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FACTORS THAT INFLUENCE ON E-BANKING ADOPTION MEDIATING THE ROLE OF PERCEIVED USEFULNESS IN CASE OF SOMALIA

MOHAMED ISMAIL MOHAMED

Faculty of Accountancy, SIMAD University, Mogadishu, Somalia.
Email: mismail@simad.edu.so

YONIS ALI MUKHTAR

Faculty of Management Sciences, SIMAD University, Mogadishu, Somalia.
Email: yonis@simad.edu.so

Abstract

Purpose – The objective of this paper is to investigate determinants of e-banking adoption mediating the role of perceived usefulness in case of Somalia. **Design/methodology/approach –** This study utilizes perceived ease of use and perceived usefulness variables as an original factor of the theory of technology acceptance Model (TAM).Moreover, internet speed and trust participants of this study. Convenience sampling technique was conducted in the survey as well as contributors of the study were potential and current e-banking service users. The structural equation modeling (SEM) was utilized in the study. **Findings –** The results show that internet speed, perceived ease of use and perceived usefulness has positively and significantly impacted one-banking adoption. On the other hand, perceived trust is not related to e-banking adoption. Moreover, perceived usefulness mediates the relationship between internet speed, perceived ease of use, perceived trust and adoption of e-banking in Somalia context. **Originality/value** – This study is an original attempt for examining the factors those determines the adoption of e-banking services regarding Somali commercial banks' customers with mediation of perceived usefulness by changing the TAM. Hence, it contributes to the e-banking field in the context of Somalia.

Keywords: e-banking adoption, the theory of technology acceptance Model (TAM), Somalia

Paper type Research paper

1. INTRODUCTION

The electronic banking concept has been used over the world, particularly in industrialized countries as contrasted to underdeveloped countries, and Somalia is no exception to this trend (Mohamad 2011). E-banking is a relatively new idea in Somalia, and it is still in its early stages, despite the fact that use is rapidly increasing in emerging countries (Sayid & Echchabi, 2012). The rapid development of information technology (IT) such as e-banking in recent years has ushered in various changes, particularly in the way banks deliver services to their consumers. Financial service providers, such as the financial sector, are regarded as the most important and IT-intensive service industry since they are the largest IT service providers, spending vast sums of money on IT systems (Alkafagi, 2015). Customers nowadays are much more interested in having a good e-service experience.

According to studies, e-banking innovation not only saves time and money, but also offers bank customers reduced risk (for example, loss and theft), fewer service charges, convenience,

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rapid accessibility, and payment (Bacinello, Carmona, Tomelim, Da Cunha, & Tontini, 2017). Internet banking helps customers improve their job performance, according to Hamid, Razak, Bakar, and Abdullah (2016). E-banking, according to Adams, Bashiru, and Abdulai (2016), benefits banks more than customers. The impact of the internet of things (IoT) era on the banking sector has made the traditional banking system obsolete. Because of the contactless nature of e-banking, as well as its 24/7 convenience and accessibility, flexibility, and other benefits, bank customers do not need to visit the bank to do any transactions (Donovan, 2012; Auta, E. M. 2010; Lee and Chung, 2009).

However, despite the readiness of a large number of Somalis to use e-banking, the key challenge is how to use the technology (i.e. computer) in combination with sluggish internet speed, customer trust, perceived utility, and perceived simplicity of use (Sayid, & Echchabi, 2012; Mutengezanwa, & Mauchi, 2013). Nevertheless, e-banking usage in Somalia has been steadily increasing, owing to its simplicity of use and the high rate of mobile phone users, which is consistent with Au and Kauffman's (2008) "customer choice and demand" hypothesis. This idea states that customers can choose to utilize any financial technology, such as e-banking, based on how easy it is to use and other appealing qualities they perceive.

