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Adoption of Internet Banking Service in Tanzania: The Influencing Factors among Customers of Commercial Banks

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Abstract

Information technology advancement has transformed the way banks deliver their services to their customers; as a result, internet banking is now in use. However, this type of banking is not fully utilised by customers in accessing banking products and services. This paper examined factors associated with customers' adoption to internet banking services in Tanzania. Precisely, it assessed the influence of social environment, technology exposure and system capability on the adoption of internet banking services by customers. Cross section research design was used through survey strategy to collect data from the respondents. In this case, a questionnaire was administered among a total of 200 respondents from two big banks that were involved in the study. Data analysis was performed by using partial least squares structural equation to examine the relationship between internet banking adoption and influencing factors which included social environment, technology exposure and system capability. The results indicate that social environment, technology exposure and system capability are positively related to adoption of internet banking services by customers. The existing relationships and the results revealed the way in which the rate of adoption of internet banking services by customers can be increased. Among the observed challenges for adoption of internet banking services include limited awareness among the customers, network failure and instability as well as layout of web pages. It is therefore recommended that, banks should invest in bringing awareness to customers regarding the service by providing information and instructions, reducing the impact of network failure and having a well-designed and user-friendly website for easier use.

Key words: Internet banking service; commercial banks; system capability; technology exposure; social environment

Introduction

Traditional way of banking prior to the introduction of information and communications technology restricted banking services to be performed during bank hours (Appiahene, Missah, & Najim, 2019; Shiferaw & Molla, 2018). Hence, customers were supposed to physically visit bank branches for various banking activities. Conversely, internet banking, which is also known as online banking, allows customers to perform banking activities beyond bank hours whereby activities such as transferring funds between accounts, making payments, as well as obtaining various information such as information related to their account balances via the internet can be done at any time (Karen, William, & Daniel, 2000; Wazid, Zeadally, & Das, 2019).

Additionally, Information and Communications Technology (ICT), which is a key to internet banking has enabled banking institutions to deliver services by using several technological means such as Automated Teller Machines (ATMs), mobile banking, credit cards, electronic cards and internet banking (Bajaj, Almugari, Tabash, Alsyani & Saleem, 2021; Nazaritehrani & Mashali, 2020). To deliver the best services, banks compete against each other by applying the latest technologies for their own benefit and the benefit of their customers. These ways of delivering banking services have been used in Tanzania for some time now. However, limited knowledge exists on the factors affecting the customers' adoption to the technology as there has been unsatisfactory adoption rate (Nantembelele & Gopal, 2018; Rahi, Ghani, & Ngah, 2020).

Internet banking has brought several advantages. Some of these advantages are inexpensive delivery of services, user-friendliness, real time up-grading of customers' data, easy verification of transactions, global connectivity, and online banking services (Rahi et al., 2020; Wazid et al., 2019). From the banks' point of view, use of internet banking is expected to lead to reduced costs and improved competitiveness (Rahi et al., 2020). This type of delivering services is seen as potential because it can keep current web-based customers to continue using banking services from their preferred location. In addition, internet banking provides opportunities for a bank to develop its market by attracting a new customer base from existing internet users (Appiahene, et al., 2019; Balachandher, Suganthi, & Balachandran, 2001). The rate of adoption of internet banking is not at a satisfactory rate (Patel & Patel, 2018) as expected despite the fact that benefits arising from the internet including internet banking are far better compared to those of the traditional way of banking (Lee & Kim, 2020; Nel & Boshoff, 2021). Moreover, no known study has been conducted to reveal the reasons for the customers' low rate of internet banking adoption in Tanzania. Given this limited knowledge, this paper examined the factors that influence customers' internet banking adoption in Tanzania. Specifically, the paper sought to:

- identify the role of social environment in customers' adoption of internet banking;
- determine the relationship between technology exposure and customers' adoption of internet banking; and
- determine the relationship between system capability and customers' adoption of internet banking.

