# INFLUENCE OF PERCEIVED TRUST IN RURAL CONSUMER MOBILE PAYMENT SERVICE ADOPTION: AN UNDERSTANDING OF MODERATION EFFECTS OF GENDER AND AGE

## Eliezer Taluka Juma J. Masele<sup>1</sup>

#### ABSTRACT

Mobile Payment Services present a noble potential to increase financial inclusiveness by extending access to financial services to rural consumers, which have to contend with severely access to traditional financial facilities such as Automated Teller Machines (ATMs), bank branches and other financial institutions. Despite the potential that mobile payment services offer, perceived uncertainties present one of the causes behind low consumer mobile payment services adoption in rural areas. Yet, the extent to which perceived trust influence behavioural intention to adopt mobile payment services in Tanzania differ among younger and older rural consumers, and, female and male rural consumers has not been made clear and/or undocumented. A recent survey conducted in Pwani (Coast) region employed the Partial Least Square- Structure Equation Model (PLS-SEM) method to test established research model which involved two constructs and two moderators: perceived trust constructs, which was moderated by age and gender, and behavioural intention constructs adopted from the Unified Theory of Acceptance and Use of Technology (UTAUT). The analysis has established that perceived trust strongly and positively influences the adoption of mobile payment services in rural areas; however, the group moderation effects of gender and age were found not to be statistically significant, hence calling for mechanisms aimed to reduce uncertainties that consumers encounter in using mobile payment systems in all age groups and both genders since they give the same impetus to the perception of trust matters, and the presence of adequate structural assurance such as regulations and safeguards relating to usage of mobile payment systems in the country.

**Keywords:** perceived trust; rural areas, consumer; mobile payment services; adoption; moderation effects; gender; age

Business Management Review pp 13--24 ISSN 0856-2253; (eISSN 2546-213X) ©June-December 2016 UDBS. All rights of reproduction in any form are reserved.

<sup>&</sup>lt;sup>1</sup> Jum,a J. Masele , Lecturer ; Department of General Management, University of Dar es Salaam Business School, Tanzania (E-mail: <u>masele@udbs.udsm.ac.tz</u>) Eliezer Taluka, <u>eliezeranthony@yahoo.com</u>

## INTRODUCTION

Rural population in Tanzania stands at 70 percent (World Bank, 2015) with only 55 percent of this population financially included<sup>2</sup>. Yet, the majority of the rural dwellers have access to mobile phones<sup>3</sup>, which has allowed mobile payment services to avail opportunities for reaching the financially excluded rural areas (Donovan, 2012). Mobile Payment Services refers to any form of payment in a which mobile device such as a mobile phone connected to a mobile telecommunication network is used to initiate, authorise and confirm an exchange or transaction of financial value in return for goods and services in person-to-person, government-to-person and business-to-business transaction (Au & Kauffman, 2008; Gencer, 2011).

In such monetary transaction trust is pivotal. Generally, the role of trust has widely been acknowledged as an important determinant of whether to transact or not in any e-commerce setting (Grabner-Krauter & Kaluscha, 2003; Lee & Tuban, 2001) as it serves as an informal control mechanism to reduce friction, limit opportunistic behaviours, encourage future transactions and help build longterm relationships (Grabner- Krauter & Kaluscha, 2003 cited in Xin, 2015). Compared to their counterparts in urban areas, rural consumers have lower literacy levels with unique financial needs (Frydrych & Aschim, 2014). To them, trust is a critical factor because it helps to reduce uncertainty associated with limited knowledge of rural mobile payment services consumers (Venkatesh, Thong, & Xu, 2012). Limited numbers of studies (such as Talafha & Abushanab, n.d.; Chung, Zhang, Dong, & Shin, 2015) have been conducted to investigate moderation effects of gender and age on these constructs as one of the predictors of mobile payment service adoption. This study investigated the moderation effects of gender and age on perceived trust towards the adoption of mobile payment services in rural areas. To achieve this main objective, the study considered the following specific objectives:

- 1. Determine how differently perceived trust influence behavioural intention to adopt mobile payment services among consumers aged below 30 and above 30 years.
- 2. Determine how differently perceived trust influence behavioural intention to adopt mobile payment services among male and female consumers.

