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Factors Influencing Customer Satisfaction and Loyalty in Internet Banking: Evidence from Serbia

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ABSTRACT

This paper examines the roles of e-service quality and trust in creating customer satisfaction and loyalty in the internet banking sector in the Republic of Serbia. The aim of the study is to analyze the direct relationships among internet banking service quality, e-trust, e-satisfaction, and e-loyalty, together with the broader sequence connecting them. An empirical study was conducted using a quantitative research approach, based on a structured questionnaire distributed through online channels. Data were analyzed using correlation analysis, univariate and multivariate regression analysis. The findings indicate that three dimensions of e-service quality – efficiency, responsiveness, and security and privacy have a direct and significant impact on both e-trust and e-satisfaction. E-trust positively influences customer e-satisfaction and e-loyalty, and e-satisfaction is also significantly associated with e-loyalty. These results suggest that the effects of e-service quality, as a multidimensional construct, on e-loyalty operate consistently through e-trust and e-satisfaction.

Keywords: *internet banking, e-service quality, e-trust, e-satisfaction, e-loyalty*

JEL Classification: M31, G21

INTRODUCTION

The operations of contemporary banks are shaped to a large extent by intense competition, extensive digitalization, and customer expectations that demand the continuous improvement of the quality, availability, and security of banking services (Lee & Moghavvemi, 2015; Khatoon, Zhengliang & Hussain, 2020; Ayinaddis, Taye & Yirsaw, 2023). This is the environment in which internet banking has ceased to be a mere addition to traditional channels and has become a key instrument of modern banking (Mbama & Ezepue, 2018; Ayinaddis, Taye & Yirsaw, 2023). In this paper, internet banking and e-banking are used interchangeably to mean delivering banking services online. Attracting new customers and retaining existing ones depends to a great extent on the quality with which internet banking services are designed and delivered (Shankar & Jebarajakirthy, 2019). Sound implementation of internet banking contributes to increased customer satisfaction with banking services and, consequently, strengthens a bank's competitive position (Hammoud, Bizri & El Baba, 2018).

Research shows that service quality is a key determinant of internet banking customer satisfaction (Hammoud, Bizri & El Baba, 2018; Khatoon, Zhengliang & Hussain, 2020; Raza et al.,

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2020). For banks to work more effectively on improving customer satisfaction, they need to know which aspects of service quality customers value most (Famiyeh, Asante-Darko & Kwarteng, 2018). By providing high-quality services, banks foster satisfaction and strengthen customer trust and loyalty (Chu, Lee & Chao, 2012; Sasono et al., 2021).

Research indicates that better service quality generally leads to greater customer satisfaction, and subsequently to greater loyalty. However, this relationship is not always direct, as it is often mediated by satisfaction, trust, or higher customer involvement (Amin, 2016; Raza et al., 2020; Supriyanto, Wiyono & Burhanuddin, 2021). The focus, therefore, cannot be solely on platform quality, but must also encompass the connection between digital service quality, customers' sense of security, and the bank's long-term success (Mbama & Ezepue, 2018; Raza et al., 2020; Kim, Jindabot & Yeo, 2024). Building on this, the subject of this paper is to examine the role of service quality and trust in creating customer satisfaction and loyalty in the internet banking sector, with particular focus on the dimensions of e-service quality that contribute most to the long-term relationship between the bank and its customers. While prior research has extensively explored the individual links between e-service quality, e-trust, e-satisfaction, and e-loyalty, this paper's main contribution is testing a comprehensive model of the sequential relationships among these constructs in a transition economy, rather than introducing new theory.

This paper extends the conference paper on which it is based (Vehapi, Šabotić & Lekpek, 2026) by providing a more detailed specification of the measurement instrument, by treating e-service quality as a multidimensional construct rather than a single composite measure, and by applying the corresponding multivariate regression analysis to test the effect of each service-quality dimension separately. The paper is organized into several logical parts. Following the introductory remarks, the second part provides a review of the relevant literature and the theoretical framework of the study, describing in detail the concepts of e-service quality, trust, satisfaction, and loyalty. The third part is devoted to the research methodology, including a description of the sample and the instruments used in the empirical analysis. The fourth part presents the results of the study conducted in Serbia, while the fifth part discusses these findings in relation to previous research. The paper concludes with final remarks on the study's academic and practical contributions, its limitations, and recommendations for future research.

THEORETICAL BACKGROUND

Customer retention is a complex process and a precondition for successful business operations. Each retained customer increases the profit rate through greater purchases, referrals, premium prices, and reduced operating costs of service (Kotler & Keller, 2017, p. 141). While the concept of loyalty has been widely examined in the marketing literature, the study of e-loyalty is more recent. Anderson and Srinivasan (2003, p. 125) define e-loyalty as "the customer's favorable attitude toward an electronic business resulting in repeat buying behavior". As with the traditional concept of loyalty, the definition of e-loyalty also emphasizes two important dimensions: consumer attitude and behavior. In the context of internet banking, customer loyalty can be defined as "consumer tendency to frequently visit the bank's website, regularly avail e-banking services and spread a positive word of mouth about e-banking services" (Shankar & Jebarajakirthy, 2019, p. 1121).

