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ACCEPTANCE OF MOBILE PHONE PAYMENTS SYSTEMS IN TANZANIA: TECHNOLOGY ACCEPTANCE MODEL APPROACH

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ABSTRACT

This paper presents a quantitative study on the users' acceptance of mobile phone payment systems (MPPS). Basing on the technology acceptance model (TAM), the study specifically evaluated the influence of ease of use; perceived usefulness; service quality; and information systems qualities of payment systems in the adoption and use of MPPS. A questionnaire survey was carried with 300 users out of which 260 were clean for data analysis using SPSS version 21. To supplement the survey, the study deployed interviews. The regression results indicate significant influence of the regressed variables with slightly low values of the adjusted R-square. The findings on information quality and perceived usefulness had lesser influence (beta values below average) whereas ease of use, and services quality were positively rated factors to accepting the systems. Several other factors behind acceptance were also identified in the interview, including premium pricing, level of understanding, and perceived risks. The findings extend knowledge on the application of TAM to mobile payments in a developing country such as Tanzania. They provide awareness on contributory factors to accepting the technology to Tanzania Communication Regulatory Authority (TCRA) and country's central bank, Bank of Tanzania (BoT) in their managing and controlling processes. They also provided practitioners with knowledge on the challenges and ways of tapping into the advantages of ICT. The findings were limited to four regions in Tanzania.

Key words: *Technology acceptance, ease of use, perceived usefulness, information quality, mobile phone payment*

INTRODUCTION

The innovations in information communication technologies (ICT) have created numerous platforms in mobile business today. These platforms provide a more convenient means for business transactions that significantly minimise the transaction costs (Mallat, 2007). The technologies facilitate the making of small payments electronically and the reduction of the cash societies in most part of the developing world (Ondrus *et al*., 2006). The ICT has enabled the creation of mobile phones with important features that facilitate the developing of payment system necessary for money transactions. In his paper "The Impact of Mobile Payments on the Success and Growth of Micro-Business", Marion (2010) postulated that, systems such as mobile phone payment systems (MPPS) enable users to pay bills, topping up airtime credit, transferring a considerable limited electronic cash, banking options, securing small loans, and withdrawing cash.

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Business Management Review pp. 38-53 ISSN 0856-2253(eISSN 2546-213X) ©January-June 2017 UDBS. All rights of reproduction in any form are reserved

Tanzania, like many countries in the world, has adopted the use of ICT in a multiplicity of activities across almost all the sectors. With notable usage is the area of mobile communication. The current number of users of mobile phone is provided in Table 1 which shows that Tanzanians have adopted ICT and mobile telephone with enthusiasm:

Table 1: Trend of Telecom Statistics: Subscriptions and Tele-density

Year	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Fixed	154,420	151,644	163,269	123,809	172,922	174,511	161,063	176,367	163,999	142,950	142,819	141,533.63
Mobile	2,963,737	5,614,922	8,322,857	13,006,793	17,469,486	20,983,853	25,666,455	27,450,789	27,442,823	34,108,851	39,665,600	40,022,590.4
Total	3,118,157	5,766,566	8,486,126	13,130,602	17,642,408	21,158,364	25,827,518	27,627,156	27,607,822	34251801	39,808,419	40,166,694.77
Penetration	10%	15%	21%	32%	43%	5%	59%	61%	61	71%	79%	79.7%

TCRA (2016)

The number of mobile phone' users increase over years. The International Telecommunication Union (ITU) reported that nearly 5.3 billion mobile phone users worldwide with a penetration rate of 90 percent (ITU, 2010). Likewise, Tanzania has not been left behind. In a population of over 52 million, 40.17 million are users of the mobile phone with a penetration rate of 79.7 percent in 2016 (Table 1). Realising the importance of mobile phone especially its ubiquitous nature, disadvantages and difficulties many people in developing countries face in handling money (storage, transferring and payment), mobile phone companies have introduced mobile money handling systems using mobile phones. The bit-pesa technologies were used to develop these systems dubbed here as "MPPS". In Tanzania, they go by M-pesa, Tigo-pesa, Airtel-money, Easy-pesa, and Halo-pesa. As such, one would expect the majority of mobile phone users to have embraced these opportunities in handling their money and reducing the cash society, increasing revenues and improving livelihoods. However, the reports on mobile payments from Bank of Tanzania (BoT), revealed that only 32.27 percent of the total subscribers were active users (BoT, June 2016).

