Gender Influence And Use Of Mobile Payment Services In Kenya

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Abstract:

Purpose: The purpose of this study was to investigate the influence of gender on the drivers that influence the use of mobile payment services in Kenya.

Design/Methodology/Approach: The study developed a conceptual framework of gender influence on the use of mobile payment application in Kenya. The research model was tested empirically using data collected from 532 mobile payment users situated in four towns located in Kenya. A regression analysis was used to test the research hypothesis.

Findings: The study findings revealed that R^2 change was 0.1% from 44% to 44.1% when gender was included in the model with all the tested factors. Effort expectancy, Performance expectancy, perceived enjoyment and perceived security reported significant influence on mobile payment use in Kenya. Although gender influence was reported to be insignificant in the model, gender differences were reported in factors namely effort expectancy (E.E) and perceived security while on performance expectancy (PE) and perceived enjoyment gender had insignificant influence on their relationship

Research Limitations: The research was limited to gender influence from a Kenyan perspective alone and therefore its generalization may not represent a true picture of what happens in other parts of the world.

Practical implications: With a huge gender disparity in the use of technological innovations being reported globally, a study focusing on Kenya which according to the latest mobile consumer readiness reports is the global leader in mobile payment use will help understand the drivers behind this success and how demographic factors such as gender influence these factors.

Originality: Previous studies have focused on the drivers influencing the use of mobile payment services in Kenya. This study goes further to focus on the moderating effect of gender on these factors that influence the use of mobile payment services in Kenya.

Keywords: Mobile Payment, Consumers, Drivers, Gender

I. INTRODUCTION

Over the last five years, Sub-Saharan Africa has experienced the highest growth in both mobile subscription and connection globally (World Economic Forum, 2014). According to the (Mobile Payments Readiness Index, 2015), there were 329 million mobile subscribers which is about 38% of the entire population in sub-Saharan Africa using mobile phones and with the adoption of smart phones rapidly increasing driven by increasing affordability and spread of high speed networks, GSMA (2015) indicate that approximately 50% of all mobile connections in sub-Saharan Africa will be on Smartphone by the year 2020. The region has also experienced a mobile revenue growth of 7% in the last five years making it the fastest growth in any region and contributing 5.4% of the total GDP by year 2014. The impact according to (GSMA, 2015) include overall direct contribution from mobile operators of 1.9% of the total GDP and from

direct related industries such as service providers, retailers handset manufacturer and mobile content creators contributing about 0.6% of the total GDP. Moreover the effect on the rest of the economy is estimated to be approximately 0.5% of the total GDP while increased productivity induced an estimated 2.4% of the total GDP in the region (mobile economy, 2015).

Kenya is one such countries in the sub-Saharan Africa that has recorded massive growth in the mobile technology adoptions and use (GSMA, 2015). But even with this growth in mobile use, the influence of demographic variables such as gender in the overall growth remains under researched especially in the developing economies. This is despite previous studies revealing that digital divide in terms of unequal technological access against different group of people are classified by age, gender, income status and education (Chan & Chong, 2013). It is also important to note that gender, a demographic variable has also elicited a lot of interest in the innovation adoption and use literature with the results showing mixed results (Issa & Mamoun, 2013; Venkatesh & Davis, 2000). Moreover, evidence from the previous studies especially in other technology adoption indicates that men are likely to adopt new technology more than their female counterpart and in addition, women who adopted it use it at a lower level than men. As such unequal adoption and use of mobile networks by certain gender may prevent them from reaping a significant amount of benefits from the global progress in information technology, even for sometime in the future, it is therefore important to understand how demographic variables such as gender influence the use of mobile technology adoption and use in countries like Kenya that have succeeded in increasing adoption and use of mobile network. This study therefore investigates the moderating influence of gender on the use of mobile payment services in Kenya.

II. THEORETICAL BACKGROUND

Though existing literature reveals that there are many documented studies focusing on technology diffusion either at individual, organization or government perspective Salwani (2009), this study adopted the Unified theory of adoption and Use of Technology (UTUAT). The model included variables such as performance expectancy, effort expectancy, perceived enjoyment and perceived security. Gender a demographic variable was included as a moderating variable to influence all the four variables in this study.