Literature Review

Conceptualization of Internet Banking Adoption

Internet banking can be defined as a service in which individuals can perform banking activities remotely, via the internet (Daniel, 1999; Liang, Zhang, Xu & Jamaldeen, 2019). Some banks deliver internet banking through existing physical branches (traditional banks) by establishing a website as an added delivery channel, whereas other banks are "branchless" and have no physical presence (Karen, et al., 2000).

Internet banking through traditional means enables customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments, and stop-payment requests, and some even offer online loan and credit card applications. However, account information can be accessed anytime, day or night, and can be done from anywhere (Shiferaw & Molla, 2018). Clark (2007) argues that internet banking is the practice of making bank transactions or paying bills via the internet, which means there is no need of leaving a home to get services from banks. This service allows access to the interim statement, balance inquiry, a transfer of funds,

cheque orders, a change of ATM card PIN, stop payment of cheques, rates and stop orders at any time.

As regards adoption, it has been explained as a decision to make full use of an innovation as the best course of action (Appiahene et al., 2019; Rogers, 1995). The adoption process tends to follow a sequence of development stages: entry, adoption, adaptation, appropriation, and invention. These stages reflect a growing confidence with the use of technology and growing awareness of its potential in the context of teaching and learning (Appiahene et al., 2019). After going through the process, a person comes to a position of making a decision from within after weighing all pros and cons of one's choice. Hence, the user decides to own the technology and use it as per his/her requirements. According to Arif, Aslam and Hwang (2020), customer adoption of internet banking services are measured by the way people around him/her would opt to use internet banking services to do business instead of other means. Lorin and Mei (2010) also insisted that, usage of internet banking services as a product compared to other banking channels is a measure of internet banking service adoption.

Theoretical Perspectives

In order to explain theoretically the concept of adoption of internet banking, different theories are discussed and adopted. They include Technology Acceptance Model (TAM) by Davis (1989), Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1977), Diffusion of Innovations (DOI) model by Rogers (1995), and Theory of a Planned Behaviour (TPB) by Ajzen (1991). In this case, Davis (1989) who developed the Technology Acceptance Model (TAM) contends that, "perceived usefulness" and "perceived ease of use" are the two main influences in user adoption of technologies. "Perceived usefulness (PU)" can be defined as the degree to which a person believes that using a particular system will enhance his or her performance and "Perceived ease of use (PEOU)" is defined as the degree to which a person believes that using a particular system is free of effort (Shiferaw & Molla, 2018). The two attitudes are the ones that mainly influence towards actual use of the system. Like the adoption of internet banking technology, TAM can relatively be used to predict or explain user behaviour intentions in relation to the actual use of internet banking services. When users are familiar with the system they are about to use (system capability) and find that it is meaningful and it requires less effort, the introduced technology will be accepted easily and at a higher rate.

Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1977) mainly focuses on a person's intention to behave in a certain way. An intention is a plan or a likelihood that someone will behave in a particular way in specific situations. The theory has three main elements, namely behavioural intention, attitude, and subjective norm. This means, person's behavioural intention depends on the person's attitude about the behaviour and subjective norms. In this case, to understand behavioural intent, which is seen as the main determinant of behaviour, the TRA looks at a person's (or population's) attitudes towards that behaviour as well as the subjective norms of influential people and groups that could influence those attitudes. Attitude is therefore a means through which the individual's positive or negative feelings about performing behaviour are controlled. Subjective norms are the individual's perception on whether people around someone (i.e. colleagues) consider something to be good to do or not (Lichtenstein & Williamson, 2006; Rahi et al., 2020). According to the TRA, attitudes and norms are considered to be main influences on intention, which, in turn, is the main motivator of behaviour. Likewise, internet banking

adoption is also greatly affected by behavioural intention which is influenced by attitude and subjective norm. Thus, individuals with positive feelings about internet banking have very high chances to adopt the services compared to individuals with negative feelings about the services. The theory further explains why social environment can have an impact on internet banking adoption. This occurs because user intention to use internet banking service can be increased if there are other important people to him who talk positively about the service.

