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CONSUMERS' INTENTIONS TOWARDS THE USE OF INTERNET BANKING IN SERBIA: INTEGRATION OF EXPANDED UTAUT AND QUALITY OF E-SERVICES

Abstract: *The subject of this paper's research is the intention of consumers in Serbia to use Internet banking services. The study aims to assess the impact of the factors included in UTAUT, UTAUT 2, and E-SQ on the intention of consumers in Serbia to use Internet banking services. The key constructs of the UTAUT and UTAUT 2 models were used in the research: performance expectancy, effort expectancy, social influence, and hedonic motivation, as well as the three dimensions of E-SQ: security and privacy, responsiveness, and costs. Correlation analysis showed a positive and statistically significant linear correlation among the used variables. Multivariate regression analysis showed that only performance expectancy and responsiveness were significant predictor variables.*

Keywords: *internet banking services, intention to use, UTAUT, E-SQ, Serbia*

1. Introduction

The banking industry has not remained immune to the accelerated technological changes that have become a global phenomenon (Yaseen & El Qirem, 2018; Stefanović et al., 2024). Aware of the benefits that high technology can bring to their business, banks have created new product distribution channels based on the technologies mentioned above, primarily the Internet (Al-Ajam & Md Nor, 2015). Thus, banks mainly adapt to changes in their clients' lives, business habits, and wishes (Bashir & Madhavaiah, 2015; Sedkaoui, 2024), offering improved products with significantly lower costs and more efficient marketing (Yaseen & El Qirem, 2018).

While Internet banking offers significant benefits to its users, its widespread acceptance is not guaranteed. There are

numerous factors that influence consumers' intention to use Internet banking services. Understanding these factors is not just a key prerequisite for the success of banks in the Internet banking sector, but also an engaging area of research that can provide valuable insights into consumer behavior (Bashir & Madhavaiah, 2015).

Many studies have examined the factors influencing consumers' intentions to accept and use Internet banking services. Researching the Jordanian market, AbuShanab and Pearson (2007) reveal that performance expectancy, effort expectancy, and social influence are the main predictors of consumers' intention to adopt Internet banking, while Yaseen & El Qirem (2018) as three main predictors identify performance expectancy, social influence and perceived e-banking services quality. Alalwan et al. (2018) prove in their study that performance

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expectancy, effort expectancy, hedonic motivation, price value, and perceived risk are key factors that influence the intentions of Jordanian consumers towards the use of Internet banking, while social influence did not show a significant effect on their intentions. The weak importance of social influence as a determinant of consumer intentions regarding Internet banking is confirmed by the analysis of data collected from three countries – Jordan, Saudi Arabia, and Egypt (Al-Qeisi & Hegazy, 2015). Regarding the factors that influence the refusal to use e-banking services in Jordan, Anouze and Alamro (2020) point out that perceived ease of use, perceived usefulness, security, and reasonable prices are the main barriers to using these services.

Chaouali et al. (2016) examined Tunisian consumers' intentions regarding the adoption of Internet banking. Based on their results, they concluded that trust in Internet banking services has the strongest influence on their intentions, followed by customers' counter-conformity motivation and performance expectancy. According to the same study, social influence and trust in the physical bank indirectly influence consumers' intentions to adopt Internet banking. Based on research conducted in Turkey, Oruç and Tatar (2017) found that the benefits of Internet Banking, communication, and convenience strongly influence consumers to choose and use Internet banking services. The most significant factors that encourage consumers to use Internet banking services in Vietnam are perceived usefulness, trust, and government support, while in Thailand, it was found that they are features of the website and perceived usefulness (Yee-Loong Chong et al., 2010; Jaruwachirathanakul & Fink, 2005). Similar results are reached by Devi Juwaheer et al. (2012), who confirm that perceived usefulness, ease of use, trust, and security are the main determinants of Internet banking adoption in Mauritius. Surveying Internet banking users in Lebanon, Tarhini et al. (2016) found that performance expectancy, social influence, perceived

credibility, and task-technology fit positively relate to consumers' intention to use Internet banking. According to Al-Ajam & Md Nor (2015), attitude, subjective norms, and technology readiness significantly influence consumer intentions to adopt Internet banking in Yemen. Safari et al. (2022) focus on Internet banking in a country with an underdeveloped banking sector, the Republic of Congo. Their research findings indicate that users' intentions to continue using Internet banking are determined by attitudes and perceived usefulness, while non-users' intentions to start using Internet banking are determined by attitudes, web security, and perceived usefulness.

In two separate studies in Pakistan, Rahi & Abd.Ghani (2019) and Rahi et al. (2018) sought to determine the key factors influencing users' intentions to adopt online banking. The first study determined that performance expectancy, effort expectancy, website design, customer service, assurance, and reliability directly and significantly influence the intentions of users, while another study identified assurance as the most influential factor.

Namahoot & Laohavichien (2018) examine the relationships between five dimensions of service quality and general intentions to use Internet banking and find that service quality through perceived risk and trust indirectly affects the intentions of Thai consumers. An interesting survey was conducted among the clients of Malaysia's domestic and foreign Islamic banks. The results indicated that performance expectancy, effort expectancy, price value, facilitating conditions, and habit are the main drivers of intentions that lead to the adoption of Internet banking (Mohd Thas Thaker et al., 2022).

