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ADOPTION OF ELECTRONIC BANKING: AN EXTENSION OF TECHNOLOGY ACCEPTANCE MODEL (TAM)

This study aims to investigate the factors influencing behavioral intention to use e-banking services as well as the impact of awareness as an external variable on the technology acceptance model (TAM). The study is based on original information gathered from 206 respondents who live throughout Kosovo. Confirmatory Factor Analysis and Structural Equation Model were employed in the analysis, which was conducted using AMOS statistical software. As a result, it was found that customers of banking institutions are not sufficiently aware of the usefulness of e-banking services and the opportunities offered. Perceived ease of use, perceived usefulness, and attitude seem to influence the intention to use e-banking. Attitude was found as a major predictor of the intention to use. Various marketing campaigns from financial institutions should focus on educating people about the advantages of using e-banking, such as time savings, lower transaction costs, up-to-date customers, and other information. Likewise, to create other benefits for e-banking services, only then will consumers have positive attitudes and intentions to use these services.

Keywords: *TAM, Awareness, E-Banking, Kosovo*

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1. INTRODUCTION

The COVID-19 pandemic has become a major threat to the global economy as well as financial markets (Perwei, 2020). The negative impact of the pandemic was especially noticeable in the banking sector (Kulińska-Sadłocha, et al., 2020). But on the other hand, during this period, technology has had a significant and very positive impact on the banking sector, thus enabling them to offer their services through electronic banking, consequently creating different applications, new services, easy access, and performing various banking transactions (Nadeera & Vidhyapriya, 2014). In other words, e-banking enables consumers to perform almost a considerable number of services, excluding cash (Sleimi & Karam, 2018), and enables them to realize services such as access to the bank information system at any time and in any place, to obtain the best banking service (Makkad & Sikdar, 2015). However, to have a positive approach to e-banking, consumers weigh several factors, such as perceived ease of use (usability), perceived usefulness, and the perceived reputation of e-banking (Hernandez & Jimenez, 2009). In this way, banks should have their sites constantly updated and very informative about the use of e-banking (Ansari, 2016). By doing that, they are trying to increase awareness about anything, which leads to consumer interest followed by other steps in the purchase process (Ansari & Alhazemi, 2016).

The impact of the pandemic on the banking sector was also observed in Kosovo, where the flourishing of e-banking was immediately noticed. The number of e-banking accounts increased significantly. In 2019, the number of e-banking accounts opened was 292,318, whereas, in the year of the pandemic, 2020, the number of accounts increased to 347,199. Also, the number of ATMs during 2019 was 494, while in 2020 it grew to 513 (banking in times COVID-19, 2020). Furthermore, an initiative for electronic signature was initiated by the Kosovo Banking Association. This will serve for online payments, where the transfer slip will be electronic, but also for other services, such as various conformations of banking transactions (electronic signature, a chance for the banking sector, 2021).

The primary goal of this study is to concentrate on consumer behavior and acceptability along with new technology-based services in Kosovo's banking industry (a developing country in Southeastern Europe). Companies are using technology to increase the variety of services they offer in an effort to gain a competitive edge. Through the course of this research, we will also learn how banking institutions function in terms of how much attention they devote to educating customers about new services—in this example, electronic banking services. And to the best knowledge of the authors, this is the first research that addresses this issue of e-banking in Kosovo, including the TAM model and awareness as an external variable.

The main objectives of this study are as follows: to examine the impact of awareness on the acceptability of electronic banking services; to examine the factors affecting attitude towards the use of electronic banking services; and to examine the factors affecting intention to use electronic banking services.

The first objective is to examine the impact of awareness on the acceptability of electronic banking services, or in other words, to investigate how much the banking sector's customers are aware of electronic banking services. The second objective is to examine the factors affecting attitudes towards the use of electronic banking services, namely which factors are taken into account by the customers of the banking sector in creating their attitudes towards the use of electronic banking services. The third objective is to examine the factors affecting intention to use electronic banking services, specifically the research of factors that have an impact on promoting the use of electronic banking services.

2. LITERATURE REVIEW: THEORY AND PRACTICE

2.1. Technology acceptance model (TAM)

The technology acceptance model (Figure 1) was presented for the first time by (Davis, 1986), and at the same time is one of the most cited models by researchers, who have used it to study the motivating factors towards the acceptance of new technological systems (Al-Smadi, 2012). TAM consists of three fundamental user motivation variables: perceived ease of use, perceived usefulness, and attitudes toward technology (Rad, et al., 2022).

The purpose of TAM is to explain components affecting computer applications' acceptance in general. Perceived ease of use and perceived usefulness are the two main criteria for accepting the technology presented by TAM (Davis & Bagozzi, 1989). Based on Lin & Wang (2020), Perceived ease of use expresses how a user perceives technology as something easy to use. Furthermore, perceived ease of use is considered as a primary determinant that explains the behavioral intention to use or accept new technology (Kalayou, Tilahun, & Endehabtu, 2020). This definition indicates that in the case of customers lacking experience or finding Internet banking difficult to use, customers will be less likely to use it. The fewer skills the system requires, the more likely to use Internet banking (Rawwash, Masa'd, Enaizan, Eneizan, & Adaileh, 2020). Moreover, it can be indicated that the higher the perceived ease-of-use, the higher the perception of benefits of using e-banking services (Haya, Maupa, & Kadir, 2021). While reviewing the literature,

it has been found that there is empirical support for the impact of ease of use on perceived usefulness (Al-Smadi, 2012; Cheng & Lam, 2006; Mutahar et al., 2018). Based on the existing literature, hypothesis 1 is constructed.

H1. Perceived ease of use has a positive effect on perceived usefulness.

During the literature review, we found a lot of evidence of previous works that show the importance of perceived ease of use on attitude (Al-Smadi, 2012; Cheng & Lam, 2006; Zhu et al., 2012), as well as its importance in intention to use (Fagan et al., 2008; Hu et al., 1999). Based on this research, we have drawn hypotheses 2 and 3.