This scenario raises a question regarding why these payment systems services are not fully utilised by the multitudes of users who have embraced the mobile phone technology. There are long queues in bill paying stations when the mobile phone payment system can support that and reduce such hassles. One can go as a far as pay for water bills, top up airtime credits, and buy electricity power units, which can all be simplified by MPPS. This situation leaves a lot of unanswered questions. Why are these systems not fully utilised? How user-friendly are the payment systems? How useful are they? What is the level of service quality? What are the qualities of the information contain in the systems? To answer these questions, the research adopted the Davis Technology Acceptance Model using the following factors: Ease of use of payment systems; Perceived usefulness of payment systems; Service quality of payment systems; and Information systems qualities of payment systems. These factors were used to test whether they have a bearing on accepting/adopting the Mobile Phone Payment Systems (MPPS) in Tanzania.

LITERATURE REVIEW

Theoretical Framework

Generally, the use of technology has received a lot of attention in research. The main model commonly used is Davis' (1989) Technology Acceptance Model The model explains that the application of technology is guided by two factors: Perceived ease of use and perceived usefulness. This model has been tested under various conditions by various researchers and found to be fine. DeLone and McLean (1992) define usage as a dependent variable from information quality and system quality. This definition by

DeLone and McLean (1992) was further examined by, for example, Seddon (1997) who questioned the real meaning of use. The term "use" can lead to multiple interpretations such as benefit from use, future use, and event in the process of future benefits, individual and organisational impact. Due to these ambiguities, Seddon (1997) recommended removing the term use and reformulating the model. Consequently, though DeLone and McLean (2003) reformulated the model once again, they argued that usage cannot be left out given the number of scholars still applying the concept. They further added another concept, that is, service quality.

Both models have been tested widely. For example, Zhou (2011) examined the critical success factors of mobile website adoption. Zhou (2011) collected data using a questionnaire survey, and analysed data using the structural equation modelling technique. Zhou (2011) found that system quality is the main factor affecting the perceived ease-of-use whereas information quality is the main factor affecting the perceived usefulness. This research, therefore, assumed that usage of any technology was dependent on perceived ease-of-use and perceived usefulness (Davis, 1989) as well as information quality, systems quality and service quality (DeLone & McLean, 1992; DeLone & McLean, 2003). Both of these models have been tested in various countries, industries, and situations (Igbaria & Tan, 1997; Seddon, 1997). Davis' (1989) Technology Acceptance Model has been expanded enough to morph into Technology Acceptance Model 2, and others. In addition, there are several other theories discussing the adoption and diffusion of technology such as Roger's Innovations Diffusion Theory, Decomposed Theory of Planned Behaviour, and the Theory of Reason Actions.

Empirical Framework

Ease-of-use of payment systems to the adoption and use of mobile payment systems

Davis (1989) provides a basis of this analysis. His study established that perceived ease-of-use has a direct effect on the intention to use technology. From these studies, it was hypothesised that there is a relationship between Perceived ease-of-use and the adoption and use of the Mobile Phone Payment Systems (H1).

Perceived usefulness of payment systems to the adoption and use of mobile Phone payment systems

Tobin (2012), using qualitative study, examined factors that will prompt un-bankable people to use banking services in Ghana. Using open-ended questions in the group discussions, Tobin found that perceived usefulness and perceived ease-of-use based on the Technology Acceptance Model, influence rural un-banked people's intention to use mobile services. Tobin (2012) acknowledges weaknesses inherent in qualitative research when it comes to the generalisation of the findings. On the other hand, Akturan and Tezcan (2012), who carried out an almost similar study with students in Turkey, found no direct relationship between perceived usefulness and intention to use. They also found that perceived usefulness affects the attitude towards intention to use mobile technology.

Based on the empirical evidence of these studies, it was hypothesised that there is a relationship between perceived usefulness and adoption and use of mobile phone payment systems (H2). This view is also supported by Davis (1989) who found that perceived usefulness affect the intention to use something.