Customer satisfaction is a key factor in building customer loyalty, particularly in the banking sector (Ribbink et al., 2004). Satisfaction in internet banking "is the appraisal of how the service provided by internet banks has met the customer expectations" (Raza et al., 2020, p. 1448). Suleiman et al. (2012) demonstrate in their study that customer satisfaction is one of the main drivers behind the formation of loyalty in e-banking. Based on research conducted through a web-based survey, Casaló, Flavián & Guinalíu (2008) show that perceived website reputation and customer satisfaction have a direct and significant impact on customer loyalty to the bank's website. More recent research based on an online survey, but using a sample of Asian online

banking users, likewise found a significant relationship between customer satisfaction and loyalty (Malnaad et al., 2022). Examining the factors that influence brand loyalty in the internet banking sector, Ong, Nguyen & Syed Alwi (2017) find that a clear and consistent virtual brand personality, comprising excitement, sophistication, and competence, leads to customer satisfaction and, consequently, greater brand loyalty. A better understanding of the relationship between e-satisfaction and e-loyalty in the context of internet banking is provided by Malhotra et al. (2021) through a study conducted in India. According to their findings, structural assurance moderates the relationship between e-satisfaction and e-loyalty at the consumer level, while market share regulates the relationship at the bank level. Based on the preceding discussion, it can be hypothesized that:

H1: Customer satisfaction with internet banking services has a positive effect on their loyalty.

Another factor considered important in creating customer satisfaction and loyalty is customer trust. Building trust is of great importance in the internet banking sector, primarily due to the complexity of many financial products and the characteristics of the electronic environment. In this context, trust reflects the degree to which a bank's online channel user expects fair and competent behavior from that entity, accompanied by measures to enhance user security and privacy (López-Miguens & Vázquez, 2017, p. 400). Surveying more than 2,000 users of Austrian online banks, Floh & Treiblmaier (2006) identify satisfaction and trust as the main determinants of loyalty. Two studies conducted in Malaysia at different points in time reveal that satisfaction and trust play a key role in developing customer loyalty in internet banking (Al-Agaga & Nor, 2012; Chowdhury et al., 2017). The significant influence of satisfaction and trust, together with bank reputation and commitment, on customer loyalty toward internet banking was also confirmed in a study conducted in Nigeria (Aishatu & Lim, 2017). The results of a study conducted in Indonesia show that satisfaction and trust directly influence online banking customer loyalty, with trust simultaneously contributing directly to customer satisfaction (Lii, 2009). Another study, conducted by a national financial institution in southern Spain, likewise reveals that trust in e-banking services positively determines satisfaction with those services (Liébana-Cabanillas, Muñoz-Leiva & Rejón-Guardia, 2013). In line with these studies, it is expected that:

H2: Customer trust in internet banking services has a positive effect on their loyalty.

H3: Customer trust in internet banking services has a positive effect on their satisfaction.

E-service quality makes a significant contribution to building and enhancing satisfaction and image, which further strengthens e-trust and ultimately leads to the spread of word of mouth and the development of e-loyalty (Salehnia et al., 2014). E-banking service quality is defined as "consumers' evaluation of the quality of banking services delivered through internet" (Shankar & Jebarajakirthy, 2019, p. 1121). Numerous authors have tested the relationship between service quality, satisfaction, and customer loyalty in the internet banking sector. López-Miguens and Vázquez (2017) conducted a study of internet banking users in Spain to explain how customer loyalty is formed in this sector. They established that e-satisfaction, e-trust, and switching barriers have a direct effect on e-loyalty, while website quality contributes indirectly to the creation of e-loyalty through e-satisfaction and/or e-trust. A study involving only regular users of online banking services in the United Arab Emirates shows that e-quality significantly affects e-satisfaction, which in turn has a positive and direct effect on e-loyalty (Al-Hawari, 2014). Raza et al. (2020) include the following dimensions of internet banking service quality in their research model: site organization, reliability, responsiveness, user-friendliness, personal need, and efficiency. According to their findings, all of the stated dimensions have a positive and significant effect on customer satisfaction, which in turn has a significant and positive effect on customer loyalty in Pakistan. Examining the implications of internet banking service quality for customer satisfaction and loyalty in developing countries, Amin (2016) demonstrates that a higher level of quality of these services significantly affects e-satisfaction and e-loyalty. The same author finds

that personal need, site organization, user-friendliness, and efficiency of the website are the main determinants of internet banking service quality. Similar results are reported by Beshir & Zelalem (2020), who conclude that service quality dimensions such as efficiency, responsiveness, ease, privacy, and costs significantly affect satisfaction, while satisfaction significantly contributes to the development of customer loyalty in the electronic banking sector in Ethiopia. Fragata & Moustakas (2013) tested loyalty in e-banking by examining the relationship between major Portuguese banks and their corporate clients. The results of this study confirm that all four dimensions of e-banking portal quality (assurance, reliability, convenience, and quality monitoring) have a strong effect on loyalty to e-banking services through the mediating effect of e-trust. In view of these considerations, the following hypotheses are proposed:

- H4:** Internet banking service quality, viewed through a) efficiency, b) security and privacy, c) responsiveness, and d) costs, has a positive effect on customer satisfaction.
- H5:** Internet banking service quality, viewed through a) efficiency, b) security and privacy, c) responsiveness, and d) costs, has a positive effect on customer trust.