H2. Perceived ease of use has a positive effect on attitude.

H3. Perceived ease of use has a positive effect on intention.

On the other hand, perceived usefulness is the degree to which a user believes that the use of new technologies will bring benefits. Perceived usefulness is the improvement of expected performance through the use of technology, where technology can be expected to improve performance at both the organizational and individual levels (Abdullah, Ward, & Ahmed, 2016). Many studies have been done considering the other elements of TAM. They highlighted the importance and impact that perceived usefulness has on attitude and intention to use (Mutahar & Isaac, 2018; Nguyen, 2020). These studies suggest that a positive attitude towards the proposed technology may be reflected by the intended users if they find it useful. Based on the findings of (Rawwash, Masa'd, Enaizan, Eneizan, & Adaileh, 2020), perceived usefulness is the major factor that influences e-banking adoption. Considering the existing literature, the following hypotheses are derived.

H4. Perceived usefulness has a positive effect on attitude.

H5. Perceived usefulness has a positive effect on the intention.

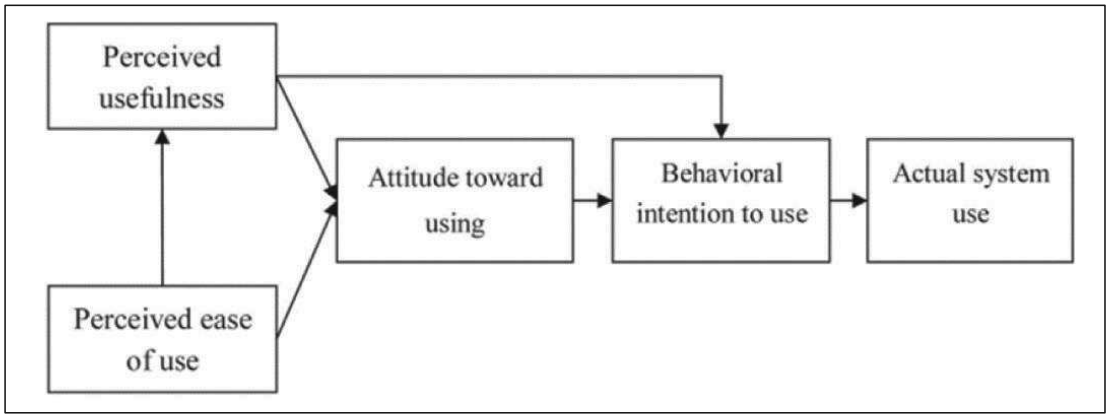
Authors that have reviewed the TAM model have also looked at how attitude affects intention and how important it is for utilizing new technology. Attitude Toward Use can be explained as a person's attitude towards the existing system, which is applied to determine the behaviour and intentions of the person. This points to a positive and significant effect of attitude on intention (Mutahar et al., 2018).

Based on this research, we have drawn hypotheses 6.

H6. Attitude has a positive effect on intention.

Figure 1.

TECHNOLOGY ACCEPTANCE MODEL (DAVIS 1986)



2.2. Customer awareness

When Davis (1986) introduced the technology acceptance model (TAM), he left opportunities for the inclusion of external variables, which could have an impact on the TAM construct. Since the banking industry in our country (Kosovo) is continually introducing new services that are based on technology, this study will examine if the banks are taking consumer awareness into account in addition to new technologies. We will therefore determine whether consumers are aware of the benefits that these technology-based banking services can provide as well as their simplicity of use. In most cases, consumers are initially reluctant when faced with new technologies. Therefore, awareness is important, which can be created through promotions or various announcements related to new technological products or services, thus influencing customers to accept them as easily as possible (Nadeera & Vidhyapriya, 2014). But it will also have a positive impact on consumers, as they will have high buying intentions and business achievement (Alaf, 2018). To summarize the meaning of awareness, it is the way customers are informed about the features of a product or service, convinced to try it, and reminded to repurchase it. When consumers are aware of products or services, the chances are very high that they will buy them (Ramli & Permana, 2020). Furthermore, Mansor & Shariff (2012) stated that for the banking sector, understanding awareness is essential to be competitive in the market. Therefore, Mutahar et al. (2018) added that it is much more important for consumers to be aware of the use and benefits of electronic banking services, specifically in the initial phases, so

the perception of risk towards these services is lessened. Therefore, banks should first get to know their customers and make more efforts to promote new products and services (Naser & Salem, 2013). Considering the existing literature, we have constructed hypotheses 7 and 8.

H7. Awareness has a positive effect on perceived ease of use.

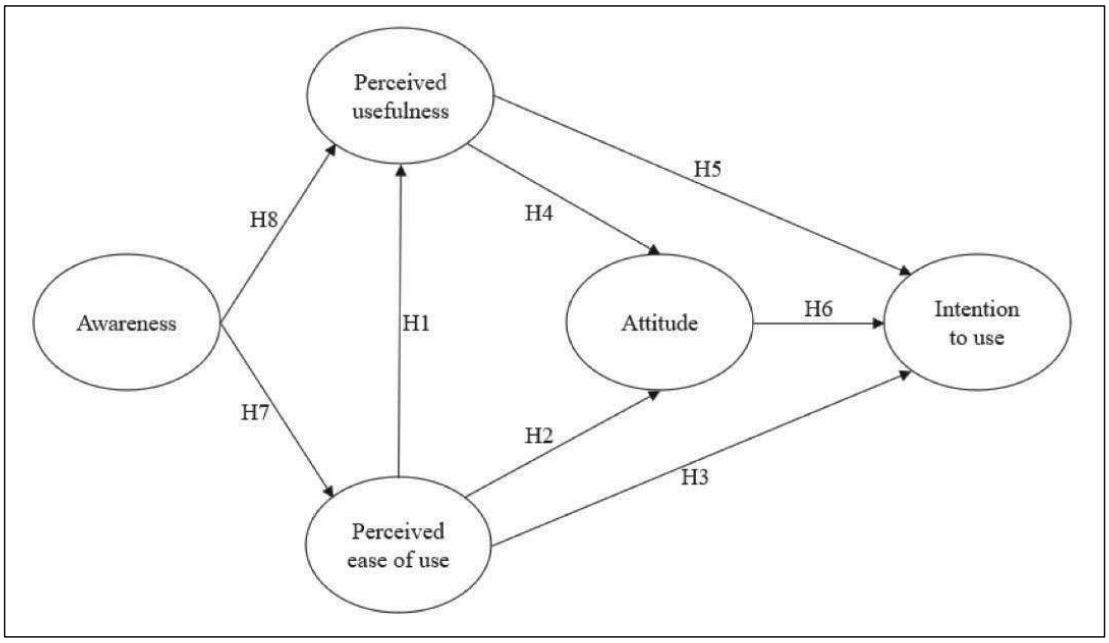
H8. Awareness has a positive effect on perceived usefulness.