This paper is structured as follows: second section reviews theoretical models in addition to presenting constructs, the rationale and development of hypotheses of the study. The third section describes research methodology. Finally, the last section presents the results, study findings, discussion and conclusion.

<sup>&</sup>lt;sup>3,4</sup> http://finclusion.org/data\_fiinder/

#### THEORETICAL BACKGROUND

This study makes use of the Unified Theory of Acceptance and Use of Technology (UTAUT), which-according to Taiwo and Downe (2013)constitutes the "most superior technology adoption model" when compared to preceding eight most employed technology adoption models (Mcgrath, Waehama, Korthaus, & Fong, 2014). The UTAUT was developed by Venkatesh et al. (2003) to explain end user's acceptance and use behaviour by complementing the preceding eight most employed technology adoption models. The reviewed and analysed models are the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behaviour (TPB), Model of PC Utilisation, Diffusion of Innovation (DoI) Theory, Social Cognitive Theory (SCT) and Combined TPB/TAM (Sophonthummapharn, 2008 cited in Masele, 2014). For UTAUT, Venkatesh et al. (2003) identified four core constructs: performance expectance (PE), effort expectance (EE), social influence (SI) and facilitating conditions (FC) moderated by gender, age, experience and voluntariness of use to predict behavioural intention (BI) to use technology. UTAUT has been employed to investigate different technology adoptions including e-government, mobile payments, mobile banking, e-commerce and similar technologies. Despite UTAUT being widely applied in technology adoption studies, it lacks aspects of risk and perceived trust, which consumers consider important in decisions to adopt mobile technologies (Dwivedi, Rana, Chen, & Williams, 2014). A review of previous consumer adoption of mobile payment and m-commerce adoption studies has established that trust and security (Bojei & Alsheikh, 2014) concerns significantly influence consumers' adoptions. Venkatesh et al. (2011) further treat trust as of particular importance in considering when use of information systems involves the exchange of personal and sensitive information. Dwivedi, Rana, Chen and Williams (2014) conducted a meta-analysis of the UTAUT and established that 22 out of 43 studies reviewed used external variables in their investigations. Trust happens to be one of the most commonly employed external variables and was deployed in five out of the 22 studies.

This study, therefore, employed a modified UTAUT model extended with perceived trust construct to improve its predictive capability in mobile payment domain. The modified UTAUT Model (Bojei & Alsheikh, 2014; Dwivedi, Rana, Chen, & Williams, 2014) involved five independent variables, that is, Performance Expectance (PE), Effort Expectance (EE), Facilitating Conditions (FC), Social Influence (SI), Perceived Trust (PT) as independent variables and Behavioural Intention (BI) to adopt mobile payment services as a dependent variable, with moderators being gender, age, voluntariness and work experience. As part of an ongoing study, this paper specifically investigates the effects of gender and age on perceived trust towards behavioural intention to adopt mobile payment services in rural areas

#### Constructs

This study employed two constructs, namely, behavioural intention (BI) toward mobile payment services adopted from the UTAUT and Perceived Trust (PT), which is one of the most commonly employed external variables and used in previous information technology adoption studies employed UTAUT (Dwivedi, Rana, Chen, & Williams, 2014).

## Perceived Trust (PT)

This study defines perceived trust (PT) as conceptualised by Venkatesh, Thong, Chan, Hu and Brown (2011) to comprise competence, benevolence and integrity. They defined competence as belief in a trustee's ability to do what the trustor expects; integrity as the belief that the trustee will be honest and keep the promise; and benevolence as the belief that the trustee will act in the trustor's interests. Venkatesh *et al.* (2011) contend that trust is particularly important when using information systems and involves the exchange of personal and sensitive information. Perceived Trust is an important factor because mobile payment services involve the transfer of money and private information between two or more parties; in other words, perceived trust reduces perceived risk of transactions employing mobile devices (Tossy, 2014;Vasileiadis, 2014).