III. CONCEPTUAL MODEL AND RESEARCH HYPOTHESES

The conceptual framework in this study shows the relationship between independent variables (Performance expectancy, effort expectancy, Perceived security and perceived enjoyment) and their influence on the dependent variable (use mobile payment system amongst Kenya's consumers). The framework also shows the influence of gender on the independent variable towards their relationship with mobile payment services use in Kenya.
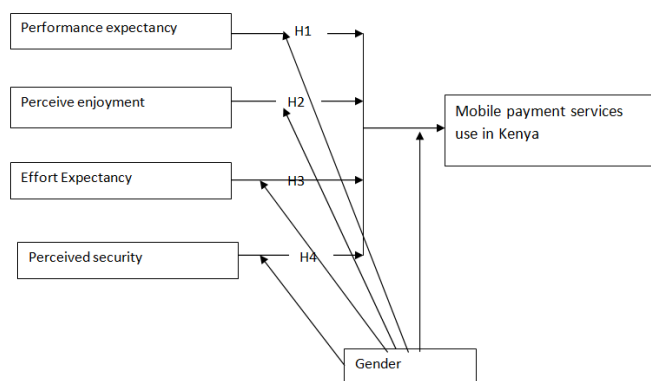

Figure 1

IV. HYPOTHESIS DEVELOPMENT

PERFORMANCE EXPECTANCY

Venkatesh (2003) defined performance expectancy as the degree to which an individual believes that using e-commerce will help him or her attain performance gains and perceived usefulness is included as one such variable in this category. Previous studies have defined perceived usefulness as the degree to which an individual believes that using a system will help him or her attain or gains in a job performance (Jeong & Yoon, 2013) Although researchers have previously reported a significant influence between perceived usefulness and mobile payment use (Venkatesh, 2003), the moderating influence of gender remains understudied in Kenya. In view of this the following hypotheses are developed;

$H_{1a:}$ *Performance expectancy has a significant influence on the use of mobile payment services in Kenya*

$H_{1b:}$ *Gender has a significant moderating influence on the relationship between performance expectancy and mobile payment use in Kenya.*

EFFORT EXPECTANCY

According to Venkatesh (2003) effort expectancy refers to the perceived amount of effort that the user needs to put into learning and operating any technological application. Perceived ease of use (PEOU) is one variable that has been included in previous studies as a measure of effort expectancy (Chong, 2014). According to Venkatesh & Davis (2000), PEOU was defined as the degree which the prospective user expects the target system to be free of effort. Jeong & Yoon (2013) defined perceived ease of use (PEOU) as the extent which an individual believes that using a certain mobile technology will be easy or free of effort. Although prior studies show that perceived ease of use has a significant influence on the consumer intention either directly or indirectly through its effect on perceived usefulness Venkatesh & Davis (2000), gender influence on perceived ease of use towards this relationship remain unknown. In view of this the following hypotheses are developed;

$H_{2a:}$ *Effort expectancy has a significant influence on the use of mobile payment services in Kenya*

$H_{2b:}$ *Gender has a significant moderating influence on the relationship between effort expectancy and mobile payment use in Kenya.*

PERCEIVE ENJOYMENT

Perceived enjoyment is defined as the extent which the activity of using a technology is perceived as enjoyable, fun and exciting to the user despite any performance consequences that may be anticipated (Venkatesh & Davis, 2000). Presented as a form of intrinsic motivation in the previous studies, Chan & Chong (2013), TAM was extended with a construct of perceived enjoyment conceptualized by Van der Heijden (2002) in a survey investigating the usage of websites. Although previous studies reveled that perceived enjoyment influences mobile payment use (Chan & Chong, 2013; Chong, 2014), gender influence on this relationship has not been established especially in the developing countries like. In view of this the following hypotheses are developed;

$H_{3a:}$ *Perceived enjoyment has a significant influence on the use of mobile payment services in Kenya*

$H_{3b:}$ *Gender has a significant moderating influence on the relationship between perceived enjoyment and mobile payment use in Kenya.*