As regards Rogers' theory of diffusion of innovation (DOI), it points out five main influences, namely perceptions of relative advantage, compatibility, complexity, trial-ability, and observability (Abayomi et al., 2019; Rogers, 1995). Rogers found out that lack of prior use of technology suppressed consumer adoption. He further wrote that consumers who did not use the new technology did not feel a need to do so, signifying the importance of relative advantage. The first perception of "relative advantage" means the degree to which an innovation is perceived as better than the idea it replaces by a particular set of users for instance economic advantage, social reputation, convenience, or satisfaction. It is therefore clear that, the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption is likely to be.

On the other hand, compatibility refers to the degree to which an innovation is perceived as being consistent with the values, past experiences, and needs of potential adopters (Mead, Jeanrenaud & Bessant, 2020). Mead et al. (2020) added that an idea that is incompatible with the potential adopters' values, norms, or practices will not be adopted as rapidly as an innovation that is compatible. Complexity is the degree to which an innovation is perceived as difficult to understand and use (Abayomi et al., 2019). New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understanding. Trial-ability means the degree to which an innovation can be experimented with on a limited basis. An innovation that is trial-able represents less uncertainty to the individual who is considering it. Observability is concerned on how easier is a technology for individuals to see the results of an innovation. In this case, if the technology is easy then more individuals are likely to adopt it. Visible results lower doubts and stimulate peer discussion of a new idea (Dearing & Cox, 2018).

The five components in Roger's theory of innovation and diffusion also explain why other users may decide to adapt internet banking services while other users may not. The users can be greatly attracted to internet banking technology if such a user has been exposed to internet technology (having system capability and a technology exposure) at a minimum or has even tried to use internet banking service and had an opportunity to verify the main influences pointed out by Rogers' theory.

The Theory of Planned Behaviour (TPB) is the theory of belief and behaviour, which extends the theory of reasoned action by incorporating perceptions of behavioural control (Cedric & John, 2005; Kanimozhi & Selvarani, 2019). Even when attitudinal and normative beliefs are favourable, other situations help or obstruct the conceivable behaviour, for instance, lack of opportunity. This would imply that an individual who has not had an opportunity to even hear, use or see the advantage of using internet banking, will most likely not adapt to using internet banking. It can be noted that, perceived behavioural control may either be mediated by behavioural intention or have a direct effect on behaviour (Ajzen & Madden, 1986; Kanimozhi & Selvarani, 2019; Thanika, Sharmila & Priyasha, 2012). The discussed theories have shown a great impact on system capability, social environment and technology exposure. These variables seem to affect a user's adoption of internet banking.

Apart from theoretical explanations, different researchers found that customer willingness towards new and emerging technology-based delivery channels to be the main factor of adoption to internet banking. For example, Arif, Aslam and Hwang (2020) conducted a study to examine the barriers to the adoption of internet banking in Karachi, Pakistan. A survey research questionnaire was adopted and, in total, 300 useable responses were used from the banks' customers. The study used structural equation modelling (SEM) to find the significant influence barriers on internet banking adoption. The results indicated a significant positive relationship between value barrier, risk barrier, and image barrier with the usage of internet banking. Only, the traditional barrier has a negative insignificant effect on the usage of internet banking. The image barrier has a higher impact on usage of internet banking followed by the value barrier and risk barrier. In this case, security of the internet is a major factor inhibiting wider adoption of internet banking. Internet banking users seem to be confident about the reliability of the system, whereas non-users are much more sensitive to the service, and do not rely on transactions made via the internet. It can be noted that this research pointed out security and the reliability as important factors for adoption. These factors were considered to be important especially in measuring system capability. Also, the use of SEM, was inevitable in the current study although partial least squares structural equation modeling was adopted due to its strengths discussed under methodology.

In addition, perceived usefulness, trust and government support were factors found as a result of the research conducted by Alain, Keng-Boon, Binshan, and Boon-In (2010) in Vietnam. The perceived usefulness and trust in influencing the adoption of internet banking are also used as part of factors influencing adoption in the current paper.