Concerns about poor service quality and client discontent are two difficulties with e-banking adoption (Amin, 2016; Calisir and Gumussoy, 2008). The biggest cause of client unhappiness with e-banking, according to Bhattacharjee (2017), is a lack of confidence. Slow internet speed, internet experience, lack of government support, security and privacy, and customer trust have all been identified as issues in developing countries (Sánchez-Torres, Canada, Sandoval, and Alzate, 2018; Bacinello, Carmona, Tomelim, Cunha, & Tontini, 2017; Rahman, Saha, Sarker, Sultana, and Prodhan, 2017; Daniel, and Jonathan, 2013; Ibok, and Ikoh, 2013). Several studies have examined various aspects of the e-banking concept in developing countries since its introduction (Courchane et al., 2002; Pikkarainen et al., 2004; Mattila and Mattila, 2005; Roussos, 2007; Forrester Research, 2009; The World Bank, 2009; Yousafzai and Yani-de-Soriano, 2012; Devi Juwaheer, Pudaruth, & Ramdin, 2012. Many studies have attempted to identify the factors such as (perceived ease of use, perceived usefulness, income level, educational level, age, and so on) that influence e-banking adoption in developing countries by employing a variety of theories, including the technology acceptance model (Davis, 1989), theory of reasoned action (Fishbein and Ajzen, 1975), and theory of planned behavior (Ajzen, 1991).

However, only a few studies have looked at consumer trust and internet speed, as well as perceived ease of use and perceived utility as predictors of e-banking uptake, particularly in Somalia (Sayid, & Echchabi, 2012; Mutengezanwa, & Mauchi, 2013). As a result, the study intends to address this gap by giving further evidence that supports the above-mentioned difficulties, such as lack of usage, resistance from the general public, and a lack of up-to-date services, among others. This study also aims to investigate how consumer trust influences e-banking adoption among Somalia's university students in Mogadishu, in order to represent the context of e-banking adoption in Somalia. Furthermore, in Somalia, these predictors of e-banking adoption have been a lingering concern for some time.

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Lastly, numerous researches have demonstrated that e-banking is widely used in underdeveloped countries. However, there is just a little amount of research on e-banking usage in impoverished countries, particularly in Somalia. As a result, the importance of identifying the characteristics that will stimulate and improve the adoption of internet banking services becomes critical for the current study. The rest of this article is structured in the following way. The first component is an introduction, followed by a review of relevant literature and hypothesis development evidence from previous studies. The technique used in this study is described in section three, and the results and discussion are summarized in section four and five respectively. Finally, the study's conclusion is presented in section five.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In Somalia, the introduction of internet banking technology such as e-banking has resulted in changes in the way financial and banking services are provided to customers. (Madulu, 2014 cited in Gas 2016). This is because e-banking makes it easier to use online banking services like ATMs and computers. Following the breakdown of Somalia's government in 1991, headed by former President Siyad Barre, the financial sector has experienced significant reforms, particularly in the Central Bank and the entire banking system of Somalia.(Echchabi &Sayid, 2013).As a result, by the end of 2006, the central bank had able to reopen its offices in Mogadishu and other major cities. As a result, the "Hawaleh System" of money transfer companies was established with the goal of providing critical banking services such as electronic banking. The Hawaleh System (remittance providers) has offices all over the world, making it a well-known financial player in Somalia. This, combined with the speedier and lower service charges they provided, improved public trust and trustworthiness (Sayid,& Echchabi, 2013).

In addition, the Hawaleh system's primary function is to transfer money between foreign countries and within the country. For example, this e-banking (money transfer) platform allows Somali students studying in Malaysia to conduct their e-banking transactions at any time, as long as they have access to a computer or IT equipment that is connected to the internet. There are also other e-banking options, such as ZAAD (established by Telsom in 2009 as Somaliland's first money transfer system) and e-Dahab (launched by Dahabshil in 2014). (Gas, 2016).Despite the popularity of these e-banking services, there are still challenges with people's unwillingness to using them. The electronic banking concept has been in use for a long time and is fast expanding over the world, particularly in wealthy countries compared to underdeveloped countries. The internet of things (IoT) era has led to the adoption of e-commerce, such as e-banking, as a competitive advantage for the banking sector since it provides a flexible and convenient banking platform that enhances client trust and happiness. In terms of customer service quality, banking security, and how customers perceive utility and convenience of use, as well as customer trust, e-banking is widely recognized globally. Furthermore, e-banking is gaining traction over traditional banking, and retaining customers' loyalty and patronage demands providing high-quality e-services that earn their trust.

