



## DIGITAL BANKING SERVICES – STUDENTS’ PERSPECTIVE

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**Abstract:** The number of users of digital banking services has grown in recent decade, since digital banking services are being done easier, faster and at lower cost than banking services performed in a traditional face-to-face manner. Banks should work on enhancing their digital services according to their demand and conveniently improve customer experience especially for unbanked younger generations. The aim of this paper is to reveal student's perception of digital banking services in Serbia. Research has been conducted via empirical survey in the form of an online questionnaire, with the descriptive statistics applied. The results showed diverse pattern of digital banking engagement with the largest proportion of students specifying that they use DBS at least once per week. When they did use banking services, most often they used them for money transfer and paying bills, emphasizing the vital role of digital platforms in facilitating financial transactions. Overall students' satisfaction with DBS is on the high level, and students appreciate technologies development of banking offerings. The results of this research could be used by banks to reveal students' perception on digital banking service, and to help them create adequate digital services and pivot their business models in that direction.

**Keywords:** banks, digital banking services - DBS, mobile banking, students' perspective, youth

**JEL classification:** G21, L86.

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## Introduction

Financial services have always been an important or crucial part of an economy. Since those services ensure free flow of capital, it is an important sector for the business sector as well for the individuals. The financial services industry is a diverse arena of numerous financial services institutions that provide intermediation between savers and borrowers, payments, liquidity, risk transfer, etc. (Barjaktarović Rakočević et al., 2021). The financial services industry enables economic development and growth, promotes savings and investments, helps minimize risks and maximize return. Financial services are customer-oriented, implying that financial institutions are supposed to meet customer's needs, leading to, previously mentioned, significances enabled by financial services industry. Since customers' needs are changing constantly, so do financial services.

One of the major interrupters of financial service industry in the recent decade is unquestionably digitalization. Digitalization has been introduced by new technologies and although not new, investments in new technologies have increased significantly in recent years (European Commission, 2020). Technological innovations in financial services are substantial and transformational meaning that it carried numerous benefits for the customers, like lower costs of financial services, higher velocity of doing transactions, more affordable financial services to all the people etc. (Marinković et al., 2022). Digital financial services "are financial services which rely on digital technologies for their delivery and use by consumers" (World bank, 2020, p. 1). More specifically, financial technologies, or fintech, represent the use of technologies to improve existing and create new financial services (Thakor, 2019). Digitalization has beneficial influence on businesses, individuals, and public institutions, and nevertheless, it requests strong attention on regulatory issues (Milošević et al., 2018).

In this paper we focus on digital financial services, namely digital banking services (DBS) in Serbia. Special focus has been put on the student population using DBS. According to study performed by OECD (2022), digital financial services in Southeast Europe (SEE), that Serbia belongs, have increased in recent years, but "on average still lower than in OECD countries. People in SEE are less likely, on average, to use digital financial services such as online banking, than in the OECD" (OECD, 2022, p. 2). Same study states that "low levels of digital inclusion and financial literacy of populations in SEE may have negative consequences for their financial wellbeing along with potential longer-term economic and social implications" (OECD, 2022, p. 2).

For customers perspective, incentives to use digital financial services are obvious – lower costs, faster services, new innovative products and services, new channels, platforms etc. On behalf of the financial services providers, digitalization will bring more customers creating stronger relationships with the existing ones. This situation

should lead to better performances of the financial service institutions. However, as Stanković et al. (2022), suggested financial services providers (in particular case insurance companies) “especially in emerging markets, have to address numerous challenges in IT implementation, such as insufficient investment in computer hardware and software, low level of specialized and advanced computer literacy skills of employees, low level of e-business and m-business usage, unsatisfactory legal framework and low policy and regulatory adaptability to disruptive technologies, privacy and cybersecurity concerns and risks etc.” (2022, p. 146).

The motivation for this paper came during the work on broader research concerning the analysis of factors and incentives that influence clients in Serbia to use digital banking services (Barjaktarović Rakočević et al., 2022). Participants in this study were people who have a bank account and use digital banking services. Therefore, the model of research that was created in the abovementioned paper represents an exemplary work for this research, which in the next phase of the research included a category that was not covered by the previous research, namely students. In accordance with that this paper focuses on one customers group – youth. More particular, research has been conducted on students’ population of the Serbian university.

This paper analyses the given topic through several sections. Literature review covers two important parts of the theoretical and practical implications for our research - DBS and Youth preferences in digital financial services. Section methodology gives description of research conducted and sample analyses. In the next section the results of the research are presented and interpreted. In the conclusion section, final remarks on research are made and are given to the future path of research. The last section comprises all references used in the paper.