Valuable results have been produced by several studies conducted in India. According to Patel & Patel (2018), intentions to use Internet banking services in India are positively influenced by perceived security, perceived usefulness, perceived ease of use, and social influence. In a somewhat older

study, Bashir and Madhavaiah (2015) show that attitudes, perceived risk, enjoyment, and trust directly determine Indian consumers' intention to use Internet banking. Another quantitative study was conducted in India on a sample of younger consumers, and it was determined that attitudes, perceived usefulness, subjective norms, and perceived behavioral control significantly influence consumer intentions to adopt Internet banking, while perceived risk did not show a significant impact on their intentions (Yadav et al., 2015). Testing the tendency of Generation X and Generation Z members to switch from traditional banks to Internet-only banks, Park et al. (2024) prove a greater tendency of Generation Z to leave traditional banking due to discomfort with traditional banks. Nevertheless, when older consumers accept Internet banking, they do so due to the significant influence of habits, performance expectancy, price value, and effort expectancy (Arenas-Gaitán et al., 2015).

Consumers in EU countries and the USA show similar characteristics in their behavior towards the use of Internet banking services. In Portugal, it was found that social influence, performance expectancy, and effort expectancy are the strongest predictors of consumers' intention to adopt Internet banking (Martins et al., 2014). In their study, Eriksson et al. (2005) emphasize the importance of perceived usefulness, which depends on whether there will be a greater use of Internet banking in Estonia. However, if clients are satisfied with traditional banking, it can be an obstacle to continue using Internet banking, so the perception of Internet banking as a useful channel does not increase consumer loyalty (Eriksson & Nilsson, 2007). In a survey conducted in Poland, it was determined that the lack of formal education and Internet experience are the main obstacles to the adoption of Internet banking, which further indicates that specific segments of users still consider the use of these services complex (Polasik & Piotr Wisniewski, 2009). Two empirical studies conducted in Greece to identify the most important factors that shape

intentions to accept Internet banking indicate that these are the following factors: compatibility, perceived usefulness, perceived ease of use, and perceived risk elements, primarily performance risk (Giovanis et al., 2012; Maditinos et al., 2013). Focusing on three e-banking technologies, Kolodinsky et al. (2004) single out relative advantage, complexity/simplicity, compatibility, observability, risk tolerance, and product involvement among the factors influencing consumers' intentions to adopt these technologies. However, a cross-cultural study conducted in the US and Malaysia explains that global consumers have different adoption patterns of Internet banking due to cultural differences. The results of this study showed that perceived credibility is a crucial determinant of Internet banking adoption in the US, while performance expectancy is the most influential factor in Malaysia (Yuen et al., 2015).

The structure of the paper consists of the following sections: the introduction section, which includes the literature review; the research methodology section; the hypotheses development and research framework section; the research methodology section, the research results section; and, finally, the discussion and conclusion section.

2. The hypotheses development and research framework

The conceptual model used in this study combines key factors of the UTAUT model and selected dimensions of the E-SQ. This study uses the UTAUT model because no previous studies have used this model in the context of Internet banking among users in Serbia. Only a few studies from Serbia tested the validity of this model in the context of mobile commerce and mobile banking (Savić & Pešterac, 2019; Marinković et al., 2020; Vidosavljević et al., 2025). The four key constructs of the UTAUT model, which are assumed to play a significant role in users' intention to use technology and their behavior, are performance expectancy, effort

expectancy, social influence, and facilitating conditions. For this study, the UTAUT model was modified by adding hedonic motivation, which was taken from the extended UTAUT2 model (Venkatesh et al., 2012), while the relationship between facilitating conditions and use behavior was omitted because we only observed the intention to use Internet banking services and its determinants. In

addition, three dimensions of E-SQ, security and privacy, responsiveness and costs, are included in the conceptual model (Zeithaml et al., 2000). Therefore, the study tests the relationships between seven independent variables and the behavioral intention of Internet banking services as a dependent variable (Figure 1).

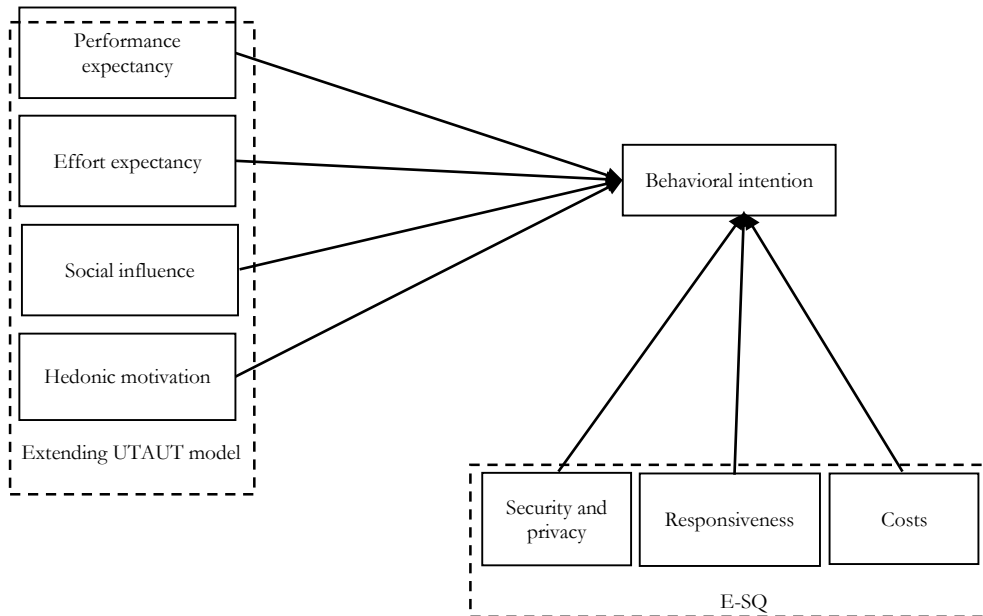


Figure 1. Conceptual model

2.1 Performance expectancy

Performance expectancy, as the equivalent of perceived usefulness in the Technology Acceptance Model (TAM) and relative advantage in the Innovation Diffusion Theory (IDT), represents „the degree to which using a technology will provide benefits to consumers in performing certain activities“ (Venkatesh et al., 2012). In Internet banking, performance expectations are related to an individual's belief that using Internet banking will help them improve their banking performance (Martins et al., 2014). This implies realizing Internet banking's numerous benefits, such as „saving time and effort, efficiency, accessibility,