Service quality of payment systems to adoption and use of mobile payment systems

Wang and Lin (2012) carried out an online survey involving 304 subjects and analysed data using a partial least squares. The research findings showed that service quality has no indirect bearing on the intention to use through perceived ease-of-use and perceived usefulness. This research was conducted in Taiwan. However, DeLone and McLean (2003) identified service quality as one of the indicators of information systems success. From these studies, it was hypothesised that there is a relationship between a service's quality and the adoption and use of Mobile Phone Payment Systems (H3).

Information system quality of payment systems to adoption and use of mobile phone payment systems

This relationship is based on DeLone and McLean's (1992; 2003) Model of Information Systems success. This landmark work showed that information systems quality has individual and organisational impact through information systems usage and user information satisfactions. From these studies, it was

hypothesised that there is a relationship between information systems quality and adoption and use of mobile payment systems (H4).
Figure 1 indicates the framework applied in this study:

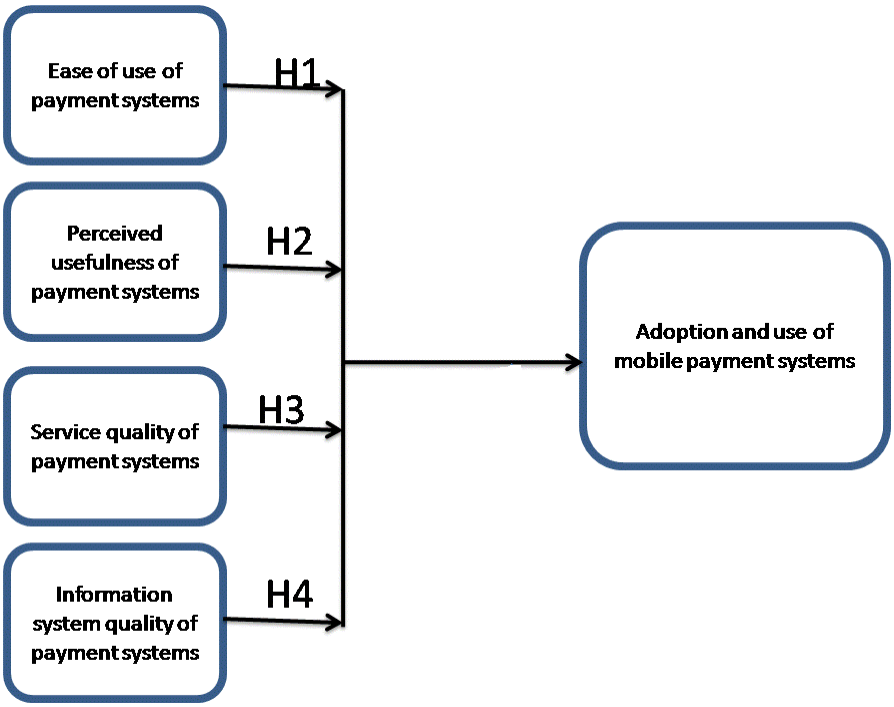


Figure 1: Conceptual Framework

METHODOLOGY

Sample and procedures

For the purpose of testing the stated hypotheses, the study used data collected from a survey conducted in Tanzania within the central business districts and the residential areas of Dar es Salaam, Arusha, Dodoma and Mbeya. The survey method is appropriate for this kind of study as it provides a quantitative description of attitudes, experience and opinions of the sample population (Creswell, 2003; Viehland & Leong, 2007). The measurement items for the survey were adapted from previous research but modified to fit the specific context of this study (Anurag, Tyagi, & Raddi, 2009; Khodawandi, Pousttchi, & Turowski, 2003; Hong, Thong, & Tam, 2006; Davis, 1989). Multiple items for each construct organised in a survey questionnaire were used to gather data in accordance with the objectives of the study. Most of the theoretical constructs were assessed on the basis of a five-point Likert- type scale with the exception of experience with MPPS and recharging airtime. In addition, we included education level and monthly income as moderating factors. The choice of theoretical constructs for examination was determined through a review of the mobile technology adoption literature as well as through informal conversations with ICT experts and software developers, whom we met at international conferences and during entrepreneurship training conducted at the University of Dar es Salaam in Tanzania. The questionnaire went through a pretesting process before it was administered. First, pretesting was carried out with ten postgraduate students, one local senior lecturer in information systems, and two experts in information systems research. The questionnaire was refined based on the comments/suggestions from this panel in readiness for survey pre-testing. The modifications made mainly relate to the instructions in the survey and rephrasing of some of the measurement items. Thereafter, the survey questionnaire was ready for data collection. Our target respondents were assured of confidentiality and an executive summary was promised as an incentive to encourage their participation.