2.3. Research model

The proposed research model is introduced in figure 2. The incorporation of awareness into the acceptance model describes how consumers should be aware of the use of new technology or new services.

Figure 2.

THE PROPOSED RESEARCH MODEL



3. METHODOLOGY

3.1. Data collection

The study is mainly based on the primary data collected through the existing questionnaire (Table 2). The data was gathered through convenience sampling in various cities throughout Kosovo, but only if the participants used electronic banking services. As we can see, the characteristics of the respondents have different profiles, and naturally, this is done on purpose so that the acceptability of the use of electronic banking services may have different approaches from participants depending on education, age, or income. The sample selected for the study belongs to different ages, while the largest number of respondents belongs to the age group of 18–30 years. Such a distribution is made taking into account the report of the Central Bank of Kosovo, where it is emphasized that the number of electronic banking transactions for those aged up to 35 years is over 61.25% (Central Bank of Republic of Kosovo, 2021). The distribution of questionnaires was done via email, using Google Form services. The sampling method used in this research is purposive sampling because this method is confined to specific types of people who can provide the desired information, namely users of electronic banking services. The survey was split into two parts. The first part had questions related to their gender, age, education, and occupation. On the other hand, the second part included 15 items for the five constructs. From 217 questionnaires, only 206 were valid, or 94.93% of the response rate. In table 1, we can see the demographic profile of respondents.

Table 1.

RESPONDENTS' PROFILE

Variables	Frequency	Percentage	Variables	Frequency	Percentage
Age			**Occupation**		
18-24	47	22.82	Student	36	17.5
25-30	85	41.26	Home duty	2	1.0
31-40	63	30.58	Self-employed	19	9.2
41-50	8	3.88	Private sector	93	45.1
51+	3	1.46	Public sector	56	27.2
Gender			**Education**		
Male	110	53.4	High school	3	1.5
Female	96	46.6	Bachelor degree	90	43.7
			Master degree	95	46.1
			PhD	18	8.7
Income (euro)					
0-250	36	17.48			
260-500	82	39.81			
500-750	51	24.76			
760-1000	17	8.25			
1000+	20	9.70			

3.2. Instruments' development

We used pre-existing questionnaires from the literature (Table 2) to measure consumer behavior toward the technology acceptance model as well as the construct of awareness. These questionnaires have been used in many types of research for the same purpose, only with different case studies depending on the location where the research was conducted. Thus, we have not made any changes to the adapted questions, as the same items have been used for identical purposes. Another reason for adopting the questionnaire in our research has been the high reliability and validity of the constructors in other research. The constructs and variables of the questionnaire can be seen in table 2. The five-component questionnaire covering customer awareness, perceived ease of use, perceived usefulness, attitude, and intention to use covered a total of 15 items. All questions were measured on a Likert scale from 1 to 5. Number 1 represents strongly disagree, number

2 represents disagree, number 3 represents neutral, number 4 represents agree, and number 5 represents strongly agree.

Table 2.

CONSTRUCTS AND VARIABLES

Constructs	**Items**	**Source**
Perceived ease of use	1. Learning to use e-banking services would be easy 2. Interaction with e-banking services does not require a lot of mental effort 3. It is easy to use e-banking services to accomplish my banking tasks	(Davis, 1989; Al-Smadi, 2012; Cheng & Lam, 2006; Akturan & Tezcan, 2012).
Perceived usefulness	1. Using e-banking services would enable me to accomplish my tasks more quickly 2. Using e-banking services would make it easier for me to carry out my tasks 3. E-banking services is useful	(Davis, 1989; Al-Smadi, 2012; Cheng & Lam, 2006; Akturan & Tezcan, 2012).
Attitude	1. Using e-banking services is a good idea 2. I like the idea of using e-banking services 3. Using e-banking services is a wise idea	(Cheng & Lam, 2006; Al-Smadi, 2012; Akturan & Tezcan, 2012).
Intention to use	1. I would use e-banking services for my banking needs 2. Using e-banking services for handling my banking transactions is something I would do 3. I would see myself using e-banking services for handling my banking transactions	(Cheng & Lam, 2006; Al-Smadi, 2012).
Customer awareness	1. Aware of the e-banking concept 2. Aware of e-banking service scope 3. Aware of the overall benefits of e-banking	(Ansari & Alhazemi, 2016)

4. FINDINGS

In this study, is performed SEM (Structural Equation Modelling) and CFA (Confirmatory Factor Analysis) using AMOS software. In the measurement model, composite reliability (CR) and average variance extracted (AVE) were assessed. Table 4 shows the value of both Composite Reliability and Cronbach‘s Alpha for each of the variables is>0.70. All exceeded the recommended 0.7 thresholds (Hair

et al., 2011), thus indicating a valid and reliable scale. On the other hand, the values of average variance extracted from AVE are >0.5, and it is referred to the convergent validity. According to Hair et al. (2011), the AVE should be above 0.5. In our case, it shows that all variables meet the criteria of convergent validity above 0.5.