PERCEIVED SECURITY

The influence of security on the adoption and use of technological systems such as mobile networks have widely been studied and confirmed in the previous studied (Teoh, Chong, & Lin, 2014). Although Chan & Chong (2013) in their study revealed that perceived security risk mostly influence transactional and location based mobile activities, little is known on how gender differences insecurity influences the use of mobile payment system in Kenya. To confirm the influence of security on mobile payment use and the gender influence, the following two hypotheses are proposed:

$H_{4a:}$ *Perceived security has a significant influence on the use of mobile payment services in Kenya*

$H_{4b:}$ *Gender has a significant moderating influence on the relationship between perceived security and mobile payment use in Kenya.*

V. RESEARCH METHODOLOGY

The researcher adopted a descriptive survey research design and the targeted population of the study was consumers who frequented the customer care centers of the leading mobile operators in Kenya. The research design was chosen based on its definition and use in previous studies (Chan & Chong, 2013; Issa & Mamoun, 2013; Zhou, 2014) The operators were sampled form Safaricom customer centers because it accounted for approximately 77% of the mobile payment market share in Kenya (CAK, 2014). To avoid any bias in data correction, consumers were sampled from for major towns in Kenya namely Nairobi, Nakuru, Kisumu and Eldoret. These towns were selected based on the number of customer care centers that were available. A sample of 532 respondents was selected based on Krejcie & Morgan (1970)

formula of calculating sample size and systematic random sampling was adopted as the sampling technique. This technique was adopted to avoid bias while selecting a sample for the study due to the large number of consumers who frequented the customer care centers. This data correction technique was also used in previous similar studies such as (Chan & Chong, 2013). The measurement items were adopted from the previous studies (Chan & Chong, 2013; Hwang, 2009; Teoh et al., 2014; Zhou, 2014) while a structured questionnaire was used as an instrument for data collection.

RELIABILITY AND VALIDITY TEST

To test the reliability and validity of the data collection instrument, a pilot study was carried out where 50 questionnaires were distributed to consumers in three randomly selected customer care centers what were not included in the final study. The reliability test was supposed to test the internal consistency of the items in the questionnaire while the content validity test was carried out to determine whether the questions were clear and accurate and understandable. Table shows the Cronbach Alpha (α) of 0.8563 that was realized after the reliability test was carried out.

Cronbach's Alpha	Alpha based on standardized items	Number of items
	0.8463	50

Table 1

This test was used to test reliability of the constructs measurement in similar studies as evidenced by; (Chan & Chong, 2013; Teoh et al., 2014). According to Hair (1998) a cronbach (α) value of 0.7 is considered acceptable hence satisfying the requirement.

VI. ANALYSES AND RESULTS

DESCRIPTIVE STATISTICS

Out of 680 questionnaires that were issued, 527 questionnaires forms were filled up and returned indicating a response rate of approximately 77%. This response rate was considered adequate based on Saunders & Lewis (2012) recommendations that a response rate of 60% was adequate. Forty three (23) questionnaires that were found to be incomplete were discarded and over all 484 questionnaires were dimmed fit for analyses. 48% of the respondents were male while 52% of the respondents were female. 90% of the respondents were below the age of 40 years, 9% between the age of 41 and 50 years and only 1% of the respondents were above the age of fifty. 31% of the respondents had attained a secondary qualification, 48% college education, 7% primary and 15% university education. 64% of the respondents were not married and 36% were married. Lastly, 78% of the respondents had an income range of 50000Ksh and below, 15% between 50,000 and 100,000 and only 7% had income of over 100,000

INFERENTIAL ANALYSES

Kaiser- Meyer-Olkin measure of sample adequacy (KMO) was carried out to measure sample adequacy while Barlett test of Sphericity tested the null hypothesis that the correlation matrix is an identity matrix. The KMO test value was 0.827 which was well beyond 0.5. According to (Field, 2013) KMO test value that are well beyond 0.5 are recommended. This means that the patterns of correlations were compact and the factor analyses would yield reliable factors. Factor analyses were carried out and all the factors were found to have a value beyond 0.5.

Variables	Initial	Extraction
Effort Expectancy	1.000	.737
Perceived Enjoyment	1.000	.798
Performance Expectancy	1.000	.847
Consumer use of Mobile payment	1.000	.659
Perceived Security	1.000	.754

Table 2: Principal Component Analysis Test Statistics (Communalities)

Table above shows that all the variables had a factor analyses value of more than 0.5 which according to Hair (1995) is recommended if the researcher is to proceed to hypothesis testing.