Previous studies have shown that service quality, satisfaction, and trust have a direct and/or indirect impact on the development of internet banking customer loyalty. This research therefore sought to provide a comprehensive model to test the relationship of service quality, satisfaction, and trust with customer loyalty in the internet banking sector in Serbia. In developing the conceptual model for this study, the authors drew on the models proposed by Chang & Chen (2008) and López-Miguens & Vázquez (2017), which rely directly on Oliver's (1999) model of loyalty formation through four successive stages – cognitive, affective, conative and action. The internet banking customer loyalty model in this study considers e-service quality from the cognitive perspective, e-trust and e-satisfaction from the affective perspective, and e-loyalty from the conative and action perspective (Figure 1). Unlike the model of Chang and Chen (2008), the proposed model includes e-trust as an affective variable and excludes switching costs, while it differs from the model of López-Miguens & Vázquez (2017) in that it treats e-service quality as a multidimensional construct. Switching costs were initially left out of the model to keep the number of predictors reasonable for our sample size; we address this choice later in the limitations. To measure customer perceptions of internet banking service quality, four distinct dimensions were selected for this study: efficiency, security and privacy, responsiveness, and costs, drawing on the e-service quality measurement model developed by Zeithaml, Parasuraman, & Malhotra (2000). Website efficiency relates to the ease of use and the speed of completing transactions (Amin, 2016), while responsiveness represents “the readiness to support the bank's customers and deliver them a rapid service” (Hammoud, Bizri, & El Baba, 2018, p. 3). According to Sohail & Shaikh (2008), efficiency and responsiveness are factors that influence customers' assessment of internet banking service quality. Security and privacy, as well as the costs of using internet banking services, are also of particular importance to users of these services. While internet banking has led to a significant reduction in operating and fixed costs, it has simultaneously raised customer concerns about the security of monetary transactions and the protection of privacy in the collection and use of their data (Yoon, 2010, p. 1297; Amin, 2016, p. 280). Accordingly, numerous authors have tested the effect of efficiency, security and privacy, responsiveness, and costs on customer satisfaction and loyalty in internet banking (Suleiman et al., 2012; Amin, 2016; Altobishi, Erboz & Podruzsik, 2018; Shankar & Jebarajakirthy, 2019; Khatoon, Zhengliang & Hussain, 2020; Raza et al., 2020).

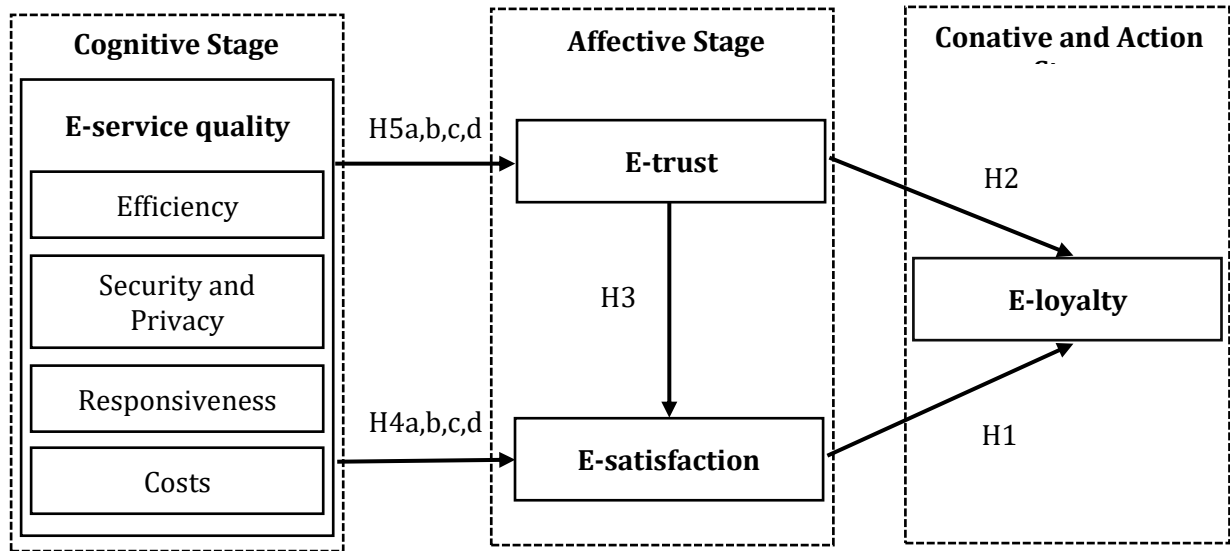


Figure 1. Conceptual model

Source: Adapted from Chang& Chen (2008) and López-Miguens& Vázquez (2017)

METHODOLOGY

The study presented in this paper is based on findings obtained through quantitative research, using the survey technique. A structured questionnaire comprising two segments was used as the instrument. The first part consists of 37 statements measured on a five-point Likert scale, relating to the observed variables of the proposed conceptual model. The statements in this part of the questionnaire are grouped into seven variables and were adapted from previous research by relevant foreign authors (Table 1). The second part of the questionnaire includes four questions relating to the demographic characteristics of the respondents (gender, age, education, and employment status). Participation in the survey was voluntary and anonymous; respondents were informed of the purpose of the research and the intended use of their responses before completing the questionnaire, and no personally identifiable information was collected. The variable reported as gender corresponds to the respondents' biological sex, as recorded in the survey instrument. Respondents born between 1995 and 2012 were required to confirm that they were at least 18 years old before taking part in the survey, so that no minors were included in the sample.