customization, and convenience“ (Alalwan et al., 2018). Performance expectancy is recognized as one of the most influential drivers of consumers' intentions to adopt and use Internet banking (AbuShanab & Pearson, 2007; Martins et al., 2014; Arenas-Gaitán et al., 2015; Chaouali et al., 2016; Tarhini et al., 2016; Alalwan et al., 2018; Rahi et al. 2018; Mohd Thas Thaker et al., 2022). Only Yaseen & El Qirem (2018) find in their study that performance expectancy is not a significant predictor of intentions to use these services. Accordingly, the following hypothesis is put forward:

H1: Performance expectancy positively affects the intention to use Internet banking services.

2.2 Effort expectancy

Effort expectancy, which is similar to perceived ease of use (perceived ease of use) in the TAM model and complexity in the Model of PC Utilization (MPCU), is „defined as the degree of ease associated with the use of the system“ (Venkatesh et al., 2003). Internet banking refers to how easy it is for customers to manage Internet banking (Mohd Thas Thaker et al., 2022). Users who find Internet banking services easy to use and do not require much effort are likelier to adopt them (Tarhini et al., 2016). Although Chaouali et al. (2016) and Tarhini et al. (2016) do not find a significant effect of effort expectancy on behavioral intentions, most earlier studies confirm a significant relationship between effort expectancy and users' intention to adopt and use Internet banking (AbuShanab & Pearson, 2007; Martins et al., 2014; Arenas-Gaitán et al., 2015; Alalwan et al., 2018; Yaseen & El Qirem, 2018; Rahi et al. 2018; Rahi & Abd.Ghani 2019). Accordingly, the following hypothesis is put forward:

H2: Effort expectancy positively affects the intention to use Internet banking services.

2.3 Social influence

Social influence, which is similar to the subjective norm in the Theory of Reasoned Action (TRA) and image in the IDT model, is defined as „influence is defined as the degree to which an individual perceives that important others believe they should use the new system“ (Venkatesh et al., 2003). It is the social pressure exerted by friends, relatives, co-workers, and the media on an individual to adopt Internet banking (Martins et al., 2014; Tarhini et al., 2016). Several studies prove the important role of social influence in predicting consumers' intentions to adopt online banking (AbuShanab & Pearson, 2007; Martins et al., 2014; Tarhini et al., 2016; Patel & Patel, 2018; Rahi et al., 2018; Yaseen & El Qirem, 2018). In contrast, Alalwan et al. (2018) and Mohd Thas Thaker et al. (2022)

show that social influence is not a significant determinant of consumer intentions. The above points to the following hypothesis:

H3: Social influence positively affects the intention to use Internet banking services.

2.4 Hedonic motivation

Hedonic motivation is „defined as the fun or pleasure of using a technology“ (Venkatesh et al., 2012). Alalwan et al. (2018) point out that hedonic motivation includes several factors, such as fun, enjoyment, and playfulness, and according to the results of their study, it represents a significant determinant of the intention to use Internet banking. Bashir & Madhavaiah (2015) come to similar conclusions, revealing that perceived enjoyment significantly affects consumers' intentions to use Internet banking. Abikari (2024) also confirms that hedonic motivation is related to perceived risk and, consequently, their intention to adopt emerging e-banking technology.

In contrast, some studies did not recognize hedonic motivation as a significant predictor of consumer intentions (Yaseen & El Qirem, 2018; Mohd Thas Thaker et al., 2022). Considering the results of earlier studies, the following hypothesis is derived:

H4: Hedonic motivation positively affects the intention to use Internet banking.

2.5 E-Services Quality (E-SQ)

E-Service Quality refers to the quality of services offered online, using the Internet or a website (Rahi et al., 2019). According to Parasuraman et al. (2005) the quality of e-services is determined by „the extent to which a Web site facilitates efficient and effective shopping, purchasing, and delivery“. Analyzing the relationship between dimensions of e-banking service quality and customer satisfaction in Lebanon, Hammoud et al. (2018) conclude that efficiency, reliability, responsiveness and communication, and security and privacy are the main determinants of user satisfaction.

Khatoun et al. (2020) reveal that dimensions such as reliability, efficiency, responsiveness, communication, security, and privacy affect the satisfaction of banking clients and their intention to purchase e-banking services. Consumer concern for the privacy and security of Internet transactions is an important factor on which the use of online banking services depends (Salem et al., 2019; Polasik & Piotr Wisniewski, 2009). Responsiveness is the „willingness to support the bank's customers and deliver prompt service“ (Madu & Madu, 2002, cited in Hammoud et al., 20183). As such, responsiveness significantly affects users' evaluation of the quality of Internet banking services (Sohail & Shaikh, 2008). Internet banking is also essential because it reduces the financial and time costs of accessing and using banking services. According to Lee & Kim (2020), economic efficiency is important in the post-adaptive phase and significantly influences clients' intentions to continue using Internet banking services. Based on the above, the following hypotheses can be formulated:

H5: Security and privacy positively affect the intention to use Internet banking.