Andajani and Rahayu (2019) as well as Gerrard and Cunningham (2003) argue that internet banking service is more of a self-service technology. The research by Andajani and Rahayu (2019) and that of Gerrard and Cunningham (2003) identified three main influences, namely confidentiality, economic benefits and accessibility. Their research results, which are also supported by Karjaluoto, Mattila and Pento (2002), confirmed that adopters of internet banking perceive the service to be more useful, less complex, and more compatible to them, as well as suitable to those who are computer literate. These factors, together with system security, trust, reliability, and privacy factors were evaluated in the current paper to understand their influence in the Tanzanian context.

Furthermore, a study by Sharif and Raza (2017) examined the role of hedonic motivation, self-efficacy, trust, habit and behavioural intention variables in predicting individuals' adoption of internet banking. The findings established the significant and positive contribution of habit and behavioural intention on the user's intention to adopt internet banking. Therefore, it can be recommended that banks need to improve their customers' skills with respect to internet banking usage. Furthermore, the banks should change their internet banking screens and should switch to more innovative interface in order to attract customers towards internet banking. The results by Sharif and Raza (2017) indicate that the main benefit which arises from internet banking use is its availability and flexibility in how a user can now transact business activities at his or her convenience beyond banking hours. As indicated in the conceptual framework, the review of theories and related studies assisted in identifying key variables which influence the adoption of internet banking.

The conceptual framework presented in Figure 1 illustrates three categories of the potential factors affecting customer adoption of internet banking, namely social environment, technology

exposure, and system capability. Social environment consists of life nature, nature of individual networks, information from colleagues, and attitude elements whereas technology exposure includes internet literacy, computer literacy and internet banking literacy. System capability includes the system being easier to use, its usefulness, trust in the system as well as reliability and security of the system.

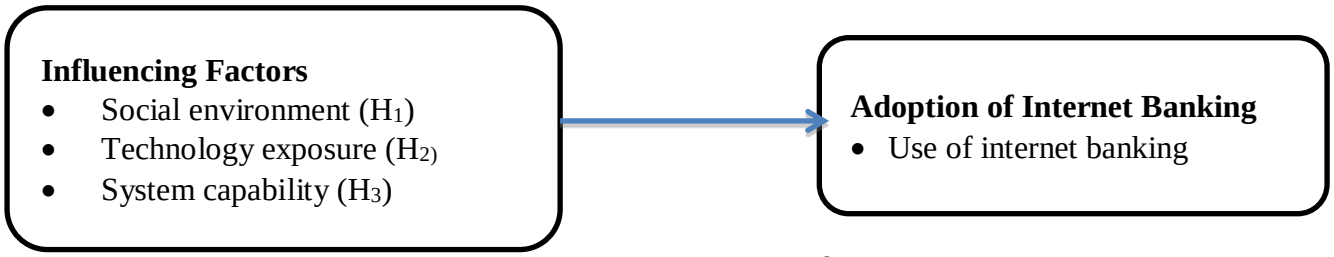

Figure 1 Conceptual Framework of the Study
Source: Synthesized from literature

Hypotheses of the study

From the above literature review and also conceptual framework in Figure 1, three hypotheses were developed and tested in this paper. Specifically, social environment, technology exposure, and system capability are hypothesised to have positive relationship with customers' adoption of internet banking. In this regard the following hypotheses guided the current study.

H_1: There is a positive relationship between social environment and customers' adoption of internet banking

H_2: There is a positive relationship between technology exposure and customers' adoption of internet banking

H_3: There is a positive relationship between system capability and customers' adoption of internet banking

Methodological Consideration

The population of the study was customers from commercial banks whose headquarters are in Dar es Salaam region. Specifically, two commercial banks whose names are not disclosed for confidentiality reasons, were purposively chosen to be included in the study. The reasons for choosing these banks include their level of IT development, number of customers and long life of operations. The study used a non-probabilistic sampling technique because it was difficulty to use probabilistic sampling as the customers of the banks are geographically scattered across the whole country. Thus, choosing the headquarter branch of each bank made it easier for the researcher to visit each of these branches and hence ask the arriving customers to participate in the study. The process continued until when 100 customers from each bank had filled the questionnaire. In total 200 respondents participated in the study from the two banks.