Table 1. Research variables and their corresponding items

Variable	Item	Source
Efficiency	Using internet banking services saves my time.	Hammoud, Bizri, & El Baba, 2018
	Banking services are delivered quickly via the internet.	
	I can quickly complete any banking transaction through the internet channel.	
	I find internet banking services easy and simple to use.	
	Internet banking services are provided in different languages.	
	My interaction with the internet banking system is clear and understandable.	
	I find the internet banking system flexible to interact with.	
	Internet banking services do not allow others to access my accounts.	
	Internet banking services ensure personal privacy.	
	I feel safe while conducting banking transactions over the internet.	

Variable	Item	Source
Security and Privacy	The internet banking website does not share my personal data with other websites.	Hammoud, Bizri, & El Baba, 2018
	Internet banking security devices protect the data I send.	
Responsiveness	When I use internet banking, little time elapses between initiating an activity and the website's response.	Lee & Lee, 2020
	Internet banking enables fast processing of transactions.	
	Internet banking enables a rapid response to customer complaints.	
	Internet banking enables fast processing of customer requests.	
	Internet banking provides services to customers instantly.	
Costs	Internet banking services are very inexpensive.	Altobishi, Erboz & Podruzsik, 2018
	Internet banking services contribute to lowering the prices of banking services.	
	Internet banking services save the money we would spend on visiting the bank.	
	The overall value obtained from using internet banking services is high.	
E-trust	The internet banking website I use usually fulfills its obligations.	Shankar & Jebarajakirthy, 2019; Ul Haq & Awan, 2020
	Internet banking services take into account the present and future interests of users.	
	Internet banking services are equally beneficial for the service provider and for the users of the service.	
	My bank has the necessary experience to provide internet banking services.	
	My bank is equipped with the resources needed to provide internet banking services.	
E-satisfaction	I am satisfied with transactions processed through internet banking.	Yoon, 2010; Sikdar & Makkad, 2015
	I am satisfied with the services provided by internet banking.	
	I believe I made the right decision when I decided to use internet banking services.	
	I am satisfied with the security aspects of internet banking.	
	My overall experience with internet banking is satisfactory.	
E-loyalty	I intend to recommend my bank's internet banking services to others.	Bhat, Darzi & Parrey, 2018; Chang & Chen, 2008
	I do not intend to switch to the internet banking services of another bank.	
	I like using the internet banking services provided by my bank.	
	I will also use new internet banking services if my bank offers them.	
	I prefer my bank's internet banking services compared to the services offered by other banks.	
	Whenever I want to carry out financial transactions, my bank's internet banking will be my first choice.	

Source: Authors' elaboration

The research was conducted on a convenience sample, with the survey involving banking customers from Serbia. To enable the participation of different groups of respondents and increase the response rate, the questionnaire was published online (Google Survey Form) and distributed through various social media channels. Data collection took place over the period from May 15 to June 5, 2021. The final sample comprised 194 respondents, whose socio-demographic characteristics are presented in Table 2. Due to the non-probability convenience sampling and the modest size of the active user sub-sample, the findings should be generalized with caution; we address this limitation in the conclusion. The results below are based on correlation, univariate, and multivariate regression analyses. Since data were collected via a single self-reported questionnaire, common method bias is a potential concern. To minimize this risk, items from

different constructs were intermixed, and respondents were guaranteed anonymity, following standard procedural recommendations.

Table 2. Sample structure

Respondent characteristics		Number of respondents	% of respondents
Total		194	100
Gender	Male	77	39.7
	Female	117	60.3
Year of birth	1925–1945	3	1.5
	1945–1964	13	6.7
	1965–1978	51	26.3
	1979–1994	49	25.3
	1995–2012	78	40.2
Education	Secondary school	95	49.0
	College (vocational)	14	7.2
	Bachelor's degree	40	20.6
	Master's degree	33	17.0
	Doctorate	12	6.2
Employment status	Full-time employed	90	46.4
	Temporarily employed	21	10.8
	Unemployed	6	3.1
	Pupil/student	69	35.6
	Retired	8	4.1

Source: SPSS 26 software output

RESEARCH RESULTS

Statistical analysis was conducted on a subset of the sample comprising 122 respondents who indicated that they use internet banking services. The analysis focuses on examining the degree of association between service quality, trust, satisfaction, and loyalty in the context of internet banking, as represented by the model. In analyzing the results, care was taken to ensure that the measurement scale was reliable, which is determined based on the value of the *Cronbach's alpha* coefficient. The value of this coefficient ranges from 0 to 1, with all values above 0.7 considered acceptable (Pallant, 2011). The *Cronbach's alpha* coefficient values for all variables comprising the conceptual model range from 0.793 to 0.914 (Table 3), indicating adequate reliability and internal consistency of the research variables.