H6: Responsiveness positively affects the intention to use Internet banking.

H7: The cost advantages of Internet banking positively affect the intention to use these services.

3. Research methodology

The study presented in this paper is based on findings obtained in quantitative research using the survey technique. A structured questionnaire that included three parts was used as an instrument. The first part consists of four questions that reveal habits regarding the use of Internet banking services, with the first question being a filter question that separates the group of Internet banking users from those who have never used Internet banking services. The second part consists of 34 statements (items) measured on a five-point Likert scale that refer to the observed variables of Internet banking (1 – I do not agree at all, 5 – I completely agree). Findings from this part of the questionnaire were grouped into eight variables and were taken and adapted from relevant scientific studies (Table 1).

Table 1. Variables, items, and source

Variables	Items	Source
Performance expectancy	PE1. I find Internet banking useful for daily financial transactions.	Venkatesh et al., 2003; Venkatesh et al., 2012
	PE2. Using Internet banking allows me to complete banking transactions faster.	
	PE3. Using online banking increases my productivity.	
	PE4. Using online banking increases my chances of achieving what I care about.	
Effort expectancy	EE1. It is easy for me to learn to use Internet banking services.	Venkatesh et al., 2003; Venkatesh et al., 2012
	EE2. My interaction with Internet banking is clear and understandable.	
	EE3. It is easy to become proficient in using Internet banking services.	
	EE4. I find online banking easy to use.	
Social influence	SI1. People who are important to me think I should use Internet banking services.	Venkatesh et al., 2003; Venkatesh et al., 2012
	SI2. People who influence my behavior think that I should use Internet banking services.	
	SI3. My bank supports the use of Internet banking services.	
	SI4. Using Internet banking services is a status symbol in my environment.	

Table 1. Variables, items, and source (continued)

Variables	Items	Source
Hedonic motivation	HM1. Using Internet banking services is fun.	Venkatesh et al., 2012
	HM2. Using Internet banking services is enjoyable.	
	HM3. Using Internet banking services is very pleasant.	
Security and privacy	SP1. Online banking services do not allow others to access my accounts.	Hammoud et al., 2018
	SP2. Internet banking services ensure personal privacy.	
	SP3. I feel safe doing my banking transactions online.	
	SP4. The Internet banking site does not share my personal information with other sites.	
	SP5. Internet banking security devices protect the data I send.	
Responsiveness	R1. When I use Internet banking, a little time passes from initiating the activity to the website's response.	Lee & Lee, 2020
	R2. Internet banking enables fast processing of transactions.	
	R3. Internet banking enables quick response to customer complaints.	
	R4. Internet banking enables quick processing of client requests.	
	R5. Internet banking provides instant services to clients.	
Costs	C1. Internet banking services are very cheap.	Altobishi et al., 2018
	C2. Internet banking services contribute to the reduction of the prices of banking services.	
	C3. Internet banking services save money that we would spend at the bank.	
	C4. The overall value gained from using Internet banking services is high.	
Behavioral intention	BI1. I intend to use Internet banking in the future.	Venkatesh et al., 2012; Anouze & Alamro
	BI2. I will always try to use Internet banking in my daily life.	
	BI3. I plan to use Internet banking more often in the future.	
	BI4. I will recommend others to use Internet banking.	
	BI5. I am satisfied with the benefits of using Internet banking.	

The second part of the questionnaire includes four questions about the respondents' demographic characteristics (gender, age, education, and work status). Demographic data and data related to consumer habits were measured using nominal and ordinal scales. The research was conducted using a convenient sample, and banking clients from Serbia participated in the survey. Part of the data was collected from university students through a personal survey, as previous research confirmed that a potentially significant target group for Internet banking is primarily a younger population with adequate IT experience (Giovanis et al., 2012). To enable the participation of other

age groups of respondents, the questionnaire was published online (Google Survey Form) and distributed through different channels of social networks and e-mail. The survey was conducted in two phases, from May 15 to June 5, 2021, and from January 25 to February 4, 2022. The final sample included 195 respondents, whose demographic characteristics are shown in Table 2.

The results presented in the following part of the paper were obtained based on descriptive statistics, correlation analysis, and multivariate regression analysis, and data analysis was performed using the SPSS (26.0) software package

Table 2. Demographic structure of the sample

Characteristics of respondents		Number of respondents	% of respondents
Total		195	100
Gender	Male	77	34.5
	Female	118	52.9
Year of birth	Between 1925 and 1945	3	1.3
	Between 1945 and 1964	13	5.8
	Between 1965 and 1978	52	23.3
	Between 1979 and 1994	49	22.0
	Between 1995 and 2012	78	35.0
Education	High school	95	42.6
	High school (3 years)	14	6.3
	Bachelor's degree (4 years or more)	41	18.4
	Master's degree	33	14.8
	Ph.D. degree	12	5.4
Work status	Full-time job	91	40.8
	Temporarily employed	21	9.4
	Unemployed	6	2.7
	Pupil/student	69	30.9
	Pensioner	8	3.6

4. Research results

Analysis of the habits of domestic clients shows that of the total number of respondents, 2/3 are users of Internet banking services, while 1/3 do not use this type of service. Domestic and foreign banks operating in the Republic of Serbia, whose services are used by the most significant number of respondents, are Unicredit banka (22.1%), Intesa banka (18.9%) and Komercijalna banka (15.6%). Regarding the length of time of using Internet banking, those who use these services between 1-4 years (36.9%) lead the way, while experienced users who have been using Internet banking for more than 8 years are the least represented (9.8%). Regarding the frequency of using Internet banking services, the most significant number of users use these services once a month (30.3%), once a week (27%), a smaller number do it once every 3-4 days (10.7%) and almost every day (10.7%), while the least number of those who use Internet banking services several times a day (0.8%).