Cross section design was used through survey strategy to collect the data from the respondents. A survey strategy assisted in collecting information from large sample for generalisation. The nature of the study was not to make comparison over period of time, therefore

cross sectional research design was an appropriate to achieve the research objectives. With regard to ethical issues, it was assured that no harm happens to the respondents and each respondent voluntarily decided to participate in the study after receiving full information regarding the purpose of the data collection.

Reliability and Validity of Measurement

Soon after data collection, it was important to asses reliability of the instrument to determine the consistency of the data collected. In the current study, the researcher examined the internal consistency by computing the coefficient of reliability (cronbach's alpha). This measure examined the degree to which variables of the same concept correlated with one another (Cavana, Delahaye & Sekeran, 2001). The standard approach for evaluation was used where all measures were expected to be above the threshold at least 0.70 (Nunnally, 1998). The reliability results of each component were as follows: components of social environment yielded a Cronbach's alpha (α) coefficient of 0.816, components of technology exposure produced 0.798, components of system capability 0.853, and components of internet banking adoption yielded 0.808. In order to achieve validity, the questionnaire was highly informed by the existing literature. This was done to ensure that the findings of the current research considered major aspects of the topic and sufficiently covered relevant items included in the survey. Copies of a draft questionnaire were also distributed to five customers at one of the selected banks for pre-testing. The questionnaire was self-administered and the comments obtained helped in improving the questions. Three components under social environment and system capability were reconstructed to improve clarity.

In order to ensure quality standard on the data, the researcher carefully checked the filled copies of the questionnaire by inspecting the facts gathered and completeness of the questions answered. As initial stage, the data collected were coded and entered into SPSS. The analysis started descriptively and thereafter the study employed partial least squares structural equation modelling (PLS-SEM) to examine the relationship between the independent variables: social environment, technology exposure, system capability and the dependent variable, which was customer adoption to internet banking. PLS-SEM was considered to be appropriate based on the fact that the research objective focuses on prediction and explaining the variance of dependent variables as explained by different independent variables, and the study sample size is relatively small and/or the available data is non-normal (Hair, Sarstedt, Pieper & Ringle, 2012a). Also, PLS-SEM is the preferred alternative over covariance-based SEM (CB-SEM) in these situations because the former enables researchers to create and estimate such models without imposing additional limiting constraints (Hair, Sarstedt, Pieper & Ringle, 2012b).

Findings of the Study

Profile of the Respondents

The profile of the respondents is described by considering sex, age, education level and general information about the use of internet banking. The results show that out of 200 respondents, 48% were men and 52% were women. This shows that there was near gender balance in participating in the current study. The results further indicate that respondents with the age below 20 were 3.0%, between 21- 30 were 45.0%, 31-40 were 35.5%, while 12.5% of the respondents were between age of 41- 50, those above 50 were 4%. The findings moreover reveal that out of the total respondents, the education of 3.5% of the total respondents was below secondary school while 4.5% had

secondary school level. Eighteen percent of the respondents had diploma level, 55.5% had bachelor degree and 18.5% had masters or more. It can be seen that, the results show a greater percentage of the respondents having diploma, bachelor, and masters or more levels. This indicates that the high number of the respondents had relatively good information to respond to the questionnaire provided to them. The respondents therefore provided meaningful data that increased data clarity and confidence of analysis.

It was further revealed that out of the total respondents, 95.5% had internet access and 49.5% of these used internet banking service. On the other hand, the results indicated that 50.3% of customers had access to internet but did not use internet banking service. These results further revealed that, the rate of users who used internet banking is 47.5% (which is equivalent to 95 respondents) while 52.5 % of the respondents were not using internet banking service. The percentage of internet banking users was below 50%. Therefore, more efforts are required to increase the rate of users of internet banking. With regard to awareness, the findings indicated that, 59% of the respondents were aware regarding internet banking service via bank leaflets or bank adverts, 14.5% knew about this service via television/radio, 1% respondents were informed through newspapers. Furthermore, 20% had known about internet banking service via word of mouth, while only 5% knew it through other means.