In the previous studies that investigated mobile payments adoption (Phonthanukitithaworn, Sellitto, & Fong, 2015;Tan, Techatassanasoontorn, Xin, & Business, 2013; Kaitawarn, 2015) it was established that perceived trust was a significant factor behind behavioural intention to adopt a given technology. Another study conducted by Vasileiadis (2014) to investigate security and trust concerns governing the adoption of M-commerce confirmed that perceived trust had a direct positive effect on the intention to use M-commerce.

## **Behavioural Intention (BI)**

Bagozzi, Baumgartner and Yi (1988) define intention as an indication of a person's readiness to perform a given task, which constitutes an immediate antecedent of behaviour. For example, Punnoose (2012) argues that behavioural intention indicates how much effort an individual would like to commit towards performing such behaviour. The Behavioural intention (BI) construct has been widely used as a direct predictor of technology adoption (Alkhunaizan & Love, 2012; Tossy, 2014, Kaitawarn, 2015; Taiwo & Downe, 2013a; Witeepanich, Emklang, Matsmak, Kanokviriyasanti, & Chanvarasuth, 2011; Wu, Yu, & Weng, 2012). This study defines BI in accordance with Fishbein and Ajzen (1975 as cited in Venkatesh et al., 2011) who treat Behavioural intention as an internally-formulated behavioural commitment to performing a target behaviour.

#### Gender and Age as Moderators

Previous studies on information systems' adoption involving the exchange of values, for instance online shopping and M-commerce, have found demographic characteristics such as gender, age and education to have key moderation effects (Suki, 2011; Chung, Zhang, Dong, & Shin, 2015; Lee, Trimi, & Kim, 2012). This study investigated two moderation effects of two demographic characteristics in relation to the influence of perceived trust toward behavioural intention to adopt mobile payments services in rural areas.

#### Gender

Gender differences are results of psychological differences between males and females (Suki, 2011). Generally, males tend to hold more positive attitudes and tend to be less anxious about technology than their female counterparts who tend to show lower confidence and higher anxiety toward new technologies (ibid.). Study conducted by Chung *et al.* (2015) to understand gender moderating effects on customers' trust assert that gender has different effect on perceived trust. This finding is supported by a study conducted in Puerto Rico by Vega (2015) to investigate the determinants of consumer trust towards electronic commerce, which established that there is significant difference in trust towards electronic commerce between male and female genders.

Another study conducted by Lee *et al.* (2012) found that perceived risk caused more uncertainty among women in purchasing mobile commerce process than among men. Study by Tamimi *et al.* 2007 as cited by Vega (2015) suggests that women attach more importance to privacy and security than men. However, in Tanzania, the moderation effect of gender on behavioural intention to adopt mobile payment services is either not clear or is not documented at, hence there was a need to elicit more information by undertaking and investigation on the phenomenon.

## Age

Age is one of most employed socio-demographic characteristics in investigating the adoption of information systems (Vega, 2015; Witeepanich, Emklang, Matsmak, Kanokviriyasanti, & Chanvarasuth, 2011; Venkatesh *et al.*, 2012; Wu, Yu, & Weng, 2012). Age is also one of the socio-demographic moderators employed in UTAUT because there is a tendency to have age differentiated attitudes toward new technologies. According to Suki (2011), older people are more likely to evaluate risks and benefits in addition to being more careful before reaching a decision to adopt new technology than younger ones.

A study carried out by Tamimi *et al.*(2007) as cited by Vega (2015) found that people aged over 50 perceived that trust, security and credibility were more relevant than the younger group, hence supporting a similar argument as advanced by Suki (2011). This study also investigated the same issue in the Tanzanian context.

## **Conceptual Model of the Study**

This study proposes a conceptual model that involves two constructs: perceived trust (PT) and behavioural intention (BI) to use mobile payment services (BI). The relationship between the two proposed constructs is moderated categorically by two variables, namely Age and Gender as depicted in Figure 1.