The study captured the demographic information (in terms of gender, educational level and monthly income); electronic payment experience and use; ease-of-use; perceived usefulness; service quality; and information System quality of MPPS. In all, 300 respondents received survey questionnaire based on their awareness and/or engagement in mobile phone transactions systems. The completed questionnaires were checked for plausibility, integrity and completeness resulting in 260 usable cases. We also randomly

interviewed a number of respondents to obtain their views for our survey findings. Afterwards, we incorporated some of their comments in the results of the findings and discussion of this paper. The main tools used for the analysis and interpretation of data were multiple linear regression models and descriptive statistics. The inclusion of multivariate techniques boosted the robustness of the results in addition to reducing the risk of exposure to misinterpretations that could be associated with the use of simple bivariate analyses postulated in methodological study on the digital divide by Vehovar, Sicherl, Husing and Dolnicar (2006).

ANALYSIS AND INTERPRETATION OF FINDINGS

Sample profile

The sample profile is presented as Table 2. The results indicate the sample to be gender balanced with both male and female percentages gyrating around 50 percent. A large segment of the respondents (52.3%) had a university degree and had basic education offered in Tanzania (27.7%). A sizeable number of the respondents (28.5%) appear to originate from low income earners of the sample, whereas a greater number (45.7%) were from the middle income group. The sample profile indicated that45 percent had satisfactory experience with use of mobile payment systems. It was also found that 42 percent of the respondents use MPPS to recharge their airtime followed by 40.3 percent who use the scratched voucher whereas 17.7 percent use the agent to recharge electronically.

Table 2: Respondents' profile

Variable	Frequency	Percentage
Gender		
Male	154	59.2
Female	106	41.8
Level of education		
Primary	26	10
Secondary	46	17.7
Vocational/Diploma	52	20
University	136	52.3
Income Per Month		
100,000 – 500,000	74	28.5
500,000 – 1,000,000	51	19.6
1,000,000 – 2,000,000	68	26.1
2,000,000 – 4,000,000	29	11.2
4,000,000 +	38	14.6
Experience with MPPS (years)		
1 – 5 years	58	22.3
6 – 10 years	117	45.0
11 + years	85	32.7
Recharging airtime		
Using scratch voucher	105	40.3
Electronic recharge from vendor	46	17.7
Mobile phone payment services	109	42

Measurement model

The hypothesised model included five constructs: Adoption and Use (AU), Perceived Ease of Use (PEoU), Perceived Usefulness (PU), Service quality (SVQ), and Information System Quality (IQ). Before testing the hypotheses, the measurement items in the questionnaire were then subjected to content and construct validity test. To ensure content validity, we carried out an extensive literature search and adopted measurement items from past related research (Venkatesh, 2000; Van der Heijden, 2004; Seddon, 1997; Wang & Lin, 2012; Wixon & Todd, 2005; Anurag, Tyagi, & Raddi, 2009; Khodawandi, Pousttchi, &

Turowski, 2003; Hong, Thong, & Tam, 2006; Davis, 1989). Then, the survey pre-testing was carried out to check and refine the items.

Construct validity, on the other hand, was evaluated using principal component analysis with varimax rotation. Items were retained based on the following criteria: (i) items with loading of 0.50 or more were retained; (ii) items with loading of less than 0.50 were removed; and (iii) items with loading beyond 0.50 on two or more components were removed. The results of the factor analysis and reliability assessment using Cronbach's alpha are presented in Table 2I. The Cronbach's alpha values for all the theoretical constructs were above 0.70 required for adequate reliability (Nunnally, 1978; Hair *et al*., 1998), hence reliability of the measures was ascertained. It was also established that, the average variance extracted (AVE) for the constructs were greater than 0.5 and all of the factor loadings of the items exceeded 0.5 (Table 3b); this assured the convergent validity of the measures was supported (Hair, Black, & Anderson, 2010).