Factors that Influence Adoption of Internet Banking Services

The main focus of this paper was to examine the factors that influence the adoption of internet banking services. Three different factors were identified in the literature including social environment, technology exposure and system capability. These factors were theoretically considered as predictors for adoption of internet banking. Through the use of PLS-SEM, an overall analysis of the existing relationship between these factors and adoption of internet banking services was done. The findings are presented in Figure 2. However, before interpretation of these results, it is important that steps that are recommended for multivariate data analysis are followed. In this case, Hair, Ringle and Sarstedt (2011) proposed the following steps in interpreting and using the final results of PLS-SEM model.

> "……..PLS-SEM assessment typically follows a two-step process that involves separate assessments of the measurement models and the structural model. The first step is to examine the measures' reliability and validity according to certain criteria associated with formative and reflective measurement model specification. This first step is based on the logic that if you are not confident that the measures represent the constructs of interest, there is little reason to use them to examine the structural relationships…If the measures are shown to be adequate, however, the second step involves an assessment of the structural model estimates"*(*Hair et al., 2011, p. 144).

With regard to measures of reliability and validity, Hair et al. (2011) argue that reflective measurement models' validity assessment focuses on convergent validity and discriminant validity, of which for convergent validity, researchers need to examine the average variance extracted (AVE). They furthermore pointed out that an AVE value of 0.50 and higher indicates a sufficient degree of convergent validity, meaning that the latent variable explains more than half of its indicators' variance. As indicated in Table 1, the value of AVE is 0.637, which indicates that the latent variables explain almost 63.7% of its indicators' variance. Other indicators of reliability

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including Cronbach's Alpha (0.809) and Composite Reliability (0.874) indicated very high level of reliability, which warranted the interpretation of the results as a second step. The value of rho_A, was also very high with adoption (0.828) which appeared as the lowest. These values are considered being very high to create no doubt for interpretation of structural model estimates.

Table 1: Construct Reliability and Validity

Variables	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Adoption of Internet	0.809	0.828	0.874	0.637
Social Environment		1.000		
System Capability		1.000		
Technology Exposure		1.000		

The primary evaluation criteria for the structural model are the R-square measures and significance levels of the path coefficients, which reflect the same meaning as regression weights. Accordingly, R-square values in PLS-SEM are indicated to be of 0.75, 0.50, or 0.25 for endogenous latent variables in the structural model which can be described as substantial, moderate, or weak, respectively (Hair et al., 2011). The results, as presented in Figure 2, indicate that the value of R-square is 95.2%. In this case the value of R-square considered to be substantial and therefore implies that 95.2% of adoption variance is explained by independent variables (social environment, technology exposure and system capability). The remaining percentages are explained by other factors not considered in the study.