Table 3 shows the results of descriptive statistical analysis and reliability analysis. Cronbach's alpha coefficient was used to test the reliability of the measurement scale. By calculating its value, it was determined whether the variables were measured through internally consistent statements.

The value of this coefficient ranges from 0 to 1, whereby all values above 0.70 are considered acceptable (Pallant, 2011). For all the variables that make up the conceptual model, Cronbach's alpha coefficient values vary from 0.714 (social influence) to 0.933 (hedonic motivation). The obtained values are above the threshold value, which indicates adequate reliability and internal consistency of the research variables.

Correlation analysis was conducted to determine whether there was a relationship between the variables of the baseline model and establish the direction and strength of the relationship. In this case, the relationship was investigated using the Pearson coefficient, whose value from 0.1 to 0.29 indicates a small correlation, from 0.30 to 0.49 to a moderate one, while a value from 0.50 to 1.0 indicates a strong correlation (Pallant, 2011).

Table 3. Descriptive statistics and scale reliability

Variables	Items	Mean difference	Standard deviation	Reliability (Cronbach's alpha)
Performance expectancy	PE1	4.6066	0.66254	0.862
	PE2	4.6311	0.69474	
	PE3	4.4016	0.90599	
	PE4	4.2213	1.00010	
Effort expectancy	EE1	4.4836	0.72992	0.929
	EE2	4.4508	0.78311	
	EE3	4.4098	0.81061	
	EE4	4.4344	0.79240	
Social influence	SI1	3.9262	1.10721	0.714
	SI2	3.8607	1.18053	
	SI3	4.6475	0.71492	
	SI4	2.9016	1.29468	
Hedonic motivation	HM1	3.8443	1.10611	0.933
	HM2	3.6475	1.13489	
	HM3	3.9180	1.00897	
Security and privacy	SP1	3.99	1.000	0.914
	SP2	3.93	1.022	
	SP3	4.04	0.866	
	SP4	3.89	1.069	
	SP5	3.93	1.002	
Responsiveness	R1	4.20	.840	0.884
	R2	4.39	0.776	
	R3	3.72	1.014	
	R4	4.08	0.923	
	R5	4.00	1.029	
Costs	C1	3.90	1.086	0.793
	C2	3.88	1.033	
	C3	4.15	0.976	
	C4	4.07	0.929	
Behavioral intention	BI1	4.6066	0.73358	0.911
	BI2	4.3934	0.87724	
	BI3	4.4262	0.87119	
	BI4	4.3934	0.93205	
	BI5	4.5164	0.81549	

The results of the correlation analysis shown in Table 4 prove that all values of the Pearson correlation coefficient are statistically significant at the 0.01 level. The highest degree of linear correlation was established between *performance expectancy* and *intention to use* ($r = 0.781^*$, strong positive correlation). In contrast, the lowest

correlation was present between *effort expectancy* and *hedonic motivation* ($r = 0.361^*$, moderate positive correlation). A moderate to strong positive correlation is also present between other pairs of variables because the Pearson correlation coefficient values between them are more significant than 0.3.

Table 4. Correlation matrix

Variables	PE	EE	SI	HM	SP	R	C	BI
PE	1	0.648*	0.525*	0.522*	0.587*	0.633*	0.521*	0.781*
EE	0.648*	1	0.390*	0.361*	0.510*	0.526*	0.437*	0.585*
SI	0.525*	0.390*	1	0.512*	0.556*	0.556*	0.576*	0.506*
HM	0.522*	0.361*	0.512*	1	0.500*	0.533*	0.579*	0.539*
SP	0.587*	0.510*	0.556*	0.500*	1	0.634*	0.515*	0.588*
R	0.633*	0.526*	0.556*	0.533*	0.634*	1	0.657*	0.661*
C	0.521*	0.437*	0.576*	0.579*	0.515*	0.657*	1	0.531*
BI	0.781*	0.585*	0.506*	0.539*	0.588*	0.661*	0.531*	1

*Correlation is significant at the 0.01

Multivariate regression analysis was used to examine the influence of independent variables (performance expectancy, effort expectancy, social impact, hedonic motivation, security and privacy, responsiveness, and costs) on the dependent variable (intention to use). Tables 5 and 6 summarize the results of the multivariate regression analysis required to test the proposed hypotheses. Multicollinearity was checked based on the *Tolerance* and the *VIF coefficient* (Variance Increase Factor) values. The *Tolerance* value for each variable ranges from 0.540 to 0.660, which is not less than 0.10 as the benchmark significance value, while the *VIF coefficient* value ranges from 1.516 to 1.851, which is well below the cut-off point 10. Therefore, there is no problem of multicollinearity between predictor variables. The regression model was formed using the *stepwise* method, whereby the final model was formed in two steps.

Two of the seven variables – *performance expectancy* and *responsiveness* were retained in the final model. The coefficient of multiple correlation (*R*) is 0.810, which indicates a strong positive correlation between the intention to use Internet banking services and the retained variables. The coefficient of determination (*R*²) is 0.657, which means that in the examined sample, 65.7% of the variance of consumer intention to use is determined by the variance of the set of independent variables found in the final

model.