Table 3.

RELIABILITY AND VALIDITY

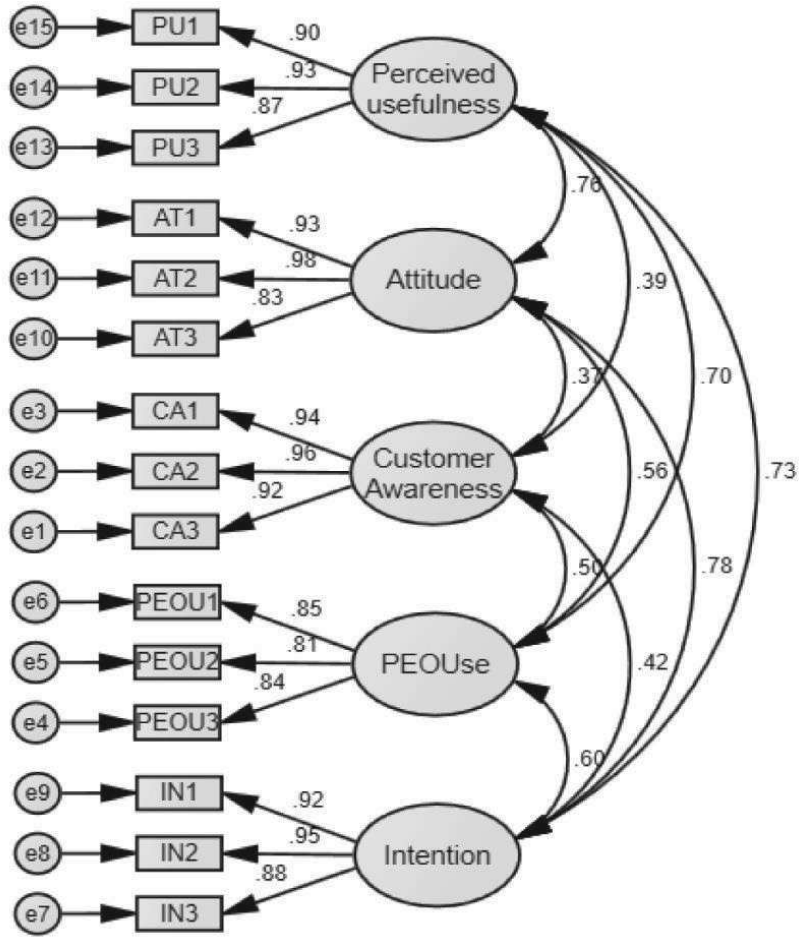
Constructs	**Cronbach's Alpha**	**CR**	**AVE**
Perceived usefulness	0.798	0.928	0.812
Attitude	0.803	0.939	0.837
Intention to use	0.800	0.940	0.839
Perceived ease of use	0.825	0.871	0.693
Customer awareness	0.879	0.957	0.881

Note: CR=Composite Reliability, AVE=Average Variance Extracted

Then we performed confirmatory factor analysis. According to Ullman & Bentler (2013), CFA is a fundamental component of SEM, the goal of which is to simply estimate the measurement model. The objective of confirmatory factor analysis is to test whether the data fits a hypothesized measurement model (Suhr, 2006). The measurement model, the standardized factor loadings, and model fit indices are shown in Figure 3.

Figure 3.

THE MEASUREMENT MODEL
(CONFIRMATORY FACTOR ANALYSIS-CFA)



CMIN/df (Chi-square Fit Statistics/Degree of Freedom) = 1.606
CFI (Comparative Fit Index) = 0.985
SRMR (Standardized Root Mean Square Residual) = 0.030
RMSEA (Root Mean Square Error of Approximation) = 0.054
PClose = 0.338

Therefore, confirmatory factor analysis is performed in order to evaluate how well each variable is explained by the factors. The closer to the value 1 that the standardized loading factors are, the better the variable is explained by certain factors. In the case of this study, the factors generally have a high value for each

variable, indicating that the variables are explained at an acceptable level by the factors. In other words, the high values of the factor loadings for this study show that the factors extract sufficient variance from the respective variables. Furthermore, CFA depicts relationship or factor correlation between variables. According to Ratner (2009) values of factor correlations between 0 and 0.3 indicate a weak positive relationship, values between 0.3 and 0.7 indicate a moderate positive relationship, and values between 0.7 and 1.0 indicate a strong positive relationship. Thus, the results of CFA (figure 3) shows that factor correlations generally indicate a positive relationship between variables.

Table 4.