## **1. Literature review**

### ***2.1. Digital banking services***

Technology has changed the way we use banking services. Banks, although being traditional institutions, had to change their business models under pressure technology has brought to the financial services sector. Digital revolution has affected both customers, and the way they want their financial services being done, but also banks and their business models and how they offer services. Digitization in the financial services areas has been on for a while now, but COVID 19 pandemic significantly speeded it up. Digital technology has enabled financial services generally to offer larger number of services and use new channels for delivering services to their customers.

Digital banking assumes banking services are being done easier, faster and at lower cost than banking services performed in a traditional face-to-face manner. Due

to those benefits of DBS, the number of active users for DBS has grown so far to one billion and 900 million active users (Statista, 2020). According to same source, the number of active users for DBS is predicted to rise to more than 2,5 billion active users by 2024. The market size of the totally digital banks worldwide was around 47.4 billion U.S. dollars in 2021, and it is predicted to soar to 2.05 trillion U.S. dollars by 2030 (Statista, 2021).

Study of Ahmed and Sur (2021) showed that not just for customers as individual, but also for micro, small and medium enterprises, COVID 19 pandemic, convenience, perceived self-efficacy and perceived ease of use were factors that significantly affected the use of DBS for their business.

Traditional banking implied face-to-face interaction with customers. Digitalization has brought new channels via internet and mobile phones (Alalwan et al., 2016).

Demand of contemporary customers is anytime anywhere banking (Valsamidis et al., 2020). Same authors believe that for the bank nowadays, it is important for them to embrace new reality and to see it through the eyes of the customers.

Digital banking has meaning both for the customers, but also for the bank itself. Digitization in banking means not just offering DBS for the customers, but also total digital transformation of the internal processes within the banks itself (Mansurovna, 2023).

According to McKinsey's Personal Financial Services Survey emerging markets digital banking adoption has reached the level in developing markets. The same survey showed that "nearly nine in ten consumers across the emerging and developed markets of the Asia-Pacific region use digital banking actively, and most of these are open to purchasing more banking services through digital channels" (2021, p. 2).

Kaur et al., (2021) have analyzed the role and efforts bank branches should perform for migrating branch customers to digital channels. Their research has proved that communication with customers, digital transformation of the branch, customer-oriented initiatives, and redefined role of branch staff could help the customers' migration to digital banking.

Alnemer from his study (2022) has pointed out that one of the most important factors influencing adoption of DBS is trust. Besides this, from the same study, perceived ease of use and perceived usefulness, along with trust, showed a significant marginal effect on the adoption of DBS.

The concept of trust in adopting DBS has been questioned by other researches too. Martínez-Navalón et al., (2023.) in their study have been analyzed the significance of variables like trust, privacy and ease of use when examining digital banking. Those researches stated in the study that the trust in digital banking would be higher if customers felt more privacy and security when using digital platforms. Consequently, if customers have more trust, they will use DBS more.

Survey performed by Deloitte researchers (2018.) has revealed that considering banks and their transformation towards digitalization, they should restructure themselves over different stages of customer satisfaction - adoption, consideration, application, onboarding, and servicing. Same research emphasizes that banks should „focus beyond increasing and enhancing digital service offerings to transform themselves into truly effective digital organizations“ (Srinivas & Ros, 2018, p. 2).

Valsamidis et al., (2020.) have also examined the new demand of tech-savvy customers and their expectations considering DBS. This study investigated customers' attitudes towards the use of banking applications and identified three main factors: better service, cautiousness, and timelines/directness.

Being understood as traditional financial institutions, banks should reconsider their business models for the modern financial services markets. Technology development, customer's demands, competition, regulators, all those demands impose new business strategies for the banks. Contemporary banks should be “more resilient and reinvent their business models to ride out the current volatile period and achieve long-term growth and profitability” (McKinsey&Company, 2022).

Chauhan et al., (2022.) in their study, has been examining the customer experience and creating integrative framework for the purpose of identifying important factors for digital banking that influence financial performance of the banks. In their study, they have put special attention on the use of gamification in technology-driven banking services to improve customer experience.

## ***2.2. Preferences of youth for DBS***

Generations Z and Alpha are those generations that are digitally native – they are born in the totally digital age. This implies that they do not recognize financial institutions in their traditional, face-to-face form. Those generations want their financial services to be performed digitally – as fast as possible, with low cost and with adequate customer experience. For them, of crucial importance is the use of smartphones and the internet. According to MasterCard (2020) Gen Z and gen Alpha spend more than 8 hours on average per day online.

Those latest generations are already or very soon will become bank customers. To retain their loyalty banks should change their business models towards digital and technological state-of -the-art solutions.

Similar findings have been found in Kangwa et al., (2021). According to this study, generation Z has a huge tendency and competences to use digital platforms, social media, and financial technologies, but perceives conventional banking as highly exclusive. In this paper, researchers try to create inclusive financial business models to grip financial needs of gen Z, especially considering their approach to start-up business programs.