Table 3. Reliability analysis

Variable	Cronbach's alpha
Efficiency	0.865
Security and Privacy	0.914
Responsiveness	0.884
Costs	0.793
E-trust	0.883
E-satisfaction	0.895
E-loyalty	0.862

Source: SPSS 26 software output

To confirm whether a statistically significant relationship existed between the variables used in the model, correlation analysis was conducted. The relationship between the variables was examined using *Spearman's rho* coefficient, given that the *Kolmogorov-Smirnov* normality test

showed that, for all variables used, $p < 0.01$. The value of this coefficient ranges from -1 to +1, where values from 0.1 to 0.29 indicate a weak correlation, from 0.30 to 0.49 a moderate correlation, and values from 0.50 to 1 indicate a strong correlation (Pallant, 2011). Table 4 presents the results of the correlation analysis, which, at a significance level of $p < 0.01$, confirmed a strong positive correlation between all variables used in the model ($\rho > 0.50$).

Table 4. Correlation matrix

Variable	Efficiency	Security and Privacy	Responsiveness	Costs	E-trust	E-satisfaction	E-loyalty
Efficiency	1	0.626	0.678	0.587	0.651	0.744	0.611
Security and Privacy	0.626	1	0.627	0.554	0.626	0.663	0.594
Responsiveness	0.678	0.627	1	0.707	0.732	0.711	0.700
Costs	0.587	0.554	0.707	1	0.619	0.594	0.644
E-trust	0.651	0.626	0.732	0.619	1	0.689	0.656
E-satisfaction	0.744	0.663	0.711	0.594	0.689	1	0.660
E-loyalty	0.611	0.594	0.700	0.644	0.656	0.660	1

Source: SPSS 26 software output

The research hypotheses were tested using regression analysis. Univariate and multivariate regression, rather than structural equation modelling, was applied given the size of the sub-sample used at this stage of the analysis ($n = 122$) and the additive, directly interpretable specification of the hypothesized relationships. Table 6 summarizes the results of the multivariate regression analysis examining the effect of the four dimensions of e-service quality (efficiency, security and privacy, responsiveness, and costs) on e-trust and e-satisfaction. Multicollinearity was checked using the Tolerance and VIF coefficient (variance inflation factor) values. The Tolerance value for each variable ranges from 0.436 to 0.539, which is not below the benchmark significance value of 0.10, while the VIF coefficient value ranges from 1.856 to 2.293, well below the cut-off point of 10 (Table 5). Therefore, there is no multicollinearity problem among the predictor variables. Using the stepwise method, the analysis showed that efficiency, responsiveness, and security and privacy have a statistically significant positive effect on internet banking customers' trust ($p < 0.05$). Efficiency has the strongest influence on customer trust, as this variable has the highest B value ($B = 0.399$, $p < 0.05$), followed by responsiveness ($B = 0.326$, $p < 0.05$), while security and privacy has the weakest effect ($B = 0.141$, $p < 0.05$) (Table 6). Based on these results, it can be concluded that hypotheses H5a), H5b), and H5c) are confirmed, while hypothesis H5d) is not confirmed ($p = 0.547 > 0.05$). The coefficient of determination (R^2) is 0.635, indicating that 63.5% of the variance in the e-trust variable is explained by changes in the e-service quality dimensions retained in the model.

In the same way, the multivariate regression analysis confirmed the existence of a statistically significant positive relationship between three dimensions of e-service quality – efficiency, responsiveness, and security and privacy – on the one hand, and e-satisfaction on the other. In terms of strength of influence, efficiency makes the greatest contribution to increased satisfaction ($p < 0.001$, $B = 0.549$), followed by responsiveness ($p = 0.004 < 0.05$, $B = 0.189$), while security and privacy makes the smallest contribution ($p = 0.030 < 0.05$, $B = 0.115$) (Table 6). This confirms hypotheses H4a), H4b), and H4c), while hypothesis H4d) is not confirmed ($p = 0.292 > 0.05$). The coefficient of determination (R^2) is 0.688, indicating that 68.8% of the variance in the e-satisfaction variable is explained by changes in those dimensions of e-service quality retained in

the model. The costs dimension was entered into both stepwise regression models alongside the other three predictors. However, once efficiency, responsiveness, and security were controlled for, costs did not significantly contribute to e-trust ($p=0.547$) or e-satisfaction ($p=0.292$), and were omitted from the final models in Table 6. This suggests that for our sample, monetary costs are low compared to branch visits, meaning they matter less for trust and satisfaction once core service quality and security are met.

Table 5. Collinearity test

Construct	Collinearity Statistics	
	Tolerance	VIF
Efficiency	0.436	2.293
Security and Privacy	0.527	1.899
Responsiveness	0.440	2.273
Costs	0.539	1.856

Source: SPSS 26 software output

Table 6. Multivariate regression analysis

Construct	E-trust			E-satisfaction		
	Coefficient B	t-value	Sig.	Coefficient B	t-value	Sig.
Efficiency	0.399	4.251	<0.001	0.549	6.871	<0.001
Security and Privacy	0.141	2.288	0.024	0.115	2.198	0.030
Responsiveness	0.326	4.307	<0.001	0.189	2.934	0.004

Source: SPSS 26 software output

Univariate regression analysis confirmed the existence of a positive relationship between the e-trust and e-satisfaction variables ($p<0.001$; $B=0.651$), meaning that an increase in customer trust in internet banking services leads to increased customer satisfaction, thereby confirming hypothesis H3. The coefficient of determination (R^2) is 0.501, showing that in the sample examined, 50.1% of the change in the value of the e-satisfaction variable is explained by the change in the value of the e-trust variable. To test hypothesis H2, regression analysis was used to examine the relationship between the e-trust and e-loyalty variables. The analysis confirmed the existence of a positive relationship between the e-trust and e-loyalty variables ($p<0.001$; $B=0.733$), meaning that an increase in customer trust in internet banking services contributes to the development of their loyalty, thereby confirming hypothesis H2. The coefficient of determination (R^2) is 0.480, showing that in the sample examined, 48.0% of the change in the value of the e-loyalty variable is explained by the change in the value of the e-trust variable.