Figure 1: Conceptual Framework of the Study Source: Researchers' Own conceptualisation

## Study hypotheses

To attain established research objectives and based the basis of reviewed studies, the study proposes two hypotheses thusly:

H1: Perceived Trust (PT) has a greater influence on behavioural intention toward mobile payment services (BI) among rural female consumers than among male rural consumers.

H2: Perceived Trust (PT) has a greater influence on behavioural intention toward mobile payment services (BI) among older rural consumers than among younger rural consumers.

## **Research Methodology Research Design and Sampling method**

The data was collected using a structured questionnaire survey. The study employed this method of data collection because it is easy to use and constitutes a relatively low-cost method (Kothari, 2004). The survey instrument was developed by adopting survey validated questions used in previous technology adoption studies and all the constructs were assessed using 5-Scale Likert scale. Convenience sampling was used to select 140 respondents from three districts of Pwani (Coast) region of Tanzania.

## **Data Analysis**

This study employed the sample size of 99 respondents with following descriptive characteristics; 49 percent of women, one percent were below 20 years of age, 28 percent between 20 and 29 years, 39 percent between 30 and 45 years and 17 percent above 45 years. A summary of demographic characteristics is presented in Table 1. The sample size was deemed sufficient basing on Hair, Ringle and Sarstedt's (2011) rule of the thumb on the sample size required in Partial Least Square-Structure Equation Modelling (PLS-SEM), which requires that minimum sample should be equal to ten times the largest number of structural paths directed at a particular latent construct in the structural model.

Age groupPercentageBelow 2016%Between 20 and 2928%Between 30 and 4539%Above 4517%

Table 1: Descriptive data characteristics

Gender	Percentage
Male	51%
Female	49%

The data collected was tested using PLS-SEM using SmartPLS 3.0 software (Ringle, Christian M., Wende, Sven,& Becker, Jan-Michael.,2015). The PLS-SEM measurement model was set up by drawing all latent constructs with their respective indicators and relationships. Partial Least Square (PLS) Algorithm was run to calculate and estimate various measurement model parameters and bootstrapping simulation was run to conduct significance testing of various estimated parameter. Finally, Partial Least Square Multi-Group Analysis (PLS-GMA) using parametric approach was used to compare groups to understand the gender and age moderation effects.

#### **Measurement Model Evaluation**

This first step in the evaluation of PLS-SEM results was aimed at evaluating internal consistency reliability, indicator reliability, convergent validity and discriminant validity. In this study, the evaluation of measurement and structural model was based on guidelines provided by (Hair *et al.* 2011, 2014) to the effect that internal consistency and Average Variance Extracted (AVE) for used constructs should be above or equal to 0.7.

Internal consistency reliability for both PT and BI used in this study was above 0.7 (see Table 2), hence conforming to the guideline after the elimination of PT1

and PT2. Indicator reliability for all indicators involved was above 0.7 ranging from 0.835 to 0.921. Internal consistency is assessed using Composite Reliability (CR) because it employs standardised loading of indicators whereas Average Variance Extracted (AVE) is used to assess convergent validity.

Table 2: Complete model Indicator, Indicator Loading, Composite Reliability, AVE

Indicat	Indicator	Constru	Composite	AV	Confor
or	Loadings	ct	Reliability	Ε	m
PT3	0.870	РТ	0.887	0.72 3	Yes
PT5	0.845				Yes
PT6	0.835				Yes
BI1	0.892	DI	0.002	0.82	Yes
BI3	0.921	DI	0.902	2	Yes

(Source: Field Data Analysis)

Iterative process was employed to identify and drop BI2 and PT4 so as to confirm the AVE and Composite Reliability meeting the 0.7 cut-off points. Furthermore, through visual inspection of the indicator loading was conducted and confirmed that each indicator loading is higher than each of its cross-loadings.

	Perceived Trust (PT)	Behavioral Intention (BI)
BI1	0.504	0.892
BI3	0.583	0.921
PT3	0.870	0.549
PT5	0.845	0.519
PT6	0.835	0.462

Table 3: Indicator cross-loadings

(Source: Field Data Analysis)

Discriminant Validity was further assessed using **heterotrait-monotrait ratio of correlations** (HTMT) criterion as recommended by Henseler, Ringle and Sarstedt (2015) and found to stand at 0.749 hence conforming to the establishment of discriminant validity between the two constructs.