To test the hypothesis proposed in the study, all the variables were selected and entered in SPSS in order to determine the correlation with the dependent variable. A summary of multiple regression analyses was carried out where the four variables being tested were entered into the SPSS as independent variable while the consumer use of mobile payment services was entered as the dependent. This was done to test the influence of these four variables on the consumer behavior intention to use mobile payment services in Kenya.

VII. REGRESSION ANALYSES RESULTS

MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.663(a)	.440	.435	1.55248	.440	93.949	4	479	.000
2	.664(b)	.441	.435	1.55283	.001	.785	1	478	.376

Table 3

The coefficient of determination R^2 and adjusted R^2 in model one (1) are 0.440 and 0.435 respectively meaning that 44% of the variation of consumer use of mobile payment services in Kenya was explained by the four independent variables included in the model and was significant with a p-value (0.00) . According to Field (2013) R^2 value ranges from zero and one, the closer the value is to one, the better "fit" the model is. The second model (2) shows that the coefficient of determination R^2 and adjusted R^2 are 0.441 and 0.435 respectively showing a change of 0.01 in R^2 change after gender is included in the model. The model shows an insignificant change when gender is added as a moderating variable with a p-value of (0.376) which is larger than (0.005)

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	905.750	4	226.438	93.949	.000(a)
	Residual	1154.489	479	2.410		
	Total	2060.240	483			
2	Regression	907.644	5	181.529	75.283	.000(b)
	Residual	1152.595	478	2.411		
	Total	2060.240	483			

Table 4

The results of the significant test of regression model F value of 93.949 and sig f is 0.000 indicates that the first model has a significant statistic and it indicates the "goodness" of fit of the model. The second model (2) results of the significant test of regression model F value of 75.283 and a Sig f is (0.00). According to (Field, 2013), for the model to have significant statistic meaning, the F change value should be greater than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	3.445	.629		5.477	.000	2.209	4.681		
	E.E	.184	.031	.238	5.933	.000	.123	.245	.725	1.380
	P.E	.323	.031	.399	10.518	.000	.263	.383	.813	1.229
	PEnj	.101	.024	.179	4.289	.000	.055	.148	.669	1.495
	PS	-.097	.026	-.128	-3.681	.000	-.149	-.045	.963	1.039
	Gender									
2	(Constant)	3.231	.674		4.797	.000	1.907	4.555		
	E.E	.185	.031	.239	5.944	.000	.124	.246	.725	1.380
	P.E	.326	.031	.403	10.546	.000	.265	.387	.802	1.248
	PEnj	.098	.024	.174	4.112	.000	.051	.145	.655	1.527
	PS	-.097	.026	-.128	-3.668	.000	-.149	-.045	.963	1.039
	Gender	.127	.144	.031	.886	.376	-.155	.409	.970	1.031

*Sig * P= 0.01 significance ** P = 0.05 significance *** P = 0.001*

Table 5: Coefficient of Determination Table

In the first model (1) the standard coefficients show that Effort expectancy (E.E) has a standard coefficient of (0.238) and a significant value of (0.00); perceived enjoyment (P.Enj) β (0.174) and a significant value of (0.000); performance expectancy (P.E) β (0.399) and a significant value of (0.000); and perceived security β (-097) and a significance value of (0.000). In the second model after the inclusion of gender on to the model E.E β value remained (0.239) and a significant of (0.00); P.E β value was (0.403) P-value of (0.00), P.Enj β value was (0.174) and a P-value of (0.00) while PS β value was (-0.128) and a P-value of (0.00). Gender had a β coefficient of (0.031) and a P-value of (0.376). This means that at a significance value of (0.05); effort expectancy, performance expectancy, perceived enjoyment, perceived security were all significant even after gender was included as a moderating variable no much change was experienced to alter the significance of any variable.