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Davis (1989) primarily designed the TAM constructs, particularly perceive usefulness and perceive ease of use, to address e-mail difficulties. For instance, according to Davis (1989), his suggested model, TAM, is primarily designed to assess user adoption of IS such as e-banking by evaluating bank customers' desire to adopt e-banking using perceived usefulness and perceived ease of use components. Several authors have proposed several definitions of electronic banking. These definitions primarily include topics such as the services provided, the benefits of e-banking, and the various degrees of e-banking (Mutengezanwa, and Mauchi, 2013).

The study's underpinning idea is the technology acceptance model, which is used to explain why people want to use e-banking.TAM is a theory that explains why people accept or reject information system applications like e-banking. TAM arose from past work on the "Theory of Reasoned Action (TRA) proposed by Cunningham, Taylor, and Todd (1985)" and the "Theory of Planned Behaviors (TPB) proposed by Fishbein and Ajzen (1975). During his doctoral thesis at MIT Sloan School of Management in Cambridge, Massachusetts, Fred Davis developed the TAM model. Davis (1989) primarily designed the TAM categories, particularly perceived utility and perceived ease of use, to address e-banking acceptance concerns.

Customers' trust (which is regarded as an element of performance expectancy) and internet speed (which is regarded as one of the vital facilitating conditions for e-banking adoption) have been found to have a significant impact on users' intention to adopt Venkatesh, Morris, Davis, and Davis' theory of internet banking adoption (2003).In other words, a poor internet connection combined with a high rate of internet security breaches that cause users to doubt the bank's reliability and genuity would eventually discourage users from using e-banking. In addition, Gunaratnam et al. (2017) revealed that among the four predictors of e-banking practice (content and website layout, speed of delivery, privacy and security, ease and accessibility), internet speed had the most significant impact on e-banking practice in Jaffna city, Sri Lanka. Customers can also use their credit cards to make purchases, which makes them feel more at ease because delivery is free and reasonable (Gounaris & Koritos, 2008).

Internet speed is important for client convenience because it is available 24 hours a day, 365 days a year, something that is not achievable with e-commerce. Previous studies (for example, Chavan, 2013; Haque, Ismail, & Daraz, 2009; Al- Somali et al., 2009) identified a strong relationship between internet speed and intention to use e-banking, however other researchers (Amin, 2016; Floh & Treiblmaier, 2006; Poon, 2007) found no such relationship. To reconcile the contradictory findings in the literature, the following hypothesis, which explains the association between internet speed and the intention to use e-banking in Somalia, should be used. As a result, the following hypothesis was developed in this study: Previous studies (for example, Chavan, 2013; Haque, Ismail, & Daraz, 2009; Al- Somali et al., 2009) identified a strong relationship between internet speed and intention to use e-banking, however other researchers (Amin, 2016; Floh & Treiblmaier, 2006; Poon, 2007) found no such relationship. To reconcile the contradictory findings in the literature, the following hypothesis, which explains the association between internet speed and the intention to use e-banking in Somalia, should be used. As a result, the following hypothesis was developed in this study:

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H1: There is a significant relationship between internet speed and e-banking adoption.

H2: Perceived usefulness mediates the relationship between internet speed and e-banking adoption.

Customers' readiness to use online banking with the expectation that the bank would fulfill their service obligations regardless of the customers' ability to monitor or regulate the service provider's activities is referred to as trust. Trust is a valuable resource that shapes user perceptions and facilitates the adoption of new technologies such as e-banking and e-commerce. (Chen and Barnes, 2007). Besides, several researchers have discovered that trust is the primary driver for e-banking adoption in the majority of cases. As a result, in order to reconcile the disparities in the research, the following hypothesis, which elaborates the relationship between trust and the intention to embrace e-banking in Somalia, is appropriate. As a result, the following hypothesis was developed in this study:

H3: There is a significant relationship between trust and e-banking adoption.

H4: Perceived usefulness mediates the relationship between Trust and e-banking adoption.