The multivariate regression analysis shows that *performance expectancy* and *responsiveness* have a statistically significant positive impact on the intention to use Internet banking (*p* < 0.05). The *performance expectancy* variable has a stronger influence on the intention to use Internet banking because its β value is higher (β = 0.633, *p* < 0.05) compared to the β value of the *responsiveness* variable (β = 0.267, *p* < 0.05) (Table 5). Based on the above results, it can be concluded that hypotheses H1 and H6 are confirmed. This is in line with earlier research conducted in Serbia, which affirms that *perceived usefulness* has the most significant influence on consumers' attitudes towards Internet banking and that consumers in Serbia are ready to accept Internet banking if it contributes to greater productivity, time savings, and faster banking transactions (Filipović, 2019).

Another research conducted in Serbia additionally emphasizes the importance of *responsiveness* as a factor that significantly and positively affects the satisfaction of users of Internet banking services (Vehapi et al., 2021). This means that if Internet banking technology allows for quick processing of transactions and customer requests, prompt provision of services, and quick response to customer complaints, their intention to use Internet banking services will be stronger.

Table 5. Final stepwise multiple regression model

Independent variables	t	p	B	Beta	Collinearity	
					Tolerance	VIF
Performance expectancy	8.712	0,000	0.633	0.605	0.599	1.669
Responsiveness	4.016	0,000	0.267	0.279	0.599	1.669

*dependent variable: behavioral intention

Table 6. Statistics of predictor variables that were excluded from the model

Independent variables	t	p	Beta In	Collinearity	
				Tolerance	VIF
Effort expectancy	1.165	0.246	0.084	0.558	1.791
Social influence	0.784	0.434	0.053	0.641	1.560
Hedonic motivation	1.748	0.083	0.115	0.660	1.516
Security and privacy	1.431	0.155	0.104	0.540	1.851
Costs	0.822	0.413	0.060	0.550	1.818

*dependent variable: behavioral intention

5. Discussion and conclusion

The expansion of Internet use around the world, which we have witnessed during the last three decades, has created the conditions for the creation and implementation of new distribution channels for a whole range of services, among which banking services occupy a significant place. The Internet has enabled banks to take a substantial step forward about the already widely present practice of electronification of services and move into the phase of their digitalization, making them cheaper, safer, and more efficient to provide and use. However, the numerous advantages Internet banking offers have yet to lead to Internet banking reaching even close to the intensity of the Internet's expansion. Several factors influenced this situation. The success of banks in the Internet banking market will largely depend on their ability to perceive the factors that affect the intention of their existing and potential clients to use Internet banking services.

This paper analyzes the intention of consumers in Serbia to use Internet banking services. In the used sample, the most represented respondents were female, born after 1995, with completed high school and a full-time job. The following results were

obtained using selected constructs of the UTAUT and UTAUT 2 models and dimensions of E-SQ and the application of correlation and regression analysis. Correlation analysis showed a positive and statistically significant linear correlation among the used variables. Multivariate regression analysis showed that only *performance expectancy* and *responsiveness* were significant predictor variables.

This research can be of great importance for managers of commercial banks in Serbia, who should be aware that the level of market participation of their banks in the Internet banking sector primarily depends on their ability to meet and exceed the expectations of existing and potential clients in terms of performance and responsiveness of Internet services they provide. On the other hand, the importance of this research for the scientific community in Serbia is reflected in the fact that the UTAUT and UTAUT 2 constructs were used in the research on Internet banking services in Serbia for the first time.

The limitations of the conducted research include a relatively small and suitable sample and the non-use of moderator variables. Recommendations for future research are to expand the sample used and include moderate variables.

References:

- Abikari, M. (2024). Emotions, perceived risk and intentions to adopt emerging e-banking technology amongst educated young consumers. *International Journal of Bank Marketing*, 42(5), 1036–1058. <https://doi.org/10.1108/IJBM-01-2023-0004>
- AbuShanab, E., & Pearson, J. M. (2007). Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective. *Journal of Systems and Information Technology*, 9(1), 78–97. <https://doi.org/10.1108/13287260710817700>
- Al-Ajam, A. S., & Md Nor, K. (2015). Challenges of adoption of internet banking service in Yemen. *International Journal of Bank Marketing*, 33(2), 178–194. <https://doi.org/10.1108/IJBM-01-2013-0001>
- Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Algharabat, R. (2018). Examining factors influencing Jordanian customers' intentions and adoption of internet banking: extending UTAUT2 with risk. *Journal of Retailing and Consumer Services*, 40, 125–138. <https://doi.org/10.1016/j.jretconser.2017.08.026>
- Al-Qeisi, K., & Hegazy, A. (2015). Consumer online behaviour: A perspective on Internet banking usage in three non-western countries. *Procedia Economics and Finance*, 23, 386–390. [http://doi.org/10.1016/S2212-5671\(15\)00347-0](http://doi.org/10.1016/S2212-5671(15)00347-0)
- Altobishi, T., Erboz, G., & Podruzsik, Sz. (2018). E-banking effects on customer satisfaction: the survey on clients in Jordan banking sector. *International Journal of Marketing Studies*, 10(2), 151–161. <http://doi.org/10.5539/ijms.v10n2p151>
- Anouze, A. L. M., & Alamro, A. S. (2020). Factors affecting intention to use e-banking in Jordan. *International Journal of Bank Marketing*, 38(1), 86–112. <https://doi.org/10.1108/IJBM-10-2018-0271>
- Arenas-Gaitán, J., Peral-Peral, B., & Ramón-Jerónimo, M. A. (2015). Elderly and internet banking: An application of UTAUT2. *Journal of Internet Banking and Commerce*, 20(1), 1–23. <https://www.icommercecentral.com/open-access/elderly-and-internet-banking-an-application-of-utaut2-.php?aid=50466>
- Bashir, I. & Madhavaiah, C. (2015). Consumer attitude and behavioural intention towards Internet banking adoption in India. *Journal of Indian Business Research*, 7(1), 67–102. <https://doi.org/10.1108/JIBR-02-2014-0013>
- Chaouali, W., Yahia, I. B., & Souiden, N. (2016). The interplay of counter-conformity motivation, social influence, and trust in customers' intention to adopt internet banking services: the case of an emerging country. *Journal of Retailing and Consumer Services*, 28, 209–218. <https://doi.org/10.1016/j.jretconser.2015.10.007>
- Devi Juwaheer, T., Pudaruth, S., & Ramdin, P. (2012). Factors influencing the adoption of internet banking: a case study of commercial banks in Mauritius. *World Journal of Science, Technology and Sustainable Development*, 9(3), 204–234. <https://doi.org/10.1108/20425941211250552>
- Eriksson, K., & Nilsson, D. (2007). Determinants of the continued use of self-service technology: the case of Internet banking. *Technovation*, 27(4), 159–167.
- Eriksson, K., Kerem, K., & Nilsson, D. (2005). Customer acceptance of internet banking in Estonia. *International Journal of Bank Marketing*, 23(2), 200–216. <https://doi.org/10.1108/02652320510584412>