Banking institutions in the contemporary environment should focus on attracting and retaining customers, especially new ones – the latest, digitally native, generations. In that context, Rudy & Zhafran (2022) in their research have emphasized marketing strategies of banks on social media, particularly on Instagram, to create good approach for attracting new customers. Special attention has been paid to how banks advertise their digital services and products, adjusted to the youth.

Research of Shree et al., (2019). has suggested that banks should focus on changing the demand of their customers and redesign their services to meet those new customers' needs, especially for the youth. In their study, they prove that today's new generations have strong digital literacy, have online connection in their everyday activities, and are not afraid of technological adoption, with the mobile phone as primary digital channel.

Other researchers have also proven that mobile phones are primary channel for the younger generations in undertaking digital financial services because it offers what they demand when doing transactions - from anywhere at any time, fast and with lower fees (Divya & Hebbar, 2021).

Being innovative and changing and adapting their business models is today a must for traditional financial institutions, namely banks. If they don't adapt and innovate, they will lose their customers base, since demands are heading towards fast, easy, and low-cost financial services. Competition in financial sector is immense today, with fintech companies, and technological companies offering financial services. In that context, research of Galvin et al., (2018) has shown that global financial institutions believe that will lose revenues if they don't create partnerships with fintech companies.

For the banks, factors that would significantly influence loyalty among youth for using DBS, are of huge importance. Those factors that have proven to be among the most influential for the previous statement, and for the new generation of DBS are perceived ease of use, attitude, and trust (Murugan et al., (2022).

All this led to the fact that financial institutions today have a tough job gaining and retaining customers, particularly younger ones. Bharathi et al., (2022) have been investigating churn rate among youngsters in retail banking since customer retention is an important success factor for improving business value. In that setting, it is significant for the banks to find drivers for churn and to prevent it and create adequate banking services that will assure the retaining of costumers and their loyalty.

Globally, there are still almost half of young people (aged 15-24) that are financially excluded (OECD, 2020). OECD (2020) in its report, investigates possibilities and challenges for progressing youth digital financial inclusion, and analyzes the main factors for financial exclusion of young people. This report has also pointed out that young people are very quick adopters of technologies, and this

also implies their adaptability to financial innovations. Consequently, younger generations are early adopters of fintech products.

Sharma et al., (2022.) has been revealing high influence social media have on younger banking customers to adopt mobile banking services. M-banking is being considered as the 'new age transaction' mechanism that has potentials to take on the global economy, as same authors believe. If banks neglect to familiarize themselves with new technologies it would be difficult for them to continue business in today's environment, according to same researches.

Authors Sharma & Sarmah (2020) have been examining useful campaign characteristics that will raise awareness of youth onto the digital processes in general. They have concluded that the campaign should have a catchy slogan, appropriate music, adequate celebrity persons and good message to have attention of youth onto the theme.

One of the main services costumers use considering financial services are payments. Researchers Ponsree et al., (2023) have been investigating what are the drivers of digital payments among youngest generations. They have found out that "performance expectancy, effort expectancy, and social influence expectancy positively influence youth's behavioral intention" (Ponsree et al., 2023, p. 569). Behavioral intention itself, together with facilitating conditions have a positive effect on youth's use behavior.

Research that has been conducted on the awareness and usage of e-banking services amongst youth investigated if this customer category, particularly students, use banking services through traditional channels (Jain, 2023). They have concluded that the student category still does not use much mobile, SMS, and phone banking, yet the focus for them is on ATM and Internet banking.

## **2. Methodology of research**

Research for this paper has been conducted via empirical survey in the form of online questionnaire. Survey has been performed on state Serbian university and it has included both undergraduate and postgraduate student's population. Research took place during spring and fall semester of 2022, as well as spring semester of 2023. The aim of the research was to reveal student's perception of digital banking services in Serbia. Pilot testing, for the validation of the questionnaire, was performed at the beginning of the spring semester in 2022, among third-year students. After the feedback received through the pilot testing, just a few small adjustments have been made to make the questionnaire completely clear and understandable to the student population. After the pilot testing, the questionnaire has been sent to more than 800 students via Teams teaching course groups. Finally, the authors of this paper received 343 answers, valid for further statistical analysis.

The questionnaire had three parts. The first part referred to demographics: gender, year of studying, employment status and bank account status. The second part consisted of the questions regarding different aspects of student's use of DBS. Finally, the third part referred to future expectations DBS among students.

### 3. Research results and discussion

In this research, a sample of 343 students was initially examined across three general variables: gender, year of study, and employment status. These characteristics are presented in table 1. Regarding gender distribution, the sample comprised 140 male students (40.82%), and 203 female (59.18%). In terms of the year of study, most students were in their second year, with 252 respondents representing 73.47% of the sample. The distribution among other years included 8 students in the first year (2.33%), 45 students in the third year (13.12%), and 38 students in the fourth year (11.08%). Concerning employment status, a minority of students (9.04%) reported being employed.