The level at which a user believes a given approach will be effective in terms of transfers and utilization is referred to as perceived ease of use (Davis, 1989). As a result, whenever a client believes that e-banking is safe, simple to use, and free of charge, the chances of them adopting new technology are high. Several studies, such as (Saidi, et al 2016; Maduku, 2014; Mazuri, Samar, Norjaya, and Feras, 2017) have discovered that perceived ease of use has a substantial impact on e-banking, particularly in poor countries. While some scholars, such as Sayid and Echchabi (2012), disagree that perceived ease of use has a substantial impact on online banking adoption, they argue that Somalia's culture encourages risk taking rather than risk avoidance. Similarly, Yuan, Liu, Yao, and Liu (2016) arrive at similar conclusions. However, the following hypothesis was improved in this study to validate these contradictory results:

H5: There is a significant relationship between perceived ease of use and e-banking adoption.

H6: Perceived usefulness mediates the relationship between perceived ease of use and e-banking adoption.

Davis (1989) highlighted Perceive Usefulness as one of the primary factors driving e-banking adoption. It relates to how much a person who uses e-banking believes it will improve his or her financial services and banking activities. However, the majority of past research has shown that perceived utility has a considerable beneficial impact on e-banking uptake (Al-shbiel & Ahmad, 2016; Al-smadi, 2012). Furthermore, Tran and Corner (2016) found that perceived utility has the greatest impact on e-banking adoption in New Zealand studies. On the other hand, some research has found that perceived utility has a detrimental impact on the adoption of new e-banking technology. Aboelmaged and Gebba (2013) discovered that perceived utility has little bearing on mobile banking adoption in the United Arab Emirates (UAE). As a result, the following hypothesis will be used to hypothesize the literature as indicated above:

H7: There is a significant relationship between perceived usefulness and e-banking adoption.

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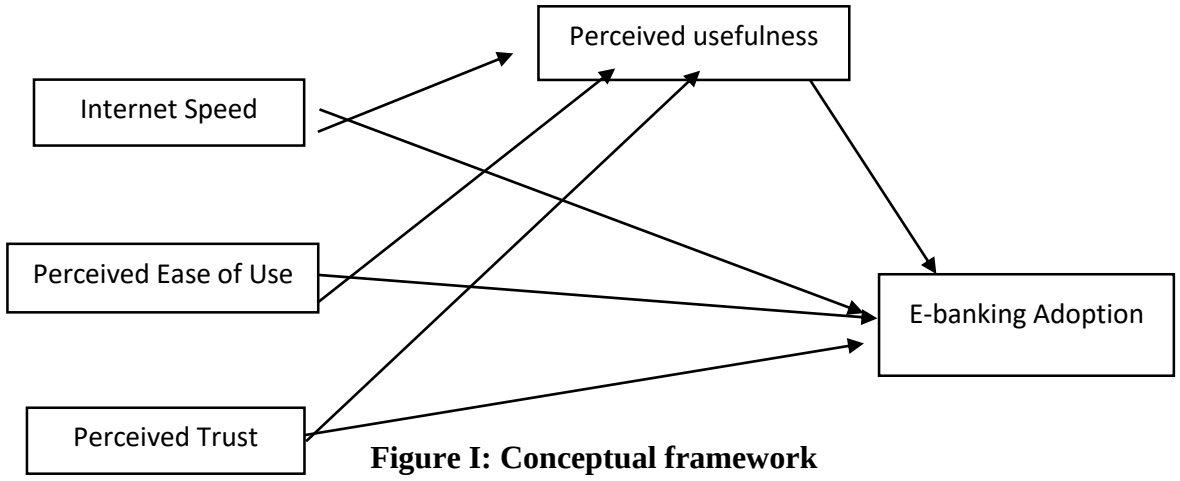

Figure I: Conceptual framework

3. RESEARCH METHOD

Participants in the research

Participants of this study are current and potential mobile wallet users in Somalia. The data was gathered through survey from residents of Mogadishu-Somalia. The authors used Google document form survey and distributed through social media platforms including Facebook, WhatsApp, and emails of respondents. 336 responses were recorded from February - May 2022 but 332 responses were usable. In this study, the convenience sampling technique was utilized because the target population is infinite. Moreover, convenience sampling is normally utilized by many researchers and these prior empirical studies used this technique include(Al-ashban & Burney, 2001; Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Simintiras, 2016).Consequently, the authors adopted this sampling technique in the present study.