- Filipović, J. (2019). Analiza stavova i namera potrošača prema korišćenju usluga internet bankarstva. *Anali Ekonomskog fakulteta u Subotici*, 55(41), 17–35. <https://doi.org/10.5937/AnEkSub1941017F>
- Giovanis, A. N., Binioris, S., & Polychronopoulos, G. (2012). An extension of TAM model with IDT and security/privacy risk in the adoption of internet banking services in Greece. *EuroMed Journal of Business*, 7(1), 24–53. <https://doi.org/10.1108/14502191211225365>
- Hammoud, J., Bizri, R. M., & El Baba, I. (2018). The impact of e-banking service quality on customer satisfaction: Evidence from the Lebanese banking sector. *SAGE Open*, 8(3), 1–12. <https://doi.org/10.1177/2158244018790633>
- Jaruwachirathanakul, B., & Fink, D. (2005). Internet banking adoption strategies for a developing country: the case of Thailand. *Internet Research*, 15(3), 295–311. <https://doi.org/10.1108/10662240510602708>
- Khatoun, S., Zhengliang, X., & Hussain, H. (2020). The mediating effects of customer satisfaction on the relationship between electronic banking service quality and customer purchase intention: evidence from the Qatar banking sector. *SAGE Open*, 10(2), 1–12. <https://doi.org/10.1177/2158244020935887>
- Kolodinsky, J. M., Hogarth, J. M., & Hilgert, M. A. (2004). The adoption of electronic banking technologies by US consumers. *International Journal of Bank Marketing*, 22(4), 238–259. <https://doi.org/10.1108/02652320410542536>
- Lee, J. M., & Kim, H. J. (2020). Determinants of adoption and continuance intentions toward Internet-only banks. *International Journal of Bank Marketing*, 38(4), 843–865. <https://doi.org/10.1108/IJBM-07-2019-0269>
- Lee, S., & Lee, K. C. (2020). Comparative Study of Service Quality on VIP Customer Satisfaction in Internet Banking: South Korea Case. *Sustainability*, 12(16), 6365. <https://doi.org/10.3390/su12166365>
- Maditinos, D., Chatzoudes, D., & Sarigiannidis, L. (2013). An examination of the critical factors affecting consumer acceptance of online banking: A focus on the dimensions of risk. *Journal of Systems and Information Technology*, 15(1), 97–116. <https://doi.org/10.1108/13287261311322602>
- Madu, C. N., & Madu, A. A. (2002). Dimensions of e-quality. *International Journal of Quality & Reliability Management*, 19, 246–258. <https://doi.org/10.1108/02656710210415668>
- Marinković, V., Đorđević, A., & Kalinić, Z. (2020). The moderating effects of gender on customer satisfaction and continuance intention in mobile commerce: a UTAUT-based perspective. *Technology Analysis & Strategic Management*, 32(3), 306–318. <https://doi.org/10.1080/09537325.2019.1655537>
- Martins, C., Oliveira, T., & Popović, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, 34(1), 1–13. <https://doi.org/10.1016/j.ijinfomgt.2013.06.002>
- Mohd Thas Thaker, H., Mohd Thas Thaker, M. A., Khaliq, A., Allah Pitchay, A., & Iqbal Hussain, H. (2022). Behavioural intention and adoption of internet banking among clients' of Islamic banks in Malaysia: an analysis using UTAUT2. *Journal of Islamic Marketing*, 13(5), 1171–1197. <https://doi.org/10.1108/JIMA-11-2019-0228>
- Namahoot, K. S., & Laohavichien, T. (2018). Assessing the intentions to use internet banking: The role of perceived risk and trust as mediating factors. *International Journal of Bank Marketing*, 36(2), 256–276. <https://doi.org/10.1108/IJBM-11-2016-0159>