## **Structural Model Evaluation**

Relationship between endogenous and exogenous in the evaluation model was conducted by using  $R^2$ , coefficient of determination and path coefficient,  $\beta$ . To test for significance of parameters obtained, bootstrapping techniques was employed as presented in tables 4 and 5.

	Original	Sample	Т-	Р-
Full Model	Samples	Mean	Statistic	Values
behavioural intention				
(BI)	0.362	0.36	3.587	0.000
Male				
behavioural intention				
(BI)	0.286	0.304	3.461	0.001
Female				
behavioural intention				
(BI)	0.417	0.411	2.920	0.004
Consumers below 30				
years				
behavioural intention				
(BI)	0.260	0.288	2.332	0.020
Consumers above 30				
years				
behavioural intention				
(BI)	0.436	0.439	3.425	0.001
		1		1

Table 4: Coefficient of Determination (R-Square)

The result indicates that coefficient of determination of both gender and age groups are significant (p < 0.05) and above the minimum weak effect cut-off point (Hair *et al.*, 2011; 2014). This means proportion of variance found in BI that is predictable from PT for the complete model was 0.362; 0.286 for male group, 0.417 for female group, 0.26 for consumers below 30 years and 0.436 for above 30 years. This finding implies that PT was more important to female and older rural consumers than to male and younger consumers.

	Original	Sample	Т-	Р-
Full Model (β)	Samples	Mean	Statistic	Values
behavioural intention (BI)	0.602	0.597	7.026	0.000
Male				
behavioural intention (BI)	0.535	0.547	7.061	0.001
Female				
behavioural intention (BI)	0.646	0.638	5.456	0.000
Consumers below 30				
years				
behavioural intention (BI)	0.510	0.522	4.107	0.000
Consumers above 30				
years				
behavioural intention (BI)	0.660	0.654	6.498	0.000

Table 5: Path Coefficient

The results indicate that path coefficients for both gender and age groups were significant (p< 0.05). This means, an increase in one standard deviation in PT for male groups translates into 0.602 increase of BI for the complete model, 0.535 for male group and 0.646 for the female group. Furthermore, one standard deviation increase in PT results into a 0.510 increase of BI for group below 30 and 0.66 for group above 30. The findings imply that PT was a strong predictor of BI particularly female consumers and those aged above 30 years, who happened to have been more influenced by it than other age groups and male consumers.

#### **Hypotheses Testing**

To assess the existence of categorical moderation effects across gender groups, male and female, and across age groups, below and above 30 years, path coefficients comparison was conducted using a Multi-Group Analysis (PLS-MGA) as suggested by Wong (2016). The results of the PLS-MGA are presented in tables 6 and 7.

The results in Table 6 indicate that path coefficient estimates relating to PT and BI for male and female imply that groups do not differ significantly (p > 0.05); thus, leading to the rejection of H1. This means, perceived trust (PT) influences both male and female rural consumers in the same manner. This finding contradicts the result of similar studies conducted by Vega (2015) and Chung,

Zhang, Dong and Shin (2015) which both suggest that gender moderated perceived trust influence.

Path Coefficient-<br/>diff (|Female-<br/>Male|)t-Values<br/>(Female vs. Male)p-Values<br/>(Female vs.<br/>Male)PT -> BI0.1110.7850.434

Table 6: Path Coefficient Difference between Male and Female groups

The results in Table 7 show that path coefficient estimates in relationship between PT and BI for rural consumers aged below 30 and those above 30 do not differ significantly (p > 0.05); therefore, H2 was rejected. This means, perceived trust (PT) influences young and old consumers in the same manner. This finding contradicts a previous suggestion by Vega (2015) and Suki (2011) that old consumers evaluate risks and benefits more carefully than younger consumers.