Measures of the variables

All variables of this study were adapted from past e-baking adoption studies. All measures of the variables such as internet speed was adapted from (Poon, 2003; Tan, 2000). Similarly, trust items was adapted from(Suh & Han, 2002). Perceived ease of use was adopted(Ho & Ko, 2008) while perceived usefulness was adapted from (Lai & Li, 2005). Finally, e-banking adoption item was adopted from (Davis, 1989). In this study, 70 percent of the respondents were male while the others, 30 percent, of the sampled respondents were female. In terms of age groups, the largest percentage of the study participants was 21-30 years old and they equivalent of 81 percent of total respondents. The respondents those ages between 31 and 40 years old represented 16.30 percent of the sampled respondents. While people those ages were 41 and above years old equivalent only 2.7 percent. On the other hand, about 60 percent of the respondents were bachelor degree while nearly 35 percent of the respondents were master's degree and the rest of the respondents (5.5 percent) had other certificates. In terms of the marital status group, single respondents contributed largely to the study sample those consisted about 64 percent while married contributors were only 36 percent. The income level of most of

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sampled respondents (48 percent) was lower than USD400 while 29 percent of the respondents were in between USD 401 and USD 800. The income level of remaining respondents was above USD 800 (23 percent). Lastly, 50.6 percent of the respondents employed private business while 30.4 percent of respondents were self-employed and 9.0 and 9.9 percent of study contributors were government employees and others respectively (See Table I).

4. STATISTICAL ANALYSIS AND RESULTS

Data Analysis

The authors used Partial Least Squares software: Smart PLS 3 in this study to assess the measurement and structural model. The software usage was proposed by (Hair et al., 2011).The reasons behind using the PLS was two main reasons: first reason is that PLS is a superior approach for this study since it is exploratory in nature Henseler *et al*, 2009). The Second reason is that PLS has recently grown its acceptance in the consumer and service research area (Sarstedt, 2008).

Table I: Overall profile of the Respondents

Variable	Frequency	Percent (%)
Gender		
Male	268	80.7
Female	64	19.3
Age		
21-30	269	81.0
31-40	54	16.3
41-50	7	2.1
51 and above	2	0.6
Education Level		
Secondary School	6	1.8
Bachelor Degree	199	59.9
Master Degree	115	34.6
PHD	9	2.7
Other	3	.9
Marital Status		
Single	213	64.2
Married	119	35.8
Income Group		
less than $400	160	48.2
$ 401 – 800	97	29.2
$ 801 – 1200	37	11.1
$ 1200 and above	38	11.4
Occupation		
Government	30	9.0
Private	168	50.6
Self Employed	101	30.4
Other	33	9.9

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Measurement Model

Convergent validity (Loading), average variance extracted (AVE), composite reliability we used in the study. Moreover, discriminant validity was also applied as an assessment of measurement model. All the assessments were confirmed by the PLS algorithm and all factor loadings greater than the suggested 0.7 threshold excepting (EBA1, EBA3 and ISI1) items and these three measures are near to 0.7 as shown (Table II). Factor loading values those equal to or exceed 0.6 are adequate if the summation of loadings result in high loading scores, contributing to AVE scores of greater than 0.6 (Byrne, 2016). Thus, the authors keep (EBA1, EBA3 and ISI1) items in the model. Hence, all average extracted variance (AVE) and composite reliability (CR) values are in line with acceptable scores, that is 0.5 and 0.7 respectively. Fornel- Larcker criterion was chosen in the study to assess discriminant validity. Root square of AVE and all inter-construct correlations are compared. (Fornell & Larcker, 1981) suggested that each AVE of construct should be greater than its squared correlation with any other construct to pass the discriminant validity assessment of the model. Lastly, Fornel-Larcker criterion is satisfied the criteria and no cross-loadings is higher than the respective loadings which shows that discriminant validity is superior in this study (See Table III). Hetrotrait Monotrait ratio (HTMT) is confirmed to be a new and improved criterion to evaluate discriminant validity (Henseler et al., 2015). Henseler et al. (2015) also proposed that he cut-off values or limit which states that HTMT ratio should below 1 to establish discriminant validity. Table IV indicates that all figures are less than the limit point and therefore discriminant validity is established. Hence, the measurement model in this study has been satisfactory discriminant validity. The authors perform further analysis to assess the structural model and hypotheses testing since the measurement model of the study indicates an acceptable level of both reliability and validity.