Finally, the relationship between the e-satisfaction and e-loyalty variables was tested, and the regression analysis confirmed the existence of a positive relationship between the observed variables ($p<0.001$; $B=0.789$). This means that an increase in customer satisfaction with internet banking services leads to a strengthening of their loyalty, thereby confirming hypothesis H1. The coefficient of determination (R^2) is 0.471, showing that in the sample examined, 47.1% of the change in the value of the e-loyalty variable is explained by the change in the value of the e-satisfaction variable.

DISCUSSION

The findings of this study reveal a clear pattern in how internet banking users in Serbia build loyalty. Both satisfaction and trust are significantly associated with loyalty: users who are satisfied with their day-to-day use of the service and who trust the bank's online channel report markedly higher loyalty. Trust and satisfaction are also closely interrelated, as trust in internet banking

increases, so does satisfaction, and trust is associated with loyalty both directly and through its link with satisfaction. This is consistent with efficiency, responsiveness, and security and privacy influencing loyalty even though none of them is directly linked to it within the model: their association with loyalty appears to run through the trust and satisfaction they generate.

The confirmation of hypotheses H1, H2, and H3 is consistent with earlier findings that satisfaction and trust jointly foster loyalty in online banking (Casaló, Flavián & Guinalíu, 2008; Al-Agaga & Nor, 2012; Chowdhury et al., 2017; Malnaad et al., 2022). The significant effects of both e-satisfaction and e-trust on e-loyalty align with the results obtained by Malhotra et al. (2021) among internet banking users in India. The confirmed positive effects of efficiency, responsiveness, and security on e-trust and e-satisfaction (H4a–c, H5a–c) are in line with Amin (2016) and Raza et al. (2020), who identify these dimensions as pillars of service quality, as well as with Sohail & Shaikh (2008), who highlight efficiency and responsiveness as key drivers of users' quality assessments.

Al-Hawari (2014) and López-Miguens & Vázquez (2017) record a significant effect of the full set of service-quality dimensions they examine; this study, by contrast, did not confirm a significant effect of costs on either e-trust or e-satisfaction (H4d, H5d). As discussed above, this discrepancy likely reflects the low burden of direct internet banking costs in the Serbian market compared with the settings examined in earlier studies.

CONCLUSION

This study examined the key determinants of e-loyalty in internet banking and how these variables affect one another. The findings confirm that internet banking customers remain loyal to a bank mainly because they are satisfied with and trust its services. Banks seeking to strengthen this commitment should therefore keep investing in the quality of their e-services – particularly efficiency, responsiveness, and security and privacy, since these are what build the trust and satisfaction on which loyalty ultimately rests.

This study offers several academic contributions. Its primary contribution is testing the relationships among e-service quality, e-trust, e-satisfaction, and e-loyalty in Serbia, a transition economy rarely studied in this area. Rather than proposing a new theoretical mechanism, the study brings together, within a single model, service-quality dimensions, trust, satisfaction, and loyalty that prior research has more often examined separately or in pairs. Grounding the loyalty-formation process in Oliver's four-stage model further helps clarify how internet banking customers move from the cognitive stage of assessing e-service quality to the conative and behavioral stages of e-loyalty. These findings contribute to the literature on services marketing and consumer behavior, particularly in the financial services sector of transition and emerging markets.

In addition to its academic contribution, this study also provides several practical implications for banks offering their services via the internet that seek to increase customer loyalty toward their services. Domestic customers want their transactions to be carried out easily, simply, and quickly, in a reliable and secure online environment, which would allow banks to increase customer satisfaction and trust; online banks should therefore take measures to meet these customer requirements. In this regard, online banks in Serbia are expected to invest more in the efficiency dimension of their websites, as this is the strongest predictor of online customers' trust and satisfaction. A bank's website should be simple to use and adapted to users, with accurate and up-to-date information, and the internet banking system should be designed in a way that enables fast processing of customer requests and a rapid response to customer complaints. The security and confidentiality of transactions must be ensured through various measures, as security and privacy significantly affect both trust and satisfaction among internet banking users. Internet banking services designed and offered in this way will build a relationship of trust and meet the

needs of different categories of customers, and once customers are satisfied, this will ultimately increase their loyalty.

The main limitation of this research relates to the relatively small and convenience-based sample, meaning that future research should include larger and more representative samples. A further limitation is the possible omission of other relevant variables from the initial model, such as bank reputation and/or switching costs, which could also increase the level of loyalty in the context of internet banking. In examining the relationships among the included variables, the effect of moderating variables was not considered, which is why it is recommended that future analyses include moderating variables such as the demographic and psychographic profile of customers. Future research could look into different age groups, analyze mobile and internet banking separately, or use a longitudinal design to see how trust and loyalty develop over time.