**Table 1. The overview of research sample**

Variables	Categories	Frequencies	Percentages
Gender	Male	140	40.82%
	Female	203	59.18%
	Total	343	100.00%
Year of study	1	8	2.33%
	2	252	73.47%
	3	45	13.12%
	4	38	11.08%
	Total	343	100.00%
Employment	Yes	31	9.04%
	No	312	90.96%
	Total	343	100.00%

Out of total sample, 304 students (88,63%) have bank account, and 39 of them are still unbanked (11,37% do not have bank account). The structure of the research sample reveals the varying degrees of experience and familiarity with digital banking within the presented demographic. A substantial portion of the sample (35.57%), reported using DBS for a period of 1-2 years, suggesting a relatively recent adoption of these services. Similarly, 28.57% of students indicated a usage period of 2-3 years, indicating a growing trend in digital banking engagement. Additionally, 20.41% of students reported using digital banking for less than 1 year, potentially representing those who have recently initiated their digital banking journey. A smaller but still noteworthy segment of the sample included 9.62% who have been using digital banking for 3-4 years and only 5.83% who have utilized these services for over 4 years, signifying a longer-term engagement with digital banking platforms.

When considering the ways in which students engage with DBS by examining the choice of digital infrastructure our findings reflect a diverse range of preferences among respondents, with a total of 427 responses recorded due to the allowance for multiple selections (see table 2). Mobile phones emerged as the favored choice, with 97% of students utilizing this device for accessing DBS. On the contrary, only 16% of students opted for laptop computers, while 11% chose desktop computers, indicating a preference for larger screens, better overview of the bank app and potentially enhanced functionality for certain requests. These findings underline the necessity to adopt digital banking to mobile phones which is a crucial consideration for financial institutions seeking to provide inclusive and user-centric digital banking experiences for students.

**Table 2. The ways in which students engage with DBS**

	Frequencies	Percentage (of 343 respondents)
Mobile phone	334	97.38%
Lap-top computer	56	16.33%
Desktop computer	37	10.79%
Total	427	n.a.

**Choice of bank.** First, we examined the determinants influencing students' choice of bank by utilizing a Likert scale ranging from 1 (least important) to 5 (most important) to assess the significance of various factors. The results in table 3 show that students, on average, gave the highest importance to the cost of transactions (mean = 3.85), suggesting that financial considerations play a pivotal role in their bank selection process. Following closely, the availability of DBS (mean = 3.80) emerged as another key determinant, highlighting the growing importance of technological convenience in modern banking. Additionally, the proximity of the branch (mean = 3.23) and bank offers for students (mean = 3.60) also held moderate importance in students' decision-making. Conversely, the option of banks providing student loans and scholarships (mean = 2.76) was rated relatively lower.

**Table 3. Factors influencing the choice of the bank**

Factor	1	2	3	4	5	Average
Proximity of the branch	50	43	98	83	69	3.23
Cost of transactions	30	23	56	94	140	3.85
I chose the bank that is paying student loans and scholarships	151	24	29	34	105	2.76
Bank offer for students	45	21	77	85	115	3.60
The availability of DBS	35	20	61	89	138	3.80

**Frequency of DBS usage.** Second, we examined the frequency of digital banking service usage among the surveyed student population. The results are shown in table 4 and reveal a diverse pattern of digital banking engagement. The largest proportion of students (34.11%) indicated that they use DBS at least once per week indicating a recurrent and routine usage. A substantial portion of 26.82% reported a daily integration, suggesting strong and consistent reliance on digital financial platforms. A further 25.95% acknowledged sporadic engagement, opting for digital transactions once or twice a month. Notably, a minority of students, constituting 9.33%, exhibited a rare engagement frequency, utilizing digital banking services once in a three-month interval. A marginal 3.79% conveyed an absolute abstention from digital banking services. The collective portrayal of these responses underscores a diverse spectrum of digital banking utilization patterns, signifying various habits within the student demographic.

**Table 4. Frequency of DBS usage**

<b>Frequency of Usage</b>	<b>No of responses</b>	<b>Percentage</b>
At least once per week	117	34.11%
Every day	92	26.82%
Sometimes (once or twice a month)	89	25.95%
Rare (once in three months)	32	9.33%
Never	13	3.79%
<b>Total</b>	<b>343</b>	<b>100.00%</b>

**Variety of DBS.** Third, we delved into the specific types of DBS that students engage with, shedding light on their preferences within the digital banking landscape, allowing them to select multiple options. The findings reveal a multifaceted engagement with DBS, with a total of 723 responses recorded, reflecting the diversity of preferences within this demographic. Notably, money transfer emerged as the most widely used digital banking service, chosen by 86.01% of the students, underlining the vital role of digital platforms in facilitating financial transactions. Paying bills also featured prominently, with 68.80% of students indicating its use, demonstrating the convenience of digital banking in managing financial obligations. Additionally, online application and repayment of student loans and scholarships were selected by 31.20% of students, illustrating the increasing reliance on digital channels for educational financial matters. Money exchange and online opening of bank accounts, while chosen by smaller proportions (14.87% and 9.91%, respectively), further emphasize the versatile range of digital services that resonate with students, shedding light on the evolving landscape of banking preferences in the digital era.