Table II: Factor Loading and Reliability

Construct	Items	Loading	CR	AVE
EBA	EBA1	0.683	0.774	0.535
	EBA2	0.808		
	EBA3	0.696		
IS	IS1	0.681	0.772	0.531
	IS2	0.730		
	IS3	0.771		
PE	PE1	0.811	0.799	0.571
	PE2	0.715		
	PE3	0.738		
PU	PU1	0.787	0.846	0.579
	PU2	0.716		
	PU3	0.813		
	PU4	0.722		
TR	TR1	0.706	0.792	0.559
	TR2	0.777		
	TR3	0.759		

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Table III: Fornell-Larcker Criterion

Constructs	EBA	IS	PE	PU	TR
EBA	0.731				
IS	0.519	0.728			
PE	0.566	0.521	0.756		
PU	0.584	0.506	0.571	0.761	
TR	0.421	0.434	0.420	0.463	0.748

Table IV: HTMT

Constructs	EBA	IS	PE	PU	TR
EBA					
IS	0.919				
PE	0.953	0.880			
PU	0.890	0.762	0.822		
TR	0.708	0.716	0.665	0.651	

Structural Model

The assessment of structural was done for determining the predictive power of the model in the study. The aim behind using the model is to describe the extent degree of dependent variable is explained as well as unexplained variances by independent variables. Moreover, the relationships between the latent constructs of the study are evaluated in this research. The R-square value (R^2) and Q^2 predictive relevance have been calculated to determine the predictive power of the model. On the other side, the authors evaluated hypothesized relationships of the variables which indicates the degree of dependent variable is affected by independent variables using the path coefficients. Bootstrapping technique was used to evaluate the structural model of the study and the 500 bootstrap samples have been used to construct stable intervals of confidence(Hair et al., 2011). The structural model analysis results including standardized path coefficients, *t*-values and *P*-values for each relationship which was measured by R^2 for each construct are reported in Table VII and Figure II. The R^2 of e-banking adoption was 45.8 percent while the $R^2$of perceived usefulness was 42 percent. This recommends that the model has a substantial explanatory power. Moreover, blindfolding technique was used in order to assess the predictive relevance of the model. It should only be used for an endogenous variable that has a reflective(Hair et al., 2014). The model has a predictive relevance If Q^2 =0. As seen in Table IV, Q^2 value for e-banking adoption was 0.211 while the value of Q^2 for perceived usefulness (PU) was 0.229.

The estimates were performed for the path coefficients in order to test the hypothesized relationships among the constructs. The authors utilized Partial Least Square –Structural Equation Modeling (PLS-SEM) algorithm and Bootstrapping was applied for 5,000 samples.

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Table VII summarizes the hypothetical relationships among the constructs of the research.H1 indicates the relationship between internet speed and e-banking adoption which is supported to hypothesis (β=0.195, P=0.001) and t-statistics is1.982. H2 shows the relationship between perceived ease of use and e-banking adoption ant it supported with β=0.256, P=0.000 and t-statistics value at 6.093. H3 is the relationship between perceived usefulness (PU) and e-banking adoption and it also supported with the proposed hypothesis (β=0.298, p=0.000 and t-statistics at 1.254.H4 shows the relationship between trust and e-banking adoption (EBA) and it is not supported (β=0.091, p=0.103 and t-statistics at 3.233). H5 is supported with β=0.221, p=0.000 and t-statistics at 0.113. It also shows perceived usefulness mediates the relationship between internet speed and e-banking adoption. H6 also indicates the perceived usefulness mediates the relationship between perceived ease of use and e-banking adoption and it supports the hypothesis with β=0.367, p=0.000 and t-statistics at 4.148. Finally, H7 indicates fully mediates the relationship between perceived trust and e-banking adoption and it supports the hypothesis with β=0.211, p=0.000 and t-statistics at 3.886.Therefore, the current research data supported all the hypotheses, except H4.