Table 7: Path coefficient age difference between consumers above 30 and below 30 years

	Path Coefficient-	t-Values	p-Values	
	diff ( Above 30 -	(Above 30 vs.	(Above 30 vs.	
	Below 30 )	Below 30)	Below 30)	
PT -> BI	0.150	0.983	0.328	

#### **Discussion and Conclusion**

This study sought to understand gender and age categorical moderation effects on perceived trust (PT) towards Behavioural intention (BI) of rural consumers to adopt mobile payment services. The model employed involved two constructs, perceived trust (PT), which is the exogenous variable and Behavioural intention (BI), which is an endogenous variable. The study employed PLS-SEM and PLS-MGA to assess the existence of across group moderation effects. It was observed that where there was the Structural Model Evaluation using R<sup>2</sup>, the coefficient of determination and path coefficient of determination, both gender and age groups were significant. For the coefficient of determination, R<sup>2</sup> for the complete model was 0.362, but it was 0.286 for male group and 0.417 for female group; 0.26 for consumers below 30 years and 0.436 for above 30 years. This finding found BI as predictable from PT, implying that PT is more important for female and older rural consumers than for males and young rural consumers, respectively. The path coefficients indicate that increase of one standard deviation in PT for male groups translates to a 0.602 increase of BI for the complete model, 0.535 for male group and 0.646 for female group; and one standard deviation increase in PT would result into a 0.510 increase of BI for group below 30 and 0.66 for group above 30. The findings imply that PT is a strong predictor of BI and more particularly for female and above 30 years of consumers are more influenced by it. In testing the hypothesis to assess the existence of categorical moderation effects across gender groups, male and female, and across age groups, below and above 30 years, path coefficients comparison was conducted using PLS-MGA as suggested by Wong (2016). The results in Table 6 indicate path coefficient estimates relating PT and BI for male and female implying that groups do not differ significantly (p > 0.05), hence leading to rejection of H1. This means, perceived trust (PT) influences both male and female rural consumers in the same manner.

The findings support previous literature reviewed suggestions that perceived trust is a strong determinant for consumers' behavioural intention to adopt mobile payment systems. However the effects of categorical moderation of gender and age on the relationship were non-significant. In other words, perceived trust (PT) influences both male and female rural consumers of all ages the same way, hence contradicting what other studies such as Suki (2011), Vega (2015), Chung, Zhang, Dong and Shin (2015) suggested that gender moderated perceived trust influence, whereby perceived trust was found to be a strong determinant for female and older consumers. In earlier studies such as Suki (2011), Vega (2015), Chung, Zhang, Dong and Shin (2015) old consumers were found to evaluate risks and benefits more careful than younger consumers, whereas gender-wise, female consumers evaluated risks and benefits more careful than male consumers . As Mobile payment services in Tanzania services started 2008 (InterMedia, Financial, Tracker, & Project, 2013), consumers might have been more aware than in the past of risks involved regardless of their gender and age.

This study's findings thus emphasise to mobile payment service providers and their stakeholders the importance of ensuring perceived trust to all market segments regardless of their gender and age. That is the more one perceives trust on a particular mobile payment service the more the confidence the user will have in using mobile services transactions. In a study conducted by Tan, Techatassanasoontorn, Xin, and Business (2013) to explore influence of trust on mobile payment adoption consumers found trust on mobile payment had strong influence on consumers intention to adopt mobile payment services. This finding is also supported by another study conducted by Phonthanukitithaworn, Sellitto and Fong (2015) to understand factors influencing Thai consumers' intention to adopt mobile payments in which perceived trust was found to be a significant factor.

According to Xin (2015), trust related characteristics of mobile service provider and mobile payment vendor including reputation and opportunism may reduce the level of transaction specific uncertainties a consumer may perceive towards new technologies coming up with mobile phones. That is, if consumers perceive any opportunistic behaviour on the part of mobile payment vendors, they are likely to place lower trust in mobile payment. In his study Xin (2015), highlighted the fact that uncertainty avoidance had a significant influence on the formation of mobile payjment trust, where he found that consumers with higher level of uncertainty avoidance tended to avoid risks and, cosequently, had lower level of trust in mobile payment than vice-versa.