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REFERENCES

- Aishatu, I.O., & Lim, G.C.** (2017). Customer Loyalty towards Internet Banking in Nigeria. *Journal of Advances in Economics and Finance*, 2(3), 149-159. <https://dx.doi.org/10.22606/jaef.2017.23001>
- Al-Agaga, A.M., & Nor, K.M.** (2012). Factors that influence e-loyalty of internet banking users. *International Journal of Electronic Commerce Studies*, 3(2), 297-304. <https://doi.org/10.7903/ijecs.1097>
- Al-Hawari, A.M.** (2014). Does customer sociability matter? Differences in e-quality, e-satisfaction, and e-loyalty between introvert and extravert online banking users. *Journal of Services Marketing*, 28(7), 538-546. <https://doi.org/10.1108/JSM-02-2013-0036>
- 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. <https://doi.org/10.5539/ijms.v10n2p151>
- Amin, M.** (2016). Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty. *International Journal of Bank Marketing*, 34 (3), 280-306. <https://doi.org/10.1108/IJBM-10-2014-0139>
- Anderson, R. E., & Srinivasan, S. S.** (2003). E-satisfaction and e-loyalty: a contingency framework. *Psychology and Marketing*, 20 (2), 123-138. <https://doi.org/10.1002/mar.10063>
- Ayinaddis, S. G., Taye, B. A., & Yirsaw, B. G.** (2023). Examining the effect of electronic banking service quality on customer satisfaction and loyalty: an implication for technological innovation. *Journal of Innovation and Entrepreneurship*, 12(1), 1-18. <https://doi.org/10.1186/s13731-023-00287-y>
- Beshir, E. S., & Zelalem, B. A.** (2020). The effect of e-banking service quality on customer's satisfaction and loyalty. *The Strategic Journal of Business & Change Management*, 7(3), 818 – 832.
- Bhat, S.A., Darzi, M.A., & Parrey, S.H.** (2018). Customer Loyalty in Banking Sector: A Mediation Study. *The Journal for Decision Makers*, 43(2), 92-105. <https://doi.org/10.1177/0256090918774697>
- Casaló, L.V., Flavián, C., & Guinalíu, M.** (2008). Towards loyalty development in the e-banking business. *Journal of Systems and Information Technology*, 10(2), 120-134. <https://doi.org/10.1108/13287260810897756>

- Chang, H. H., & Chen, S. W.** (2008). The impact of customer interface quality, satisfaction and switching costs on e-loyalty: Internet experience as a moderator. *Computers in Human Behavior*, 24(6), 2927-2944. <https://doi.org/10.1016/j.chb.2008.04.014>
- Chowdhury, I.A., Othman, A.S., Bo, Y., & Huey, L.Y.** (2017). Driving force of e-loyalty in online banking sector in the context of Malaysia. *International Journal of Social Sciences*, 3(3), 43-65. <https://dx.doi.org/10.20319/pijss.2017.33.4365>
- Chu, P. Y., Lee, G. Y., & Chao, Y.** (2012). Service quality, customer satisfaction, customer trust, and loyalty in an e-banking context. *Social Behavior and Personality: an International Journal*, 40(8), 1271-1283. <https://doi.org/10.2224/sbp.2012.40.8.1271>
- Famiyeh, S., Asante-Darko, D., & Kwarteng, A.** (2018). Service quality, customer satisfaction, and loyalty in the banking sector: The moderating role of organizational culture. *International Journal of Quality & Reliability Management*, 35(8), 1546-1567. <https://doi.org/10.1108/IJQRM-01-2017-0008>
- Floh, A., & Treiblmaier, H.** (2006). What keeps the e-banking customer loyal? A multigroup analysis of the moderating role of consumer characteristics on e-loyalty in the financial service industry. *Journal of Electronic Commerce Research*, 7(2), 97-110.
- Fragata, A., & Moustakas, E.** (2013). Investigating the Determinants of e-Banking Loyalty for Large Business Customers: Two Empirical Models. *Journal of Economics, Business and Management*, 1(2), 204-208. <http://hdl.handle.net/10400.19/4277>
- 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>
- Khatoon, 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>
- Kim, L., Jindabot, T., & Yeo, S. F.** (2024). Understanding customer loyalty in banking industry: A systematic review and meta analysis. *Heliyon*, 10(17). <https://doi.org/10.1016/j.heliyon.2024.e36619>
- Kotler, P., & Keller, L. K.** (2017). *Marketing menadžment*. Beograd: Data status.
- Lee, S. P., & Moghavvemi, S.** (2015). The dimension of service quality and its impact on customer satisfaction, trust, and loyalty: A case of Malaysian banks. *Asian Journal of Business and Accounting*, 8(2), 99-122. <https://doi.org/10.6084/m9.figshare.4052340>
- 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>
- Liébana-Cabanillas, F., Muñoz-Leiva, F., & Rejón-Guardia, F.** (2013). The determinants of satisfaction with e-banking. *Industrial Management & Data Systems*, 113 (5), 750-767. <https://doi.org/10.1108/02635571311324188>
- Lii, Y.S.** (2009). A model of customer e-loyalty in the online banking. *Economics Bulletin, AccessEcon*, 29 (2), 891-902.
- López-Miguens, M. J., & Vázquez, E. G.** (2017). An integral model of e-loyalty from the consumer's perspective. *Computers in Human Behavior*, 72, 397-411. <https://doi.org/10.1016/j.chb.2017.02.003>
- Malhotra, N., Sahadev, S., Leeflang, P. S. H., & Purani, K.** (2021). New Insights into e-Loyalty of Internet Banking Users in an Emerging Market Context: A Multilevel Analysis. *Information systems frontiers*, 23, 1521-1536. <https://doi.org/10.1007/s10796-020-10046-z>
- Malnaad, P., Rahman, A., Connie, G., Osman, Z., & Haque, R.** (2022) An Examination on E-Banking Service Quality and Its Significance on E-Satisfaction and E-Loyalty: An Asian Study. *Journal of Positive School Psychology*, 6(6), pp. 10311-10326. <https://journalppw.com/index.php/jpsp/index>