Table 3a: Reliability test

Constructs	Mean	SD	AVE	Composite reliability	Cronbach's Alpha
AU	3.532	0.774	0.600	0.749	0.738
PEoU	4.357	0.403	0.716	0.957	0.844
PU	4.541	0.502	0.942	0.739	0.716
SVQ	4.898	0.609	0.609	0.718	0.922
IQ	4.322	0.696	0.695	0.855	0.706

Table 3b: Factor loadings

Construct	Item	Loading	*t*-statistics
Adoption and use	AU1	0.769	27.570
	AU2	0.788	35.564
	AU3	0.802	40.550
	AU4	0.705	36.444
	AU5	0.811	41.561
	AU6	0.740	22.813
	AU7	0.701	24.625
	AU8	0.689	22.007
Perceived ease of use	PEoU1	0.925	84.865
	PEoU2	0.799	29.336
	PEoU3	0.600	21.874
	PEoU4	0.855	40.999
	PEoU5	0.763	37.864
	PEoU6	0.800	39.402
Perceived usefulness	PU1	0.677	19.596
	PU2	0.758	36.555
	PU3	0.599	25.647
	PU4	0.669	29.337
	PU5	0.712	40.823
Service quality	SVQ1	0.691	33.257
	SVQ2	0.608	31.887
	SVQ3	0.902	67.598
	SVQ4	0.775	55.431
	SVQ5	0.751	50.004
Information quality	IQ1	0.611	28.942
	IQ2	0.697	31.691
	IQ3	0.886	49.876
	IQ4	0.780	53.216

Regression Analysis

Regression analysis was used to test the study model. Tables IV, V, & VI show the results of the model analysis. In general, the research model is supported and the independent constructs are positively correlated with R = 54.2%. in the model all four control measures were statistically significant with perceived ease of use recording the higher beta value (b = .521, p< 0.010) than the rest.

The study results show that, the proposed model has a high statistical significance and provides substantial support for the proposed hypotheses H1 through H4. The first hypothesis on relationships existing between perceived ease-of-use and the adoption and use of mobile phone payment system (H1) was positively supported at p<0.01, the study also found a significant relationship at p<0.01 level for perceived usefulness of the adoption and use of MPPS (H2), and there was significant relationship in support of H3 and H4 at p<0.01.

Table 4: Model summary

					Change statistics				
Model	R	R Square	Adjusted R Square	SE	R Square Change	F Change	df1	df2	Sig. F Change
1	.542[a]	.294	.183	.73331	.117	8.468	4	255	.000

a. Predictors: (Constant), IQ, PEoU, PU, SVQ

Table 5: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.214	4	4.554	8.468	.000[a]
	Residual	137.125	255	.538		
	Total	155.340	259			

a. Predictors: (Constant), IQ, PEoU, PU, SVQ
b. Dependent variable. AU

Table 6: Coefficients[a]

		Unstandardised Coefficients		Standardised Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.467	.483		.568	.004
	PEoU	.521	.116	.567	2.766	.006
	PU	.485	.106	.495	2.705	.007
	SVQ	.501	.090	.558	2.232	.002
	IQ	.369	.088	.452	1.918	.006

Dependent variable: AU

DISCUSSION

The study focused on examining the acceptance of mobile phone payment systems in Tanzania in light of Technology Acceptance Model (TAM). It was guided by the existing variables from research work in the field of mobile payment systems (Wang & Lin, 2012; Akturan & Tezcan, 2012; Davis, 1989; Ajzen & Fisherbein, 1975) and other variables relevant to the Tanzania case. From the data analysis, it was established that there was a significant positive relationship between perceived ease-of-use and the adoption and use of MPPS. This indicates a level of acceptance to the majority mobile phone users in Tanzania. Over 75 percent (Table 2) of the respondents had experience in MPPs for over six years; they have been experienced updates and changing services on mobile phones. The results to support H3 provide an important insight into the services the companies offer to their customers, had strong influence towards