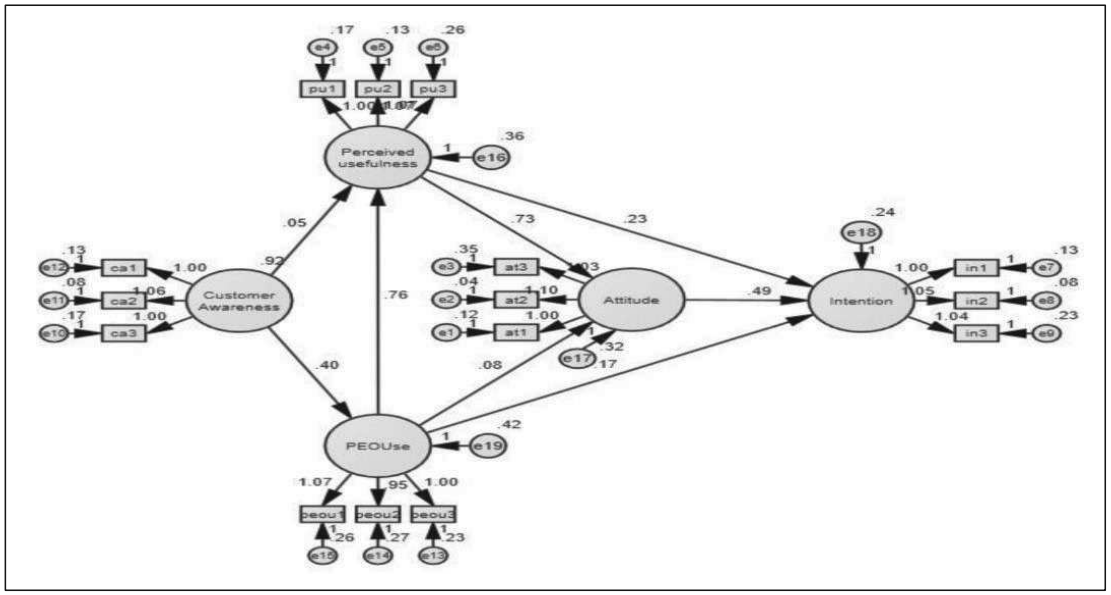
MODEL FIT MEASURES (STRUCTURAL EQUATION MODELLING)

Measure	**Estimate**	**Threshold**
GFI	0.922	<0.8
AGFI	0.886	<0.8
SRMR	0.04	<0.08
CFI	0.984	>0.95
RMSEA	0.055	<0.06
PClose	0.316	>0.05

SEM, in comparison to CFA, extends the possibility of relationships among the latent variables and typically includes two or more equations in the model (Schreiber et al., 2010). In reporting SEM analyses, it is a good idea to report multiple-fit indexes (Ullman, 2006). Table 4 presents model fit indexes of structural equation modelling. According to (Vigoda-Gadot et al., 2012) GFI/AGFI (Goodness of Fit/The Adjusted Goodness of Fit) should range from 0.9 to 1, whereas Doll et al. (1994) concluded that the value is acceptable if above 0.8. Hu & Bentler (1999) concluded that for standardized root mean square residual (SRMR), a value of less than .08 is generally considered a good fit. CFI (Comparative Fit Index) represents the amount of variance that has been accounted for in a covariance matrix. It ranges from 0.0 to 1.0. A higher CFI value indicates a better model fit (Fan et al., 1999; Hu & Bentler, 1999). Lastly, the acceptable RMSEA should be less than 0.06 (Hu & Bentler, 1999; Fan et al., 1999).

Figure 4.

RESULTS OF A STRUCTURAL EQUATION MODELING



The conceptual model was tested through path analysis in AMOS. Figure 5 shows the structural equation model (SEM).

Table 5.

ANALYTICAL RESULTS

Path	**Hypothesis**	**Standardized Regression Weights**	**P-Value**
Hypotheses related to TAM			
Perceived ease of use → Perceived usefulness	H1 (accepted)	0.76	***
Perceived ease of use → Attitude	H2 (not accepted)	0.08	.388
Perceived ease of use → Intention to use	H3 (accepted)	0.17	.03*
Perceived usefulness → Attitude	H4 (accepted)	0.73	***
Perceived usefulness → Intention to use	H5 (accepted)	0.23	.01*
Attitude → Intention to use	H6 (accepted)	0.49	***
Hypotheses related to extension variable			
Customer awareness → Perceived ease of use	H7 (accepted)	0.40	***
Customer awareness → Perceived usefulness	H8 (not accepted)	0.05	.392

*** Significant at 0.01 level; * Significant at 0.05 level

5. DISCUSSION

Based on the results, ease of use has a positive effect on perceived usefulness (H1). Our results corroborate the previous findings (Al-Smadi, 2012; Cheng & Lam, 2006; Mutahar, et al., 2018). Nguyen et al. (2019) concluded that improving perceived ease of use that reduces consumers' physical and mental effort will enhance their beliefs about the usefulness and effectiveness of internet banking. Our results highlight that the benefits of electronic banking depend on ease of use; in other words, consumers will benefit more from the ease of use of electronic banking services. Commercial banks in Kosovo have created various applications for the provision of online services, specifically the execution of banking transactions (payments, transfers), communication with bank staff, loan applications, account maintenance, the realization of which is made possible through e mobile. Through which banks try to provide electronic services as easily as possible for users.

Ease of use is not a factor that determines a positive attitude towards electronic banking. Thus, this hypothesis is not acceptable (H2). Our findings are in line with other studies (Hu et al., 1999; Nguyen, 2020). Although Zhu et al. (2012) found that perceived ease of use has a positive impact on attitude, our results cast a new light on perceived ease of use towards attitude, thus showing that perceived ease of use has no significant effect on attitude. This is due to the fact that the majority of respondents in our research do not see it as a problem using internet banking services but appreciate the benefits that the respective service brings.

The results show a positive impact of ease of use on intention to use (H3). Our findings appear to be well substantiated and supported by other discoveries (Hu et al., 1999; Fagan et al., 2008). Our finding implies the fact that the ease of use of electronic banking services is a very important factor in encouraging consumers to use the relevant services. Therefore, the design of e-services must provide an easy-to-use electronic system. The results of this research are very reasonable. As mentioned above, banks in Kosovo have created very convenient and easy-to-use applications, thus enabling consumers to use them without much effort. As well, with the creation of mobile banking, consumers are finding it easy to use electronic banking services anywhere and anytime.

We can conclude that usefulness affects the creation of positive attitudes towards electronic banking services (H4). Our findings bear a close resemblance to other findings (Hu et al., 1999; Mutahar et al., 2018; Nguyen, 2020). This implies that the greater the benefits of electronic banking services, including saving time and money, the more positive will be the attitude of consumers towards these services. But also, creating positive attitudes helps the consumer make easier and faster decisions.