Model fit

Standard root mean square (SRMR) is the residual differences between the correlated data of samples and the estimated correlated model (Hooper et al., 2008). (Henseler et al., 2014) proposed that SRMR can be used in PLS models to assess the goodness of fit (Go F). The SRMR values in between0 and 1.0which concludes values near to zero representing perfect model fit. A value of SRMR is less than 0.10 or 0.08 has been considered a good fit(Hu & Bentler, 1998). The SRMR value of present study is 0.086 and it indicates the data is consistent with the hypothesized model.

Table V: Goodness of fit and predictive relevance

Constructs	R-Square	Q^2
EBA	0.458	0.211
PU	0.420	0.229

Table VI: Empirical Results

Hypothesis	Relationship	Beta (β)	T Statistics	P Values	Decision
H1	IS -> EBA	0.195	1.982	0.001	Supported
H2	PE -> EBA	0.256	6.093	0.000	Supported
H3	PU -> EBA	0.298	1.254	0.000	Supported
H4	TR -> EBA	0.091	3.233	0.103	Not Supported
H5	IS -> PU	0.221	0.113	0.000	supported
H6	PE -> PU	0.367	4.148	0.000	Supported
H7	TR -> PU	0.211	3.886	0.000	Supported

Note: IS = Internet Speed, PE= Perceived ease of use, PU = Perceived usefulness, PTR=Perceived Trust, EBA = e-banking adoption

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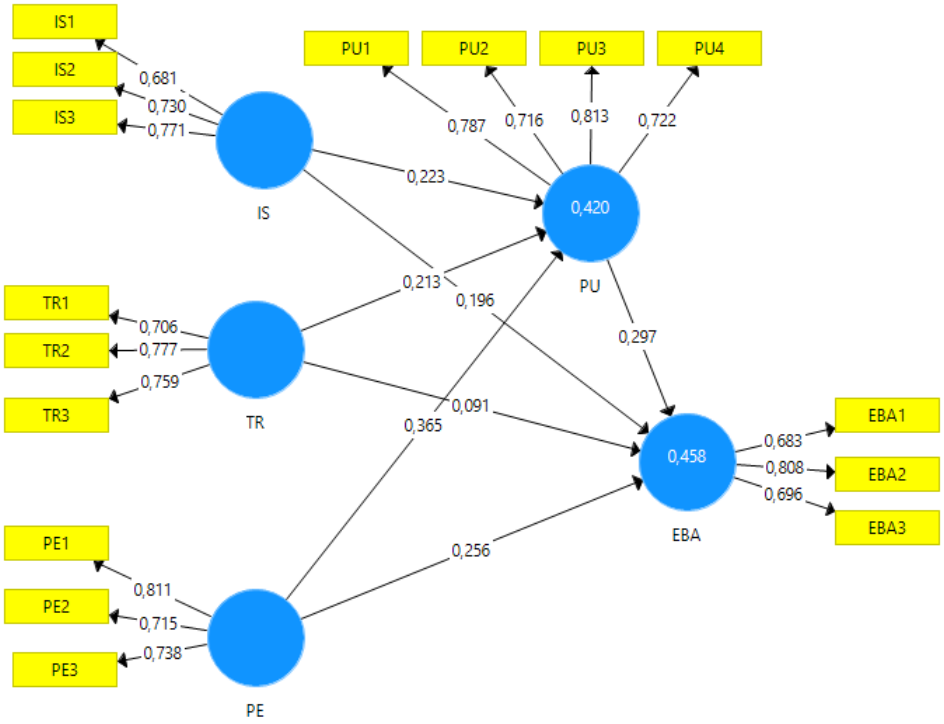