**Table 5. Variety of DBS**

Type of digital Service	Number of responses	Percentage (of 343 respondents)
Money transfer	295	86.01%
Paying bills	236	68.80%
Online application and repayment of student loans and scholarships	107	31.20%
Money exchange	51	14.87%
Online opening bank account	34	9.91%
<b>Total</b>	<b>723</b>	<b>n.a.</b>

**Motivation to use DBS.** Similarly, to previous questions, we investigated the determinants influencing students' adoption of DBS, using again a Likert scale ranging from 1 (least important) to 5 (most important). In this area, timesaving emerged as the most influential factor with an average score of 4.68, indicating that students highly value the efficiency and convenience that digital banking offers in terms of managing their financial affairs. User-friendly apps are also of utmost importance, with an average score of 4.43, highlighting the significance of intuitive and accessible interfaces in attracting student users. Additionally, flexibility in terms of both time and place (average score of 4.48) played a crucial role in students' choices, underscoring the preference for DBS that offer versatility in accessing and managing finances. Lower costs, while still relevant, received a relatively lower average score of 3.66, suggesting that cost considerations, while not insignificant, are less dominant in students' decision-making process for adopting DBS. These findings provide valuable insights into the multifaceted motivations driving students to embrace digital banking, which can inform financial institutions in tailoring their services to meet the specific needs and preferences of this demographic.

**Table 6. Motives to use DBS**

Motive	1	2	3	4	5	Average
Low costs	29	37	80	73	124	3.66
Time saving	4	6	21	34	278	4.68
User friendly app	6	9	39	67	222	4.43
Flexibility (place, time)	5	10	36	55	237	4.48

**Risks and disadvantages of DBS.** In this research, we assessed students' perceptions of the risks and disadvantages associated with digital banking, utilizing a Likert scale that ranges from 1 (indicating the lowest perceived risk or disadvantage) to 5 (signifying the highest perceived risk or disadvantage) to gauge the significance of

various concerns. The results highlight a nuanced perspective among students. Data safety, with an average rating of 3.19, was considered a notable concern, underscoring the importance of safeguarding personal and financial information in digital banking transactions. A significant proportion of students expressed apprehensions about user unfamiliarity with DBS, reflected by an average score of 3.42, suggesting the need for improved user education and interface accessibility. Nonfunctional apps for digital banking were perceived as a moderate concern, with an average score of 3.04. Moreover, students indicated a relatively high level of apprehension regarding the threat of financial fraud (average score of 3.36), emphasizing the need for robust security measures. Regulatory restrictions for digital banking received a lower average rating of 2.84, suggesting that students may perceive this as a less prominent disadvantage. These findings offer valuable insights into students' perceptions of risks and disadvantages associated with digital banking, which can inform financial institutions in addressing these concerns to enhance user confidence and adoption of DBS.

**Table 7. Risks and disadvantages of DBS**

Risk/disadvantage	1	2	3	4	5	Average
Data safety	35	73	86	89	60	3.19
Users are unfamiliar with DBS	17	50	121	83	72	3.42
Nonfunctional app for digital banking	48	75	87	80	53	3.04
Threat of financial fraud	28	59	87	100	69	3.36
Regulatory restrictions for digital banking	40	93	120	62	28	2.84

Finally, the overall students' satisfaction with DBS was assessed using a Likert scale, where respondents were asked to rate their level of satisfaction from 1 (very unsatisfied) to 5 (very satisfied). The results reveal a notably high average satisfaction score of 4.18, suggesting that most students are satisfied with their digital banking experiences. The preponderance of responses towards the higher end of the Likert scale (see table 8), particularly in the "4" and "5" categories, indicates a favorable perception of DBS among the student population, underscoring their overall satisfaction with these financial technology offerings.

**Table 8. The overall students' satisfaction with DBS**

	1	2	3	4	5	Average
Number of responses	1	5	50	162	125	4,18

**The future of DBS development.** Students' expectations regarding the development of digital banking services were again assessed using a Likert scale ranging from 1 (indicating very low expectations) to 5 (indicating very high expectations). The

findings demonstrate a collectively optimistic outlook among students regarding the future of digital banking (see table 9).