Another important finding in our research is the impact of perceived usefulness on the intention to use electronic banking services (H5). Our results are in accordance with findings reported by (Nguyen, 2020; Mutahar et al., 2018). Nguyen (2020) underlines the importance of perceived usefulness on the intention to use electronic banking. Banks can take advantage of technological advances to enhance the usefulness of their services, focusing on promoting the development of their digital banking services. Our results can be explained by the fact that customers increasingly appreciate the advantages of digital services, such as the timesaving nature and diversity of services compared to performing transactions at the counter. Banks should provide services with as many as possible benefits to their customers. In this form, the perception of usefulness will be high, and this will affect the purpose of purchase or use.

Additional significant and positive effects on consumers' intention towards the use of electronic banking services are attitudes (H6). The results are in accordance with Mutahar et al. (2018). The results indicate that the more consumers have positive attitudes about electronic banking services, the more consumers will have the impetus and intention to use the respective services. Given that attitude has three components (behavior, cognition, and affect), which are related to each other and tend to learn to evaluate things in a certain way, having a positive attitude towards electronic banking services will positively affect the intention to use these services.

According to the testing results, customer awareness shows a positive and significant influence on the perceived ease of use (H7). The findings are consistent with Mutahar et al.'s (2018) study, which concluded that banks' information and guidance reduce the usage barrier. Based on our findings, we found that banks generally pay attention to the ease of use of the services they offer, thus making consumers aware of the ease of use of electronic banking services. Digitalization has led companies to use certain strategies to make consumers aware of the ease of using electronic banking. The reason for this is that banks in Kosovo have launched a number of informational campaigns to inform customers about the ease of using the electronic banking system. These campaigns include the creation of groups on social networks for information sharing with pertinent customers, through SMS banking, advertising, and other digital forms at no extra cost to customers.

The usefulness of a technology is a factor in its acceptability, in addition to its ease of use. The test results show that perceived usefulness is not significantly and positively influenced by consumer awareness (H8). As a result, Kosovo's consumers of electronic banking are unaware of the advantages that these services provide. Our findings contradict the findings of Mutahar et al.'s (2018). This can be explained by the fact that the growth of electronic banking services should be in direct proportion to making consumers aware of the usefulness of the services.

Consequently, this increases the possibilities for long-term use. Banks are mainly focused on ease of use, leaving aside the importance of making consumers aware of the usefulness of services.

6. THEORETICAL AND MANAGERIAL CONTRIBUTION

From a theoretical standpoint, the results presented make many contributions to the existing literature on electronic banking services. First, the research adds to the body of knowledge in the field by shedding light on the variables that directly affect the availability and uptake of electronic banking services. The information and findings demonstrate that there is a strong correlation between the availability of these services and the potential advantages of their continued use, which is a crucial prerequisite for adopting new technology and making use of advanced electronic services. Second, the article contributes to the scientific literature through the obtained results, which showed that PU, PEOU, and ATT have a positive effect on the acceptance and use of electronic banking services, and through this research, it was concluded that ATT had the highest impact among other variables with a positive impact. Long-term users of electronic banking services have strong attitudes toward the continuous use of these services, and the same will always apply to regular use.

The results obtained from the study enable bank managers to have easier decision-making based on relevant information in terms of planning, development, and strategic policies, to increase their clientele's awareness. Higher awareness will have a direct impact on the increase of sectoral competition. This will lead to an improvement in the performance of the banking system in general. As a result, we believe that for banking institutions and their management, a continuous commitment to improving the quality of electronic banking services is required, which can influence cost reductions for both the clientele and the banks themselves, influencing the creation of positive attitudes among bank clients toward the intention to use electronic services.

7. LIMITATION AND DIRECTION FOR FUTURE RESEARCH

The data and findings in this study should be evaluated within the following constraints: first off, not all potential determinants that can affect bank customers' acceptance of and intention to use electronic banking services in Kosovo are

likely to be covered by the variables examined in this study. The initial perception of new users and non-users may be the security and privacy aspect. therefore, in future research it is recommended that the model includes the issue of trust in the security and privacy of customer data, and the cost of electronic transactions and its impact on building trust in the use of these services. Second, even if the results are consistent with many studies that are quite similar to this one, the sample size limits how the results should be interpreted. Therefore, for future studies, it is recommended that the sample be more representative. Another possibility for future studies is to measure the effect of using e-banking services on the profitability of commercial banks.

8. CONCLUSION

Findings revealed that bank customers are aware of electronic banking services and know how to use them, as well as the ease of use, but are not sufficiently aware of the benefits offered by electronic banking services. Furthermore, based on the findings, we can conclude that perceived usefulness is one of the key components that determine the intention of using electronic banking services. As expected, the relationships between perceived usefulness, perceived ease of use, attitude, and intention to use were positive and highly significant, which was consistent with prior technology acceptance model research. Our findings support preliminary research showing that TAM is an adequate model for assessing consumer behavior towards the intention of using electronic banking services.

Since technology is enabling companies, especially those that provide services such as banks, to create new banking services based on technology, banks should also consider notifying and informing their customers about the use and usefulness of these services. Therefore, they need to make them aware through various campaigns, advertisements, messages, and direct communication with customers, especially about the usefulness and benefits they can get from these electronic banking services. Thus, indirectly affecting the intention to use electronic banking services.