Figure II: Empirical Results

5. DISCUSSION

The objective of the study is to examine the factors those affecting on E-banking adoption in Somalia. The internet speed has positively affected on e-banking adoption towards Somali banks' customers. This findings consistent with prior studies those found the same results such as (Erkin, 2014; Mohamed et al., 2020). There is a direct relationship between perceived trust and e-banking adoption. This means if the e-banking providers are trusted by their customers, the intention to use of it will be high. This result agreed with other previous studies (Erkin, 2014; Mohamed et al., 2020; Rodrigues et al., 2017; Salem et al., 2019).

Perceived ease of use significantly influences on the adoption of e-banking services. This plays a crucial role in intention to use on the part of customers. The result of this study infers that commercial banks to make e-banking services easier to use for their customers. The results of the research disclose ease of use have significantly influenced on the intention to adopt e-banking services. Difficult of electronic procedures and the taking more time for executing financial processes are indicative of challenges in the adoption of e-banking services. Therefore, the effect of perceived ease of use on the adoption of e-banking services has been revealed by previous studies and consistent with them such as (Anouze & Alamro, 2020; Cheng et al., 2006; Rawashdeh, 2015; Rodrigues et al., 2017). Based on Table VII, there is a

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significant and positive a relationship between perceived usefulness and intention to adopt e-banking services. The result indicates that the level to which respondents of the study believe the adoption of e-banking services can make progress his/her job performance. It is consistent with the some other works (Anouze & Alamro, 2020;Cheng et al., 2006; Yiu et al., 2007; Rawashdeh, 2015; Rodrigues et al., 2017; Shi et al., 2015).

In the results of the study, partial mediation effect between internet speed (IS) and e-banking adoption was confirmed. This means perceived usefulness partially mediates the relationship between internet speed and e-banking adoption. Perceived usefulness also partially mediates the relationship between perceived ease of use and intention to adopt e-banking. Moreover, the present study has hypothesized that perceived usefulness acts as a mediator between perceived trust and e-banking adoption. The study findings showed that perceived usefulness fully mediates the relationship between trust and e-banking adoption. This results is consistent with the past literature such as (Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Simintiras, 2016).

6. CONCLUSION

Theoretical and Policy implications

The empirical findings of the study have contributed meaningfully to the existing literature. In the perspective of theoretical aspects, these results of the research offer a noteworthy contribution to the modern knowledge in different manner. In our knowledge, this empirical research related to factors those influence on e-banking adoption takaful adoption is very little in Somalia. Hence, the findings have added value to existing literature. The results support to the financial technology literatures in general and specifically modern banking payment system. Moreover, well-known theory called the technology acceptance model (TAM) has been applied in the study proposed by Davis (1989). Finally, many studies have provided insights related to determinants of e-banking adoption. However, our study fills the gap which is examines the factors those influence on intention to adopt e-banking services with mediation effects of perceived usefulness. In our knowledge, this empirical results are new in Somalia.

On the other side, some useful policy implications for bank managers and advertisers have been offered by the study to develop effective marketing strategies. Our study results show that internet speed, perceived trust, perceived ease of use and perceived usefulness are significant determinants of e-banking adoption services regarding current and potential bank customers. The commercial banks should give considerations towards technology usage (e-banking services) in socio-economic development of the country.

Limitations and future research of the study

Some limitations of the study those have provided direction for future researchers in this field are mentioned by the authors. Firstly, the study has geographical limitations because it was conducted in the Mogadishu city. Therefore, future researchers can conduct study targeting other cities in Somalia to get more useful results related to e-banking services. Secondly, the independent variables of the study are limited to some TAM framework, perceived ease of use and perceived usefulness, and adding other variables (perceived trust and internet speed).

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Therefore, future researchers can integrate other new factors into TAM framework model such as demographic variables, hedonic motivation, service quality, security, promotional tools, subjective norm, and attitude and etc for extending the context of TAM theory. Finally, questionnaire instrument was utilized in this study for data collection. Thus, future studies should be conducted through other data collection tools such as interview or combined questionnaire and interview.

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