**Table 9. Expected trends in DBS**

Expected trend	1	2	3	4	5	Average
Increasing number of digital products and services	4	18	90	120	111	3,92
Improvement of transactions' safety	4	21	58	84	176	4,19
Simplification of apps for end users	7	20	77	81	158	4,06
Further diversification of digital services	2	15	65	93	168	4,20

Students expressed high expectations for the improvement of transaction safety, with an average score of 4.19, underscoring the significance of secure financial interactions. Additionally, the simplification of apps for end users, which garnered an average score of 4.06, emerged as another crucial expectation, highlighting the importance of user-friendly interfaces. Furthermore, students expressed a strong desire for further diversification of digital services, with an average score of 4.20, suggesting an expanding interest in new offerings. The increasing number of digital products and services the bank could offer in the future also received high level of students' expectations. These findings illustrate the students' proactive stance in anticipating enhancements in digital banking services, emphasizing their aspirations for increased security, usability, and versatility in the digital banking landscape.

#### 4. Conclusions

This paper examines students' perspective in using digital banking services in Serbia. To research the topic, the authors have applied the empirical survey, in the form of questionnaire, among students' population in Serbia. This population group has already become, or very soon will become, bank clients. To attract them and retain their loyalty, banks should adjust their business models towards digitally and technologically state-of-the-art solutions.

Having in mind the fact that most of the examinees still do not have full time job, for being full time students, it is expected that research sample reveals the varying degrees of experience and familiarity with digital banking services among students in Serbia. Totally, most of the sample uses DBS in period less than 3 years. When analyzing preferred channel of doing DBS, most of the students choose smart phones. Overall students' satisfaction with DBS is at a high level, and students appreciate the technological development of banking offerings. The question regarding bank selection reveals that the most influential factor for the students is the costs of doing financial transactions. Authors also examined the frequency of digital banking service usage among the surveyed student population. The results showed diverse pattern of digital banking engagement with the largest proportion of

students specifying that they use DBS once per week. Further, research has shown that, considering the type of digital banking services students use the most, are money transfer and paying bills, emphasizing the vital role of digital platforms in facilitating financial transactions. Students perceive flexibility in time and place and timesaving as the most important determinants of their motivation for using DBS. For this research it was also noteworthy to reveal students' perception of risk and disadvantages that DBS carry. Threat of financial fraud and unfamiliarity with DBS have the highest ranking of risk and disadvantages for students when using DBS. These findings offer valuable insights for banks to focus on these concerns to boost user confidence and adoption of DBS. The findings on students' expectations regarding the development of digital banking services express an optimistic outlook with the further diversification of digital services as their main aspiration.

The results of this research could be used by banks to reveal students' perception on digital banking service, and to help them create adequate digital services. Students today are digitally native generations that prefer to do financial services from anywhere any time, fast and with low costs. Banks should work on enhancing their digital services according to their demand and conveniently improve customer experience of younger generations.

This research is a part of the broader research conducted in the same period, by the same authors, covering costumers' perspective of digital banking services in Serbia, but for those customers that have already been using DBS for a while. In this paper authors wanted to enlighten one segment, students' population, as a new segment for the banking client's base. Further research on this topic would include more profound analyses to find out factors that strongly influence students' satisfaction with digital banking services, and accordingly, to help banking institutions to pivot their business models in that direction.

## References

- Ahmed, S., & Sur, S. (2021). Change in the uses pattern of DBS by Indian rural MSMEs during demonetization and Covid-19 pandemic-related restrictions. *Vilakshan - XIMB Journal of Management*. <https://doi.org/10.1108/xjm-09-2020-0138>
- Alalwan, A.A., Dwivedi, Y.K., Rana, N.P. & Simintiras, A.C. (2016), "Jordanian consumers' adoption of telebanking influence of perceived usefulness, trust and self-efficacy", *International Journal of Bank Marketing*, Vol. 34 No. 5, pp. 690-709.
- Alnemer, H.A. (2022). Determinants of digital banking adoption in the Kingdom of Saudi Arabia: A technology acceptance model approach. *Digital Business*. 2(2). ISSN 2666-9544, <https://doi.org/10.1016/j.digbus.2022.100037>.
- Barjaktarović Rakočević, S., Milošević, S., Rakić, N. (2022). Digital Banking Services from Customer Perspective. In: Mihić, M., Jednak, S., Savić, G. (eds) *Sustainable Business Management and Digital Transformation: Challenges and Opportunities in the Post-COVID Era*. SymOrg 2022. Lecture Notes in Networks and Systems, vol 562. Springer, Cham. pp-210-227. [https://doi.org/10.1007/978-3-031-18645-5\\_13](https://doi.org/10.1007/978-3-031-18645-5_13)