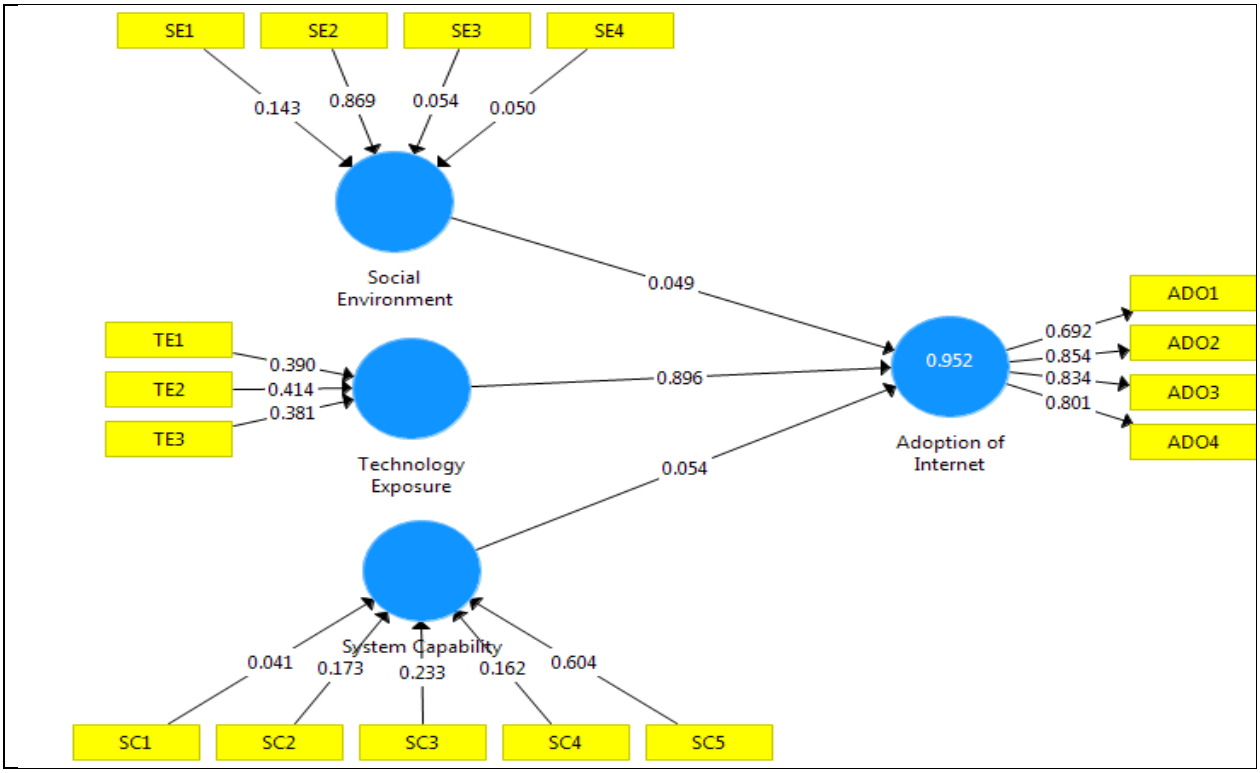

Figure 2: Path Analysis of Factors for Adoption of Internet Banking

In order to achieve the first objective, social environment components ware examined to determine their influence on customers' adoption to internet banking services. In this case, social environment was measured by considering life nature (SE1), nature of individual networks (SE2), information from colleagues (SE3) and attitude (SE4). Results on regression weights (0.049) show that social environment has a positive relationship on adoption of internet banking.

Through the use of bootstrapping procedure, the path coefficient of social environment on customers' adoption to internet banking service, not only was significant but also follows the hypothesized direction according to the reviewed literature. This leads to the conclusion that the findings of the current study empirically support the proposed causal relationship. These results indicate that, in order to increase the level of internet banking adoption there is a need for positive reinforcement of social environment as measured above. Although social environment components had positive relationship, customers regard internet banking as an expensive service. In order to use internet banking one needs to have a smart phone or a computer, which not all customers can afford. In addition, lack of awareness regarding internet banking among its potential users was another challenge mentioned by the respondents. Due to this, a number of customers fail to find the usefulness of internet banking in day-to-day life.

The second objective examined the relationship between technology exposure and adoption of internet banking. Specifically, the technology exposure was measured by computer literacy (TE1), internet literacy (TE2), and internet banking literacy (TE3). The results on regression weights in Figure 2 indicate that technology exposure has a positive relationship on adoptions of internet banking. Again, the results on regression weights (0.896) show that technology exposure has a positive relationship on adoptions of internet banking.

Through the use of bootstrapping procedure, the path coefficient of technology exposure on customer's adoption to internet banking service, not only was significant but also follows the hypothesized direction according to the reviewed literature. This leads to the conclusion that the findings of the current study empirically support the proposed causal relationship between technology exposure and internet banking adoption. In other words, the increase the level of technology exposure will trigger the adoption of internet banking services. Although a positive and significant relationship was observed, a large number of respondents reported that network failure/instability retard the adoption to internet banking service. Because of this, users fear transacting via the Internet because it results into unexpected liabilities and even losing their money.

The study further examined the role of system capability on adoption of internet banking service. In this regard, the system capability was measured by easier to use (SC1), usefulness (SC2), trust (SC3), reliability (SC4) and security (SC5). The results on regression weights in Figure 2 indicate that system capability has a positive relationship on adoptions of internet banking. As indicated in Figure 2, the regression weight of system capability on adoption of internet banking is 0.054. This shows that system capability has a positive relationship with adoptions of internet banking.