This study presents both theoretical and practical implications because numerous previous studies of technology adoption have investigated the moderation effects of gender and age to the most employed constructs but limited studies had investigated the moderation effects on perceived trust. To vendors, it is important to ensure trust consumers in mobile payment systems through the reduction of the level of uncertainty that consumers encounter. In this regard, Xin (2015) asserts that it is crucial for mobile services providers and vendors to disclose relevant information to consumers, including statements to consumers as a way of tracking their payments. The existence of adequate structural assurance such as regulations and safeguards pertaining to ICT-related transactions, the enforcement of ICT-related laws and an establishment of trusted institutions acting as guarantors are important.

According to the MEDA (2013) report, there are already some initiatives as general consumer protection measures that Mobile Network Operators (MNOs) in Tanzania already implement. These include the use of PIN Number (usually 4digits) selected by the owner of the mobile wallet and can be changed at any time; intensive Customer Care provision-whereby each mobile money provider has a customer care line for users that seek to avail users with reporting on issues of fraud, consumer challenges, and consumer protection issues; Agent Network Management to monitor their agents closely, as the agent is the point of contact for the customer; and the application of standard practices that require dual authorisation before Bulk Payments are made to protect against fraudulent incidents where each payment requires a maker and a checker, with different user names, mobile numbers, and pass-codes. The article by Clyde and Co LLP (2014) however indicates that, although financial policies and regulatory frameworks such as the Bank of Tanzania (BoT) Act, 2006, S. 6- (the BoT Act); Tanzania Communication and Regulatory Authority Act, 2003 (the TCRAA, 2003); the Tanzania Communication and Regulatory Authority (TCRA); Electronic and Postal Communications (Licensing) Regulations 2011 (EPCR); Electronic Payment Schemes Guidelines, 2007 (the EPSG); etc. that stipulate the terms and conditions for agents and customers, the current legal environment in Tanzania remains rather inadequate for mobile payment systems in the country. This is because the existing laws were developed before the development of technology in relation to transactions through mobile phones, as well as for failing to keep up with the changes occurring in the industry (Clyde & Co LLP, 2014). In this regard, the adoption of the Mobile Payment Regulations (MPR) and the National Payment Systems Act, are expected to alleviate some of the

issues with the current system, hence reducing uncertainties related to Mobile Payment systems, thus to cultivate trust and behavioural intention to use the systems.

#### Limitation and Suggestions

This study employed data collected employing non-probabilistic sampling methods from Pwani (Coast) region. Therefore it faces the limitation of the generalisability of findings should be taken under consideration when interpreting the results. As this study did not investigate the moderation effects of the education level of rural consumers, it recommends that future studies include this moderator.

#### References

- Alkhunaizan, A., & Love, S. (2012). What drives mobile commerce? An empirical evaluation of the revised UTAUT model. *International Journal of Management and Academy*, 2(1), 82-99. Retrieved from http://marcomacademy.co.uk/ijmma/What-drives-mobile-commerce-Anempirical-evaluation-of-the-revised-UTAUT-model.pdf
- Au, Y. a., & Kauffman, R. J. (2008). The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application. *Electronic Commerce Research and Applications*, 7(2), 141– 164. http://doi.org/10.1016/j.elerap.2006.12.004
- Chung, K. H., Zhang, Y. Q., Dong, Y. H., & Shin, J. (2015). The antecedents and consequences of customer trust and website Image : The Moderating Effects of Gender, *Advanced Science and Technology Letters*, *102*, 29-33.
- Donovan, K. (2012). Mobile money for financial inclusion. In: World Bank (Ed). Information and Communications for Development: Maximizing Mobile (pp. 61-72). Washington, D.C.: World Bank.
- Dwivedi, Y. K., Rana, N. P., Chen, H., & Williams, M. D. (n.d.). A Meta-Analysis of the Unified Theory of Acceptance and Use of Technology ( UTAUT).
- Gencer, M. (2011). The mobile money movement: Catalyst to jump-start emerging markets. *Innovations: Technology, Governance, Globalization*, 6(1), 101–117. http://doi.org/10.1162/INOV\_a\_00061
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver sullet. *The Journal of Marketing Theory and Practice*, 19(2), 139–152. http://doi.org/10.2753/MTP1069-6679190202
- InterMedia, Financial, T., Tracker, I., & Project, S. (2013). Mobile money in Tanzania use: Barriers and opportunities. *I*, (February), 1- 32. http://doi.org/Inter Media
- Kaitawarn, C. (2015). Factor influencing the acceptance and use of m-payment in Thailand : A case study of AIS mPAY rabbit, 4(3), 222-230.
- Kothari, C. (2004). *Research methodology: Methods and techniques* (2<sup>nd</sup> Ed.). Vasa New Age International (P) Limited Publishers: New Delhi