accepting the payment system. PU and IQ had values of beta coefficients below the average, hence portraying less degree in acceptance of the MPPS in Tanzania. This finding is contrary to what studies such as "Examining the critical success factors of mobile website adoption" by Zhou (2011), which pointed out that the perceived usefulness demands strategic minds. In this base, over 70 percent of the respondents had tertiary education, thus constituting a group of learned individuals capable of perceiving the usefulness of a new technology platform. Yet, efforts made by the service providers on providing all necessary information on procedures and standards a customer had to follow upon engaging in any payment, resulted in a low average contribution to accepting the technology.

On the whole, the acceptance of the mobile payment system had not been that successful in Tanzania. It was a bit complicated to test TAM towards the adoption of the mobile phone technologies. It happened that, the acceptance of the mobile phone payment systems was a complicated economic game with diversified stakeholders. This is in harmony with the findings of Yoris and Kauffman (2008) in their study on "The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application". As in most markets with network externalities, the acceptance and use of the system by one stakeholder is highly dependent on the acceptance and use of the system by another. Whereas the user (consumer) is concerned about making choices regarding switching costs, quality of service and accessibility, the MPPS provider is concerned about cost reduction, MPPS' developer about technology value, and the government primarily about monetary and fiscal policies. From interviews, some users refused adopting MPPS because their business partners had not done so. One interviewee owning a small business said, *"It's useless to me because I have no one to send money to or received from, all my friends are using cash in paying their bills"*. The majority of acceptance cases were found to be highly interdependent.

Market trends affected the adopters significantly. The perceived usefulness of the systems for one user had to consider the influence of the acceptance trading partner. This meant a more educated and well-informed partner was a driving force towards the acceptance of MPPS. Power and Sohal (2002) in their study "Best practice in implementation and usage of electronic commerce" concluded that, the adoption of e-commerce is essentially driven by trading partners. It was also reported that business partner requirement is an important factor associated with the adoption of electronic data interchange (BoT, 2014). In other words, MPPS require parties to co-operate and co-ordinate the transactions for the system to achieve its full potential. Evidence from the majority of the interviewees indicates that, the more users accepted the MPPS the more others were persuaded use it.

The study findings developed the grounds for the establishment of MPPS, which to a larger extent, have to do with the reduction of transactional cost of which the customer has to pay the service provider relative to the use of the debit card. Despite efforts aimed to reduce transaction fees pertaining to any bills payment transactions, this did not motivate the consumers to accept MPPS as the alternative sources of revenue. In fact, most of the users of the MPPs were time unconscious, small and a bit medium income spending and did not like the idea of paying for a small amount bill when there was a free substitute and acceptable payment system involving cash.

The usefulness of the MPPS was taken from an angle of being a major alternative to the debit card systems in particular. The reason being the MPPS involve smaller fees than the debit card systems. Nevertheless, the banks had great deal of power in transaction fees because of their large customer base. In this regard, merchants found it difficult to negotiate transactional fees with these parties. Recognising the usefulness of the MPPS, in transferring the value faster and at a cheaper rate, banks in Tanzania have also introduced mobile payment as part of their customer service.

Challenges were unexceptional on the ease-of-use of the MPPs in Tanzania. Service providers were frontiers of MPPS and relayed the procedures to users and potential users through face-to-face campaigns, or the system itself embedded the user guide procedures to operate a transaction through MPPS. Yet the merchants/users were largely incompetent and forgetful. In fact, they most of the time even failed to top up their balances from either the service provider or an agency. Indeed, the perceived usefulness to accept the MPPS was challenged from cases when shop merchants show anxiety in using the system and press wrong buttons discredited the consumer confidence in the mobile payment system. Initially, bad experiences from the service providers and the merchants were critical to early adopters as they resulted in negative feelings that undermined their acceptance of MPPS. One service provider attempted to overcome these challenges

by having a crew of employees making regular visits to the users to ensure that the mobile phone payment system remained operational, with users confident of their transactions, in addition to attempting to solve promptly and timely whatever contingencies emerged in the use of MPPS.