- Oruç, Ö. E., & Tatar, Ç. (2017). An investigation of factors that affect internet banking usage based on structural equation modeling. *Computers in Human Behavior*, 66, 232–235. <https://doi.org/10.1016/j.chb.2016.09.059>
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using the SPSS program*. Berkshire: Allen & Unwin.
- Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), 213–233. <https://doi.org/10.1177/1094670504271156>
- Park, J., Yoo, J. W., Cho, Y., & Park, H. (2024). Understanding switching intentions between traditional banks and Internet-only banks among Generation X and Generation Z. *International Journal of Bank Marketing*, 42(5), 1114–1141. <https://doi.org/10.1108/IJBM-06-2023-0338>
- Patel, K. J., & Patel, H. J. (2018). Adoption of internet banking services in Gujarat: An extension of TAM with perceived security and social influence. *International Journal of Bank Marketing*, 36(1), 147–169. <https://doi.org/10.1108/IJBM-08-2016-0104>
- Polasik, M. & Piotr Wisniewski, T. (2009). Empirical analysis of internet banking adoption in Poland. *International Journal of Bank Marketing*, 27(1), 32–52. <https://doi.org/10.1108/02652320910928227>
- Rahi, S., & Abd.Ghani, M. (2019). Investigating the role of UTAUT and e-service quality in internet banking adoption setting. *The TQM Journal*, 31(3), 491–506. <https://doi.org/10.1108/TQM-02-2018-0018>
- Rahi, S., Ghani, M., Alnaser, F., & Ngah, A. (2018). Investigating the role of unified theory of acceptance and use of technology (UTAUT) in internet banking adoption context. *Management Science Letters*, 8(3), 173–186. <https://doi.org/10.5267/j.msl.2018.1.001>
- Rahi, S., Mansour, M. M. O., Alghizzawi, M., & Alnaser, F. M. (2019). Integration of UTAUT model in internet banking adoption context: The mediating role of performance expectancy and effort expectancy. *Journal of Research in Interactive Marketing*, 13(3), 411–435. <https://doi.org/10.1108/JRIM-02-2018-0032>
- Safari, K., Bisimwa, A., & Buzera Armel, M. (2022). Attitudes and intentions toward internet banking in an under developed financial sector. *PSU Research Review*, 6(1), 39–58. <https://doi.org/10.1108/PRR-03-2020-0009>
- Salem, M. Z., Baidoun, S., & Walsh, G. (2019). Factors affecting Palestinian customers' use of online banking services. *International Journal of Bank Marketing*, 37(2), 426–451. <https://doi.org/10.1108/IJBM-08-2018-0210>
- Savić, J. & Pešterac, A. (2019). Antecedente mobilnog bankarstva - UTAUT model. *The European Journal of Applied Economics*, 16(1), 20–29. <https://doi.org/10.5937/EJAE15-19381>
- Sedkaoui, S. (2024). Analyzing the relationship between SERVQUAL model, customer satisfaction, and loyalty in Algerian banking sector using PLS-SEM. *International Journal for Quality Research*, 18(2), 627–642. <https://doi.org/10.24874/IJQR18.02-20>
- Sohail, M., S. & Shaikh, N. M. (2008). Internet banking and quality of service: Perspectives from a developing nation in the Middle East. *Online Information Review*, 32(1), 58–72. <https://doi.org/10.1108/14684520810865985>
- Stefanović, N., Đalić, T., & Vesić, J. (2024). Managing credit and card fraud phenomena in the banking system of the Republic of Serbia. *International Journal for Quality Research*, 18(1), 219–234. <https://doi.org/10.24874/IJQR18.01-15>

- Tarhini, A., El-Masri, M., Ali, M., & Serrano, A. (2016). Extending the UTAUT model to understand the customers' acceptance and use of internet banking in Lebanon: A structural equation modeling approach. *Information Technology & People*, 29(4), 830–849. <https://doi.org/10.1108/ITP-02-2014-0034>
- Vehapi, S., Lekpek, A., & Šabotić, Z. (2021). Determinante satisfakcije bankarskih klijenata uslugama internet bankarstva u Srbiji. *Marketing*, 52(2), 83–94. <https://doi.org/10.5937/mkng2102083V>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Venkatesh, V., Thong, J., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178. <https://doi.org/10.2307/41410412>
- Vidosavljević, J., Marinković, V., & Marić, D. (2025). Determinante satisfakcije korisnika mobilne trgovine - primena UTAUT 2 modela. *Anali Ekonomskog fakulteta u Subotici*, 53, 37–53. <https://doi.org/10.5937/AnEkSub2400002V>
- Yadav, R., Chauhan, V., & Pathak, G. S. (2015). Intention to adopt internet banking in an emerging economy: a perspective of Indian youth. *International Journal of Bank Marketing*, 33(4), 530–544. <https://doi.org/10.1108/IJBM-06-2014-0075>
- Yaseen, S. G., & El Qirem, I. A. (2018). Intention to use e-banking services in the Jordanian commercial banks. *International Journal of Bank Marketing*, 36(3), 557–571. <https://doi.org/10.1108/IJBM-05-2017-0082>
- Yee-Loong Chong, A., Ooi, K., Lin, B., & Tan, B. (2010). Online banking adoption: an empirical analysis. *International Journal of Bank Marketing*, 28(4), 267–287. <https://doi.org/10.1108/02652321011054963>
- Yuen, Y. Y., Yeow, P. H., & Lim, N. (2015). Internet banking acceptance in the United States and Malaysia: a cross-cultural examination. *Marketing Intelligence & Planning*, 33(3), 292–308. <https://doi.org/10.1108/MIP-08-2013-0126>
- Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2000). A conceptual framework for understanding e-service quality: implications for future research and managerial practice. Marketing Science Institute, *Working Paper Series*, No. 00-115, Cambridge, MA.

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