- Barjaktarović Rakočević, S., Rakić, N., Ignjatović, M., & Stevanović, M. (2021). Financial literacy and the use of financial services in Serbia. *Anali Ekonomskog Fakulteta U Subotici*, 57(46), 105-114. <https://doi.org/10.5937/AnEkSub2146105B>
- Bharathi S, V., Pramod, D., & Raman, R. (2022). An ensemble model for predicting retail banking churn in the youth segment of customers. *Data*, 7(5), 61. <https://doi.org/10.3390/data7050061>
- Chauhan, S., Akhtar, A. & Gupta, A. (2022), "Customer experience in digital banking: a review and future research directions", *International Journal of Quality and Service Sciences*, Vol. 14 No. 2, pp. 311-348. <https://doi.org/10.1108/IJQSS-02-2021-0027>
- Divya MP, M. & Hebbar, C. K. (2021). A Case Study on Youth Perception Toward Mobile Banking Usage-With Reference to Students of Mangalore City. *EPRA International Journal of Multidisciplinary Research (IJMR)*. 7(5). Journal DOI: 10.36713/epra2013. ISSN (Online), 2455-3662.
- European Commission (2020). [https://finance.ec.europa.eu/digital-finance/what-digital-finance\\_en](https://finance.ec.europa.eu/digital-finance/what-digital-finance_en) Retrieved 12.5.2023.
- Galvin, J., Han, F., Hynes, S., Qu, J., Rajgopal, K., & Shek, A. (2018). Synergy and disruption: Ten trends shaping fintech. Retrieved from McKinsey & Company: <https://www.mckinsey.com/industries/financial-services/our-insights/synergy-and-disruption-ten-trends-shaping-fintech>
- Jain, M. (2023). A Study of Financial Literacy Level towards Electronic Banking Amongst Youth. *Journal of Corporate Finance Management and Banking System (JCFMBS) ISSN : 2799-1059*, 3(03), 39–55. <https://doi.org/10.55529/jcfmbs.33.39.55>.
- Kangwa, D., Mwale, J. T., & Shaikh, J. M. (2021). The Social Production of Financial Inclusion of Generation Z in Digital Banking Ecosystems, *Australasian Accounting, Business and Finance Journal*, 15(3), pp. 95-118. doi:10.14453/aabfj.v15i3.6
- Kaur, S. J., Ali, L., Hassan, M. K., & Al-Emran, M. (2021). Adoption of digital banking channels in an emerging economy: Exploring the role of in-branch efforts. *Journal of Financial Services Marketing*, 26(2), 107–121. <https://doi.org/10.1057/s41264-020-00082-w>
- Mansurovna, M.L. (2023). Digital banking, its advantages and disadvantages. *BioGecko*, 12(3): 5189-5193.
- Marinković, S., Barjaktarović Rakočević S., & Tornjanski V. (2022). Enhancing innovation management competences in banking. 25th Excellence in Services International Conference - EISIC, pp. 1-15, ISBN: 9791221015904.
- Martínez-Navalón, J.G., Fernández-Fernández, M. & Alberto, F.P. (2023). Does privacy and ease of use influence user trust in digital banking applications in Spain and Portugal?. *Int Entrep Manag J* 19. 781–803 <https://doi.org/10.1007/s11365-023-00839-4>
- MasterCard Data & Services (2020). <https://www.mastercardservices.com/en/solutions/payments/mastercard-market-trends/digital-first-youth-banking-trends> Retrieved 10.7.2023.
- McKinsey & Company. (2021). Emerging markets leap forward in digital banking innovation and adoption. <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/emerging%20markets%20leap%20forward%20in%20digital%20banking%20innovation%20and%20adoption/emerging-markets-leap-forward-in-digital-banking-innovation-and-adoption.pdf>. Retrieved 10. July, 2023.
- McKinsey & Company. (2022). <https://www.mckinsey.com/industries/financial-services/our-insights/global-banking-annual-review#/> Retrieved 10.7.2023.