The findings of bootstrapping analysis indicate that the path coefficient of system capability on customer's adoption to internet banking service was significant and follows the hypothesized direction, which empirically support the proposed positive relationship. These results indicate that the increase in system capability will result in the positive adoption of internet services. In addition, respondents revealed that lack of integration between local internet banking services with other

companies like supermarkets and tourism companies is a barrier to a continuous usage of this service. They would expect flexibility as an important system capability because customers could do a quick money transfer or payments from his bank account to any other company.

Discussion

This paper develops a conceptual framework of factors that influence customers' adoption to internet banking in Tanzania by integrating all the relevant parameters under three umbrellas of social environment, technology exposure, and system capability. The results of this study reveal that all indicators (social environment, technology exposure and system capability) are significant factors influencing customers' adoption of internet banking in Tanzania. A theory of reasoned action by Davis (1989) supports these findings. This due to the fact that the theory narrates that life nature, nature of individual networks, information from colleagues, and attitude which are indicators of social environment are essential factors in explaining any adoption. With regard to technology exposure, which was also measured by computer literacy, internet literacy, and internet banking literacy; the results corroborate with findings of previous studies (Bussakorn & Dieter, 2005; Thanika et al., 2012). These scholars posit that technology exposure explains the adoption of internet banking services. Thus highly exposed individuals are more likely to adopt a new technology than less exposed individuals. Furthermore, Arif et al. (2020) and Karjaluoto et al. (2002) indicate that consumers with a good knowledge of computers are usually more likely to engage in internet banking usage. It can therefore be concluded that computer education is more important than mere promotion or advertisement regarding internet banking use.

According to Bussakorn and Dieter (2005) and Alain (2010), the theory of acceptance model, through its two main influences on adoption of technologies, namely usefulness and capacity of the system, was proven to be a significant element in explaining the adoption process. The empirical findings of this paper also match the conclusion of these authors as system capability observed to have positive influence on adoption of internet services. In this regard, the system capability, which was measured by easier to use, usefulness, trust, reliability, and security is considered to an important predictor for adoption of internet banking. It is from this fact that Zugelder (2000), concluded that security of internet banking service is an important and significant factor for adoption of internet banking services.

Conclusion and Recommendations

From the findings presented in the paper, both theoretical and practical implications can be drafted. Theoretically, the adoption of internet banking was observed to be determined by multiple factors. These factors are social environment, technology exposure and system capability. It is thus concluded that one factor may not be used to assess the extent of adopting internet banking services. It is rather important to use multiple factors which are also measured by multiple indicators to show how these factors determine the adoption process. It is therefore recommended as follows.

First, banks need to play a principal role in influencing the perception, as well as the attitude and behaviour of current and potential internet banking users. A stable internet connection channel needs to be established to ensure a constant, continuous and reliable connection. Banks may encourage users to use internet banking services via internet service provider whom they trust will provide a robust internet connection.

Second, it is essential to bring awareness of internet banking services to customers as this will not only increase internet banking users but also retain customers due to this advancement. Effective ways of publicising the internet banking services using all possible kinds of media such as brochures, leaflets and web pages will help to introduce the services to a broader audience and educate prospective customers about the benefits of internet banking, as well as remove unnecessary doubts. Benefits arising from internet banking as pointed out by Jayawardhena and Foley (2000) are cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and satisfaction. To reach more potential adopters, the information conveyed should educate users on convenience, time saving, and low cost.

Third, it is also important to have a well-designed and user-friendly website for easier use by the new users. To be successful, it is expected that, the customer should not need to spend a lot of his/her effort or time, or undergo a great change in behaviour when adapting to internet banking services. Vital information and instructions should be provided, on the web in both English and Swahili in order to make the adopter contented. The emphasis of benefits and usefulness of internet banking should be done by demonstrating these services. Also, time to time survey of customer responses and views of the services should be conducted to guarantee constant improvements of the internet services.

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