- Mbama, C. I., &Ezepue, P. O.** (2018). Digital banking, customer experience and bank financial performance: UK customers' perceptions. *International journal of bank marketing*, 36(2), 230-255. <https://doi.org/10.1108/IJBM-11-2016-0181>
- Oliver, R. L.** (1999). Whence consumer loyalty? *Journal of Marketing*, 63, pp. 33-44. <https://doi.org/10.1177/00222429990634s105>
- Ong, K.S., Nguyen, B., & Syed Alwi, S.F.** (2017). Consumer-based virtual brand personality (CBVBP), customer satisfaction and brand loyalty in the online banking industry. *International Journal of Bank Marketing*, 35(3), 370-390. <https://doi.org/10.1108/IJBM-04-2016-0054>
- Pallant, J.** (2011) *SPSS survival manual: A step by step guide to data analysis using the SPSS program*. Berkshire: Allen & Unwin.
- Raza, S.A., Umer, A., Qureshi, M.A., & Dahri, A.S.** (2020). Internet banking service quality, e-customer satisfaction and loyalty: the modified e-SERVQUAL model. *The TQM Journal*, 32(6), 1443-1466. <https://doi.org/10.1108/TQM-02-2020-0019>
- Ribbink, D., van Riel, A.C., Liljander, V., &Streukens, S.** (2004). Comfort your online customer: quality, trust and loyalty on the internet. *Managing Service Quality: An International Journal*, 14 (6), 446-456. <https://doi.org/10.1108/09604520410569784>
- Salehnia, M., Saki, M., Eshaghi, A., & N. Salehnia, N.** (2014). A model of E-Loyalty and word-of-mouth based on e-trust in E-banking services (case study: Mellat Bank). *New Marketing Research Journal*, Special Issue, 101-114. https://nmrj.ui.ac.ir/article_17737_66599c9dbcd06c5a067c2164bf2ff95f.pdf
- Sasono, I., Jubaedi, A. D., Novitasari, D., Wiyono, N., Riyanto, R., Oktabrianto, O., Jainuri, J., &Waruwu, H.** (2021). The impact of e-service quality and satisfaction on customer loyalty: Empirical evidence from internet banking users in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(4), 465-473. <https://doi.org/10.13106/jafeb.2021.vol8.no4.0465>
- Shankar, A., &Jebarajakirthy, C.** (2019). The influence of e-banking service quality on customer loyalty: A moderated mediation approach. *International Journal of Bank Marketing*, 37 (5), 1119-1142. <https://doi.org/10.1108/IJBM-03-2018-0063>
- Sikdar, P., &Makkad, M.** (2015). Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customers. *International Journal of Bank Marketing*, 33 (6), 760-785. <https://doi.org/10.1108/IJBM-11-2014-0161>
- 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>
- Suleiman, G.P., Mat, N.K.N., Adesiyun, O.I., & Mohammed, A.S.** (2012). Customer Loyalty in e-Banking: A Structural Equation Modelling (SEM) Approach. *American Journal of Economics*, 2(4), 55-59. <https://doi.org/10.5923/j.economics.20120001.13>
- Supriyanto, A., Wiyono, B. B., & Burhanuddin, B.** (2021). Effects of service quality and customer satisfaction on loyalty of bank customers. *Cogent Business & Management*, 8(1), 1937847. <https://doi.org/10.1080/23311975.2021.1937847>
- Ul Haq, I. & Awan, T.M.** (2020) Impact of e-banking service quality on e-loyalty in pandemic times through interplay of e-satisfaction. *Vilakshan - XIMB Journal of Management*, 17(1/2), pp. 39-55. <https://doi.org/10.1108/XJM-07-2020-0039>
- Vehapi, S., Šabotić, Z., & Lekpek, A.** (2026). The role of service quality and trust in creating customer satisfaction and loyalty in the internet banking sector: Empirical evidence from Serbia. In S. Veljković & M. Kostić-Stanković (Eds.), *Challenges and Perspectives of Marketing. Conference Proceedings* (Working Version), pp. 80-88. Serbian Marketing Association: Belgrade
- Yoon, C. (2010).** Antecedents of customer satisfaction with online banking in China: The effects of experience. *Computers in Human Behavior*, 26 (6), 1296-1304. <https://doi.org/10.1016/j.chb.2010.04.001>
- Zeithaml, V.A., Parasuraman, A., & Malhotra, A.** (2000). A conceptual framework for understanding e-service quality: implications for future research and managerial practice.

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