REFERENCES

1. Abdullah, F., Ward, R., & Ahmed, E. (2016). Investigating the influence of the most commonly used external variables of TAM on students' Perceived Ease

of Use (PEOU) and Perceived Usefulness (PU) of e-portfolios. *Computers in Human Behavior, 63*, pp. 75-90. doi:https://doi.org/10.1016/j.chb.2016.05.014

2. Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market Perceptions and intentions. *Marketing Intelligence & Planning, 30*(4), 444-459. doi:10.1108/02634501211231928
3. Alaf, K. (2018). Customer Awareness of the Social Responsibility and Its Relation to Loyalty. *International Journal of Business and Management, 13*(6). doi:10.5539/ijbm.v13n6p144
4. Al-Smadi, M. (2012). Factors Affecting Adoption of Electronic Banking: An Analysis of the Perspectives of Bank's Customers. *International Journal of Business and Social Science, 3*(17), pp. 294-309.
5. Ansari, Z. A. (2016). Online shopping behaviour in Saudi Arabia – An emperical study. *International Journal of Advanced Research, 4*(5), pp. 689-697. doi:10.21474/IJAR01
6. Ansari, Z. A., & Alhazemi, A. (2016). AN EMPIRICAL STUDY OF THE CONSUMER AWARENESS AND ACCEPTANCE OF ONLINE SHOPPING IN SAUDI ARABIA. *International Journal of Development Research, 6*(2), pp. 6918-6925.
7. (2020). *Banking in times COVID-19*. Publication of Kosovo Banking Association.
8. Brezavšček, A., Šparl, P., & Žnidaršič, A. (2017). Factors Influencing the Behavioural Intention to Use Statistical Software: The Perspective of the Slovenian Students of Social Sciences. *EURASIA Journal of Mathematics Science and Technology Education, 13*(3), pp. 953-986. doi:10.12973/eurasia.2017.00652a
9. Central Bank of Republic of Kosovo. (2021). *Përdorimi i kartelave në Kosovë* . Prishtine: Central Bank of Republic of Kosovo .
10. Cheng, E., & Lam, D. (2006). Adoption of Internet banking: An empirical study in Hong Kong. *Decision Support Systems, 42*(3), pp. 1558-1572. doi:10.1016/j.dss.2006.01.002
11. Davis, F. (1986). *"A technology acceptance model for empirically testing new end-user information systems: Theory and results"*. Sloan School of Management, Massachusetts Institute of Technology, Doctoral dissertation.
12. Davis, F. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *Management Information Systems Research Center, 13*(3), pp. 319-340. doi:doi.org/10.2307/249008
13. Davis, F., & Bagozzi, R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management science, 35*(8), pp. 982-1003.

14. Doll, W. J., Xia, W., & Torkzadeh, G. (1994). A Confirmatory Factor Analysis of the End-User Computing Satisfaction Instrument. *MIS Quarterly*, pp. 453-461. doi:10.2307/249524
15. Fagan, M. H., Neill, S., & Wooldridge, B. R. (2008). Exploring the intention to use computers: An empirical investigation of the role of intrinsic motivation, extrinsic motivation, and perceived ease of use. *Journal of computer information systems, 48*(3), pp. 31-37.
16. Fan, X., Thompson, B., & Wang, L. (1999). Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), pp. 56-83. doi:10.1080/10705519909540119
17. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice, 19*(2), pp. 139-151. doi:10.2753/MTP1069-6679190202
18. Haya, F. F., Maupa, H., & Kadir, N. (2021). Factors Affecting Perception of Benefits of Using E-Banking Services. *International Journal of Innovative Science and Research Technology , 6*(1), pp. 795-799.
19. Hernandez, B., & Jimenez, J. (2009). Adoption vs acceptance of e-commerce: two different decisions. *European Journal of Marketing, 43*(9/10), pp. 1232-1245. doi:10.1108/03090560910976465
20. Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), pp. 1-55. doi:10.1080/10705519909540118
21. Hu, P. J., Chau, P. Y., Sheng, O. R., & Tam, K. Y. (1999). Examining the Technology Acceptance Model Using Physician Acceptance of Telemedicine Technology. *Journal of Management Information Systems, 16*(2), pp. 91-112. doi:10.1080/07421222.1999.11518247
22. Hussein, Z. (2017). Leading to Intention:The Role of Attitude in Relation to Technology Acceptance Model in E-Learning. *Procedia Computer Science, 105*, pp. 159-164.
23. Jöreskog, K. G. (1969). A general approach to confirmatory maximum likelihood factor analysis. *Psychometrika, 34*(2), pp. 183-202. doi:10.1007/BF02289343
24. Kalayou, M. H., Tilahun, B., & Endehabtu, B. F. (2020). The Applicability of the Modified Technology Acceptance Model (TAM) on the Sustainable Adoption of eHealth Systems in Resource-Limited Settings. *Journal of Multidisciplinary Healthcare, 13*, pp. 1827-1837. doi:https://doi.org/10.2147/JMDH.S284973

25. Kulińska-Sadłocha, E., Marcinkowska, M., & Szambelańczyk, J. (2020). The impact of pandemic risk on the activity of banks based on the Polish banking sector in the face of COVID-19. *Bezpieczny Bank, 2*(79), pp. 31-59. doi:10.26354/bb.3.2.79.2020

26. Lin, W.-R., & Wang, Y.-H. (2020). Analyzing the factors influencing adoption intention of internet banking: Applying DEMATEL-ANP-SEM approach. *Journal: Plos One, 15*(2). doi:10.1371/journal.pone.0227852

27. Makkad, M., & Sikdar, P. (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), pp. 760-785. doi:10.1108/IJBM-11-2014-0161

28. Mansor, N., & Shariff, A. (2012). Determinants of Awareness on Islamic Financial Institution E-Banking among Malaysian SMEs. *International Journal of Business and Social Science, 3*(5), pp. 93-101.

29. Mutahar, A., Isaac, O., & Aldholay, A. (2018). The effect of awareness and perceived risk on the technology acceptance model (TAM): mobile banking in Yemen. *International Journal of Services and Standards, 12*(2), pp. 180-204. doi:10.1504/IJSS.2018.091840

30. Nadeera, T., & Vidhyapriya, P. (2014). ustomer Awareness on Technology Products of Karur Vysya Bank. *European Journal of Business and Management, 6*(34), pp. 187-193.

