fact. Moreover, the number of individuals who do not use mobile banking is low (21 or 12.07%), which may affect the conclusion for hypothesis H1 proposing that the majority of mobile banking users are above the age of 40.

The concept of mobile banking security - The issue of security perception is essentially a matter of customer trust. A survey was conducted at the Swedish University of UMEA in 2017 to gain insight into this topic, which concluded, among other things, that trust in the security of a mobile application depends on the bank itself, its application and the environment in which the respondent is located. Three aspects of trust were distinguished:

Confidence in institutions - respondents believe that it is the bank's obligation to provide the protection against possible breaches of security and are therefore not concerned about security. User's propensity to trust - to what degree the respondents have confidence in mobile banking services.

Confidence in technology - how often the respondents generally use technology in their everyday life and how much they trust it. The assumption is that consumers who commonly use high technology are more likely to have confidence in mobile banking. (Agami, Du: 2017, pp. 37-40)

The results of this survey indicate that most respondents find that all banking services are secure and thus have confidence in mobile banking. The issue of security is less important to them compared to other characteristics of mobile banking. However, the study does not answer the questions whether the respondents know enough about the security of mobile transactions, whether they are even aware of the possible dangers and problems, and what their perception of security is. It is in the interest of banks to understand the needs of their current and potential customers well to be more competitive in the market and better control their mobile app security investments. It would therefore be useful to conduct additional research into the mobile banking market.

Respondents' purchasing power - In proving the hypothesis regarding mobile banking users' management of finances, the respondents reported managing their finances much more efficiently, although they disagreed with the statement that they had saved more or spent more/less money than before they started using the mobile application. This may be caused by the purchasing power of respondents. It is possible that they have limited monthly budgets that are not flexible enough to cover their living expenses and do not allow for any saving and spending cuts. Considering that the respondents rated highest the statement that they have been paying their monthly bills more promptly since they started using mobile banking, we can conclude that they manage their finances more efficiently, i.e. stay within their budget. Since the issue of the respondents' purchasing power was not considered in the present research, this limitation should be taken into account in the interpretation of the results of this study.

5. CONCLUSION

The main objective of this paper was to identify the characteristics of mobile banking users and their motivation to use mobile banking. There has been a growing interest in this issue in the last ten years, i.e. since the first mobile application was developed, and it has been widely researched. In order to properly examine the topic, it is necessary to study the entire history of banking and gain an understanding of the various aspects of banking policies throughout history. The paper therefore deals with the history of banking, which has not changed in its essence. However, banks have changed their distribution and communication channels and made their services more professional and sophisticated. In addition to banking, the paper briefly looks at the history of money starting from prehistory when money in its present form did not even exist, through banknotes and coins, digital money to cryptocurrencies.

With the emergence of new technological solutions, banks had to change the way they operate as well as their attitude towards their customers, both existing and potential, i.e. adapt to the changes. In order to respond to the new market challenges as successfully as possible, banks have expanded their traditional channels and digitalised their services, first through ATMs and credit cards and then through mobile banking and virtual branch offices. Mobile banking is an

important step in the banks' transition to the digital age. However, to attract consumers, banks must know them well. In this paper, the authors provide a definition of today's mobile banking consumer and identify the target audience and their behaviour.The future of banking is uncertain. It will without doubt survive; however, banking services will no longer be offered exclusively by banks. This industry opens its doors to other financial institutions, but also to highly digitalised, networked, global companies that threaten the traditional notion of banking. Some research shows that for the time being there is some scepticism towards this type of banking among the population which still put their trust in existing, traditional banking institutions. However, new generations may put speed and flexibility of services before trust. Banks need to reconsider their business model and must be willing to change and offer new added value to their services, this time not as trend followers but as trend setters.

REFERENCES

1. Agami, A., Du.Tiantian, 2017., *Examining young users' security perceptions of mobile banking*, Umea: Umea school of business and economics. URL: http://umu.diva-portal.org/smash/get/diva2:1156302/FULLTEXT01.pdf, accessed on 6.1.2020
2. Babić-Hodović, V. 2018., *How Novelty Seeking Shapes the Relation Between Perceived Usefulness and Attitudes Towards the Mobile Banking*, International Journal of Multidisciplinarity in Business and Science, Vol.5, No.7, p.10
3. Chandran, R., 2014, *Pros and cons of Mobile banking*, International Journal of Scientific and Research Publications, Volume 4, Issue 10, October 2014. URL: http://www.ijsrp.org/research-paper-1014/ijsrp-p34115.pdf, accessed on 7.1.2020.
4. Chaney,D., Touzani,M., Slimane Ben K., 2017, *Marketing to the (new) generations: summary and perspectives*, Journal of Strategic Marketing, VOL.25, NO.3, pp. 179-189
5. Chown, J., 1996., *A History of Money*, Routledge and the Institute of Economic Affairs
6. Gregurek, M., Vidaković, N., 2011., *Bankarsko poslovanje*, RriF plus d.o.o. za nakladništvo i poslovne usluge
7. Hamdi, H., 2007., *Problemi razvoja elektroničkog novca*, Financijska teorija i praksa, 31 (3), pp. 289-303
8. Krishnan, S.,2014., *The Power of Mobile Banking, How to Profit from the Revolution in Retail Financial Services*, John Wiley & Sons, Inc
9. Kesić, T., 2003., *Integrirana marketinška komunikacija*, Opinio, Zagreb
10. Koskosas, I., (2011), *The pros and cons of internet banking: a short review*, Business Excellence and Management, Volume 1, Issue 1, pp. 49-58, URL: http://beman.ase.ro/no11/4.pdf, accessed on 20.1.2020.
11. Kunac, J., 2011., *Novi modeli bankarske komunikacije/New Models of Communication with Bank Customers*, Informatol. 44,2011.,4, pp. 341-346
12. Mataković Cunjak, I., Mataković, H. 2018., *Kriptovalute – sofisticirani kodovi manipulacije*, International Journal of Digital Technology & Economy, Volume 3, Number 1, pp. 23-37
13. Nicoletti, B., 2014., *Mobile Banking, Evolution or Revolution?*, Palgrave MacMillan
14. Shah M., Clarke S., 2009., *E-Banking Management: Issues, Solutions and Strategies*, Information Science Reference, London
15. Shelagh H., 2000., *Modern Banking*, John Wiley & Sons Ltd, England
16. Tiwari, R., Buse S., Herstatt C., 2006., *Mobile Banking as Business Strategy: Impact of Mobile Technologies on Customer Behaviour and its Implications for Banks, in: Technology Management for the Global Future*, Proceedings of PICMET '06, July 8 - 13, Istanbul, pp. 1935-1946

17. Williams, K., Page, R., Petrosky, A., Hernandez, E., 2010, *Multi-Generational Marketing: Descriptions, Characteristics, Lifestyles, and Attitudes*, Journal of Applied Business and Economics. URL: http://www.na-businesspress.com/JABE/Jabe112/WilliamsWeb.pdf , accessed on 10.1.2020.
18. Yu, C.S. *Factors affecting individuals to adopt mobile banking: empirical evidence from the UTAUT model*, Journal of Electronic Commerce Research, VOL13, NO 2, 2012, pp. 104-121