- Lee, S.-G., Trimi, S., & Kim, C. (2012). The impact of cultural differences on technology adoption. *Journal of World Business*, 48(1), 20–29. http://doi.org/10.1016/j.jwb.2012.06.003
- Masele, J.J. (2014). Adoption of green e-business applications for sustainable tourism development in developing countries: The case of Tanzania. PhD Dissertation, Carl von Ossietzky University of Oldenburg: Oldenburg.
- Mcgrath, M., Waehama, W., Korthaus, A., & Fong, M. (2014). ICT Adoption and the UTAUT Model, 9–16.
- Phonthanukitithaworn, C., Sellitto, C., & Fong, M. (2015). *Journal of Internet Banking and Commerce*, 20(1), 1–29.
- Suki, N. M. (2011). Gender, age, and education: Do they really moderate online music acceptance?, 2011. http://doi.org/10.5171/2011.959384
- Taiwo, A. A., & Downe, A. G. (2013a). The theory of user acceptance and use of technology (UTAUT): A Meta-analytic Review of Empirical Findings, 49(1).
- Taiwo, A. A., & Downe, A. G. (2013b). The theory of user acceptance and use of technology (UTAUT ): a Meta-Analytic Review of Empirical Findings, 49(1).
- Talafha, H., & Abu-shanab, E. (n.d.). Would gender, education and age influence internet banking adoption constructs in jordan ?, *IADIS International Journal on WWW/Internet 13*(2), 69-82.
- Tan, F. B., Techatassanasoontorn, A. A., Xin, H., & Business, F. (2013). Exploring the influence of trust on mobile payment adoption. Association for Information Systems (AIS), 143(18), 1-17.
- Tossy, T. (2014). Modelling the adoption of mobile payment system for primary and secondary school student examination fees in developing countries : Tanzanian experience, *International Journal of Information Technology and Business Management*, 27(1), 1-12.
- Vasileiadis, A. (2014). Security concerns and trust in the adoption of mcommerce. *Socialinės Technologijos Social Technologies*, 4(1), 179-191. http://doi.org/10.13165/ST-14-4-1-12
- Vega, J. A. (2015). Determiners of consumer trust towards electronic commerce : An application to Puerto Rico. *Esic Market Economics and Business Journal*, 46(1), 125-147. http://doi.org/10.7200/esicm.150.0461.3i
- Venkatesh, V., Thong, J. Y. L., Chan, F. K. Y., Hu, P. J., & Brown, S. A. (2011). UTAUT predictors and the role of context, 527–555. http://doi.org/10.1111/j.1365-2575.2011.00373.x
- Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology : Extending the unified theory. *MIS Quarterly*, 36(1), 157–178.
- Witeepanich, C., Emklang, N., Matsmak, J., Kanokviriyasanti, P., & Chanvarasuth, P. (2011). Understanding the adoption of mobile banking services : An empirical assessment. *Amcis 2011*, (Eppm), 282–291. Retrieved from http://aisel.aisnet.org/amcis2011\_submissions/5/
- Wong, K. K. (2016). Technical note : Mediation analysis , categorical

moderation analysis , and higher-order constructs modeling in Partial Least Squares Structural Equation Modeling (PLS-SEM ): A B2B Example using SmartPLS, *26*, 1-22.

Wu, M., Yu, P., & Weng, Y. (2012). A study on user behavior for I pass by UTAUT : Using Taiwan 's MRT as an Example, *17*(1).