31. Naser, K., & Salem, A. (2013). Customers Awareness and Satisfaction of Islamic Banking Products and Services: Evidence from the Kuwait Finance House. *International Journal of Marketing Studies, 5*(6), pp.185-199. doi:10.5539/ijms.v5n6p185

32. *Nënshkrimi elektronik, mundësi për sektorin bankar.* (2021, 05 20). Retrieved from www.bankassoc-kos.com: https://www.bankassoc-kos.com/Al/lajme/568/electronic-signature-an-opportunity-for-the-banking-sector/?fbclid=IwAR1uw-OHWw35rxJBm50GeRyBdlMxPWRyXxUiWxdSwC2mV59srP8Ic0lY2F0

33. Nguyen, O. T. (2020). Factors Affecting the Intention to Use Digital Banking in Vietnam. *Journal of Asian Finance, Economics and Business, 7*(3), pp. 303-310. doi:10.13106/jafeb.2020.vol7.no3.303

34. Nguyen, T. T., Nguyen, N., Nguyen, T. B., Phan, T. T., Bui, L. P., & Moon, H. C. (2019). Investigating consumer attitude and intention towards online food purchasing in an emerging economy: an extended TAM approach. *Foods, 8*, pp. 2-15. doi:10.3390/foods8110576

35. Perwei, A. (2020). The impact of pandemic COVID-19 on the Indian banking system. *International Journal of Recent Scientific Research, 11*(10), pp. 39873-39883. doi:10.24327/ijrsr.2020.1110.5578

36. Rad, D., Egerau, A., Roman, A., Dughi, T., Balas, E., Maier, R., ... Rad, G. (2022). A Preliminary Investigation of the Technology Acceptance Model (TAM) in Early Childhood Education and Care. *Broad Research in Artificial Intelligence and Neuroscience, 13*(1), pp. 518-533. doi:https://doi.org/10.18662/brain/13.1/297

37. Ramli, Y., & Permana, D. (2020). THE IMPLICATION OF GREEN MARKETING THAT INFLUENCE THE CUSTOMER AWARENESS TOWARDS THEIR PURCHASE DECISION. *Jurnal Ilmiah Manajemen, 10*(3), pp. 385-399.

38. Ratner, B. (2009). The correlation coefficient: Its values range between +1/-1, or do they? *Journal of Targeting, Measurement and Analysis for Marketing 17,* pp. 139-142. doi:https://doi.org/10.1057/jt.2009.5

39. Rawwash, H., Masa'd, F., Enaizan, O., Eneizan, B., & Adaileh, M. (2020). Factors affecting Jordanian electronic banking services. *Management Science Letters*, pp. 915-922. doi:doi: 10.5267/j.msl.2019.10.004

40. Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online, 8*(2), pp. 34-74.

41. Schreiber, J., Nora, A., Stage, F., Barlow, E., & King, J. (2010). Reporting Structural Equation Modeling and Confirmatory Factor Analysis Results: A Review. *The Journal of Educational Research, 99*(6), pp. 323-338. doi:10.3200/JOER.99.6.323-338

42. Sleimi, M., & Karam, A. (2018). The Impact of E-Banking Services Quality on Customers Satisfaction Moderated by Customer Trust: Survey on Arab Bank in Amman, Jordan. *Journal of Al-Quds Open University for Administrative & Economic Research, 3*(9), 24-37. doi:10.5281/zenodo.1405450

43. Suhr, D. D. (2006). Exploratory or Confirmatory Factor Analysis? *Statistics and Data Analysis*.

44. Ullman, J. (2006). Structural Equation Modeling: Reviewing the Basics and Moving Forward. *Journal of personality assessment, 87*(1), pp. 35-50. doi:10.1207/s15327752jpa8701_03

45. Ullman, J., & Bentler, P. (2013). *Structural Equation Modeling*. John Wiley & Sons, Inc.

46. Vigoda-Gadot, E., Zalmanovitch, Y., & Belonogov, A. (2012). Public Servants' Trust in Citizens: An Extension of Theory and an Empirical Examination with Structural Equation Modeling (SEM). *Public Organization Review A Global Journal*, pp. 383-399. doi:10.1007/s11115-012-0179-6

47. Zhu, D.-S., Lin, T. C.-T., & Hsu, Y.-C. (2012). Using the technology acceptance model to evaluate user attitude and intention of use for online games. *Total Quality Management, 23*(8), pp. 965-980. doi:10.1080/14783363.2012.704269

USVAJANJE ELEKTRONIČKOG BANKARSTVA: PROŠIRENJE MODELA PRIHVAĆANJA TEHNOLOGIJE (TAM)

Sažetak

Ovo istraživanje ima za cilj istražiti čimbenike koji utječu na bihevioralnu namjeru korištenja usluga e-bankarstva, kao i utjecaj svijesti, kao vanjske varijable, na model prihvaćanja tehnologije (TAM). Studija se temelji na izvornim podacima prikupljenima od strane 206 ispitanika koji žive diljem Kosova. Konfirmatorna faktorska analiza i model strukturnih jednadžbi korišteni su u analizi, koja je provedena pomoću statističkog softvera AMOS. Slijedom toga, utvrđeno je da klijenti bankarskih institucija nisu dovoljno svjesni korisnosti usluga e-bankarstva i mogućnosti koje se nude. Čini se da percipirana jednostavnost korištenja, percipirana korisnost i stav utječu na namjeru korištenja e-bankarstva. Utvrđeno je da je stav glavni pokazatelj namjere korištenja. Različite marketinške kampanje financijskih institucija trebale bi se fokusirati na educiranje ljudi o prednostima korištenja e-bankarstva kao što su ušteda vremena, niži transakcijski troškovi, ažurni klijenti i drugo. Isto tako, trebaju stvoriti i druge pogodnosti e-bankarskih usluga jer će tek tada potrošači imati pozitivne stavove i namjere za korištenje tih usluga.

Ključne riječi: TAM, svijest, e-bankarstvo, Kosovo