IMPLICATIONS AND CONCLUSIONS

This research had attempted to extend knowledge on the application of Technology Acceptance Model (Davis, 1989) to the Mobile Phone Payment Systems or MPPS now widespread in a developing country such as Tanzania. Past studies, however, had rarely addressed ICT adoptions to mobile phone systems rather mobile internet use, banking (Hong, Thong, & Tam, 2006). In contrast, this study has extended and supported the applicability of the TAM to MPPS. The implication is that ease-of-use, perceived usefulness, service and information quality had significant influence on the acceptance of MPPS in Tanzania.

In this information age, the need to handle customers with great care is enormous. The age has witnessed people demanding instant information, and just in time transactions/operations; they have been impatient and ready to quit if they find a given service unworthy. The need to intensively plan for investing in e-business is inevitable to businesses. The study found the level of acceptance of the technology to be positive. This implies that there should be deliberate efforts from the Tanzania communication regulatory authority (TCRA), banks and Bank of Tanzania, ICT stakeholders, and ICT consumers, to streamline electronic platforms with ease-of-use characteristics, and perceived usefulness for all parties with the goal of improving livelihoods and boosting growth. MPPS is a good model to start with, because its penetration rate is everyday skyrocketing. Such efforts may be based on reducing the cash societies prevailing in most of the developing societies, hence stressing the need to attend ICT courses along the same lines as those for Mathematics in Tanzania in addition to providing the rules and guidelines that users can willingly abide by.

To capture the acceptance of the MPPS, providers have to strategise on how a service has to respond to user perception. These may be in the form of user-friendly information package for all categories of potential users, feedback on the product usage and prompt feed forward in a case of blockage experiences of the user. It is also concluded in relation to perceived usefulness that, consumers may not necessarily understand well the potential benefits of a particular solution being developed by ICT system developers to support a specific business model. As such, service providers have to create a platform to enable users to detect before blindly plunging into a system its benefits. With technology at hand, many things are possible, but final success of mobile payments systems is determined by user acceptance. It is worth developing phone payment systems that take cognisance of the technology in place in addition to incorporating the requirements of customers and service providers.

On the other hand, the current study was limited to extending the TAM model with specific focus on the acceptance of mobile phone payment systems. Data analysis was based much on the consumer acceptance. Consumers were individuals in Tanzania who had a mobile phone regardless of whether they subscribed to the MPPS services or not. The results for this study were also constrained by the time element as the data were collected in 2014, and the fact that there are unprecedented changes in ICT innovations, which continue taking place. The researchers propose more studies to be carried out based on the extension of the adoption theories such as the Innovation Diffusion Theory (Rogers, 1995), the Theory of Planned Behaviour (Ajzen, 1991), and the Theory of Reasoned Action (Ajzen & Fisherbein, 1975) and the UTAUT model.

On the basis of its findings and conclusion, the study recommends carrying out a more cross-sectional study, for example, a survey involving both consumers and business organisations; a cross-country study covering the five East African member-states of Burundi, Kenya, Uganda, Rwanda, South Sudan, and Tanzania; and cross-businesses survey. Such broad-based studies could further generate insights into the relative importance of each factor for the acceptance of particular mobile phone payment systems. More significantly, future studies could include two sets of users with experience on mobile phone payments and those without it to serve as a control group. Such an approach might provide wonderful insight into the levels of influence pertaining to accepting or adopting a technology.

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System quality (Wang & Lin, 2012)

1. Mobile value-added services keep transactions error-free.
2. Mobile value-added services offer easy navigation to retrieve information.
3. Mobile value-added services have fast response times and transaction processing.

Service quality (Wang & Lin, 2012)

1. Mobile value-added services can be depended upon to provide what is promised.
2. Mobile value-added services instil confidence in users, reducing their uncertainty.
3. Mobile value-added services understand and adapt to the user's specific needs.
4. Mobile value-added services exhibit a professional and competent image.

Information Systems Quality (Wixom & Todd, 2005)

SYSQ1: This mobile site is reliable.

SYSQ2: The navigation of this mobile site is effective.

SYSQ3: The layout of this mobile site is clear.