- Milošević, N., Dobrota, M., & Barjaktarović Rakočević, S. (2018). Digital economy in Europe: Evaluation of countries' performances. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, 36(2), 861-880. <https://doi.org/10.18045/zbefri.2018.2.861>
- Murugan, R. T., Vidya, N. G., & Sundar, S. (2022). Predictors of Customer Loyalty in Digital Banking among Indian Youth. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*. 10 (V). <https://doi.org/10.22214/ijraset.2022.42344>
- OECD (2020), *Advancing the Digital Financial Inclusion of Youth*, [www.oecd.org/daf/fin/financial-education/advancing-the-digital-financial-inclusion-of-youth.htm](http://www.oecd.org/daf/fin/financial-education/advancing-the-digital-financial-inclusion-of-youth.htm) Retrieved 11.7.2023.
- OECD (2022). <https://www.oecd.org/financial/education/Digitalisation-of-Consumer-Finance-and-Financial-Education-in-South-East-Europe-Policy-Brief.pdf> OECD. Retrieved 18.5.2023.
- Ponsree, K., Phongpaew, T., & Naruetharadhol, P. (2023). Study of Thai Youths in the Northeastern Region of Thailand on the Effectiveness of Digital Payment Behavior, *Journal of Promotion Management*, 29:4, 569-605, DOI: 10.1080/10496491.2022.2163035
- Rudy & Zhafran, R. N. (2022). "Comparison of Social Media Marketing Strategy of Indonesian Digital Bank Companies in Attracting Unbanked Youths," *2022 International Conference on Information Management and Technology (ICIMTech)*, Semarang, Indonesia, pp. 351-356, doi: 10.1109/ICIMTech55957.2022.9915086.
- Sharma, M., Banerjee, S., & Paul, J. (2022). Role of social media on mobile banking adoption among consumers. *Technological Forecasting and Social Change*, Volume 180, 121720, ISSN 0040-1625, <https://doi.org/10.1016/j.techfore.2022.121720>.
- Sharma, P. B., & Sarmah, R. (2020). Perception and Awareness of Youth towards Digital India Campaign, *International Journal of Management*, 11(6), pp. 1381-1393. <http://www.iaeme.com/IJM/issues.asp?JType=IJM&VType=11&IType=6>
- Shree P.N, Sanuja & Gurusamy, Dr. S. and Balaji, P. (2019). Perception of Youth Towards Mobile Banking Usage Intention – An Empirical Study *Journal of Management*, 6 (2), pp. 293–301, Available at SSRN: <https://ssrn.com/abstract=3526114>.
- Srinivas, V., & Ros, A. (2018.) Accelerating digital transformation in banking, Findings from the global consumer survey on digital banking. Deloitte Insights. <https://www2.deloitte.com/us/en/insights/industry/financial-services/digital-transformation-in-banking-global-customer-survey.html> Retrieved 10.7.2023.
- Stankovic, J., Stakovic, J, & Tomić, Z. (2022). Factors affecting digital transformation of insurance in the Republic of Serbia. *Economic Themes* 60(1): 133-149, DOI 10.2478/ethemes-2022-0008
- Statista (2020). <https://www.statista.com/statistics/1228757/online-banking-users-worldwide/> Retrieved 10.7.2023.
- Statista (2022). <https://www.statista.com/statistics/1228241/neobanks-global-market-size/> Retrieved 10.7.2023.
- Thakor, A. V. (2019). Fintech and banking: what do we know? *Journal of Financial Intermediation*, 100833.doi:10.1016/j.jfi.2019.100833.
- Valsamidis, S., Tsourgiannis, L., Pappas, D., & Mosxou, E. (2020). Digital Banking in the New Era: Exploring Customers' Attitudes. In: Horobet, A., Polychronidou, P., Karasavvoglou, A. (eds) *Business Performance and Financial Institutions in Europe*. Contributions to Economics. Springer, Cham. [https://doi.org/10.1007/978-3-030-57517-5\\_6](https://doi.org/10.1007/978-3-030-57517-5_6)

World bank, (2020). <https://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf> World Bank Group. Retrieved 15.5.2023.

## **USLUGE DIGITALNOG BANKARSTVA - PERSPEKTIVA STUDENATA**

**Rezime:** Broj korisnika usluga digitalnog bankarstva porastao je u poslednjoj deceniji, zbog činjenice da se bankarske usluge digitalnim putem obavljaju lakše, brže i po nižoj ceni od bankarskih usluga koje se obavljaju na tradicionalni način licem u lice. Banke bi trebalo da rade na poboljšanju svojih digitalnih usluga u skladu sa njihovom potražnjom i da na odgovarajući način poboljšaju korisničko iskustvo. To se posebno odnosi na mlađe generacije koje još uvek nisu klijenti banke u punom kapacitetu. Cilj ovog rada je da se otkrije percepcija studenata o uslugama digitalnog bankarstva u Srbiji. Istraživanja su sprovedena putem empirijske ankete u vidu onlajn upitnika, a primenjena je deskriptivna statistika. Rezultati su pokazali raznovrstan obrazac uključivanja studenata u usluge digitalnog bankarstva sa najvećim segmentom studenata koji koriste DBS najmanje jednom nedeljno. Prema ovom istraživanju, studenti usluge banaka najčešće koriste za transfer novca i plaćanje računa, naglašavajući time vitalnu ulogu digitalnih platformi u obavljanju finansijskih transakcija. Ukupno zadovoljstvo studenata DBS-om je na visokom nivou, a studenti pozitivno ocenjuju upotrebu tehnologija u razvoju bankarskih usluga. Rezultate ovog istraživanja banke bi mogle da iskoriste kako bi razumele stavove studenata o digitalnim bankarskim uslugama i da im pomogne da kreiraju adekvatne digitalne usluge usmere svoje poslovne modele u tom pravcu.

**Ključne reči:** banke, usluge digitalnog bankarstva - DBS, mobilno bankarstvo, perspektiva studenata, mladi

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