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
PS	male	228	9.1140	2.55256	.16905
	female	256	8.8906	2.86215	.17888
E.E	male	228	16.8158	2.40984	.15960
	female	256	16.9922	2.88742	.18046
P.E	male	228	16.9298	2.70330	.17903
	female	256	16.5859	2.40107	.15007
PEnj	male	228	14.3860	3.42962	.22713
	female	256	15.2500	3.79473	.23717

Table 6: Group Statistics Of Gender Differences Table

The group statistic tables above indicate that for perceived security the male respondents had a mean of (9.11) while the female respondents had a mean of (8.89). For effort expectancy the male respondents had a mean of (16.8) while the female respondents had a mean of (16.9). Performance expectancy male respondents had a mean of (16.9) while female respondents had a mean of (16.6). Lastly for perceived enjoyment, male respondents had a mean of (14.4) while female respondent (15.3).

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
E.E	Equal variances assumed	7.816	.005	-.725	482	.469	-.1764	.24342	-.65470	.30190
	Equal variances not assumed			-.732	480.016	.464	-.1764	.24091	-.64977	.29697
P.E	Equal variances assumed	2.214	.137	1.482	482	.139	.3439	.23201	-.11200	.79977
	Equal variances not assumed			1.472	457.150	.142	.3439	.23361	-.11519	.80296
PEnj	Equal variances assumed	.019	.890	-2.616	482	.009	-.8640	.33031	-1.51307	-.21500
	Equal variances not assumed			-2.631	481.893	.009	-.8640	.32839	-1.50928	-.21879
PS4	Equal variances assumed	9.495	.002	.902	482	.368	.2234	.24776	-.26340	.71022
	Equal variances not assumed			.908	481.999	.364	.2234	.24612	-.26020	.70702

Table 7: Independent Samples Test Showing Gender Differences Table

Independent T test table above was used to report the gender difference between the four variables tested in this study. Effort expectancy (E.E) had a significant difference between gender with an F statistic of (7.816) and a significance value of (0.005). Performance expectancy (P.E) had an F statistic of (2.214) and a significant figure of (0.137). Perceived enjoyment (PEnj) had an F statistic of (0.019) and a significant value of (0.890) while perceived security had an F statistic of (9.495) and a significant value of (0.002)

RESULTS EXPLANATION

The overall model results indicated that gender moderating influence on mobile payment use by consumers in Kenya was insignificant meaning that gender had little or no influence on the relationship between mobile payment services and performance expectancy, effort expectancy, perceived enjoyment and perceived security. This is consistent with the previous studies results which revealed that gender had insignificant moderating influence on the e-commerce and mobile commerce use (Venkatesh & Davis, 2000; Zhou, 2014). Performance expectancy H_{1a} was found to be significant showing that performance expectancy had a significant influence on the mobile payment use by consumers in Kenya. these results resonate with (Chong, 2014; Venkatesh, 2003) studies which revealed that performance expectancy measures such as perceived usefulness had a significant influence on the mobile payment acceptance and use. For the moderating influence of gender on performance expectancy and mobile payment use by consumers H_{1b} was found to be insignificant meaning that there was no significant difference on the results when gender was included on the model. This is despite the statistic result showing that more male consumers/ user were influenced by performance expectancy of a mobile payment service in its usage than female consumers. This is consistent with the previous studies results Cabanillas (2014) which indicated that gender had a significant influence on perceived usefulness and it was higher among women than men.

Effort expectancy H_{2a} was found to be significant showing that effort expectancy had a significant influence on the mobile payment use by consumers in Kenya. These results resonate with prior studies results which revealed that perceived ease of use a measure of effort expectancy had a significant influence on mobile commerce use (Chan & Chong, 2013; Chong, 2014; Venkatesh, 2003). H_{2b} was also significant revealing that there was a significant difference on the relationship between effort expectancy and mobile payment use when gender was included on the model. The statistics results revealed that female consumers were highly influenced by effort expectancy of the mobile payment services than male consumers. The results are consistent with previous studies findings which revealed that perceived ease of use influence on mobile payment services was higher among women than men (Cabanillas, 2014).

PERCEIVED ENJOYMENT

$H3_a$ was found to have a significant influence revealing that that perceived enjoyment influenced mobile payment use in Kenya. This is consistent with previous studies findings which showed that hedonic factors such as perceived enjoyment had strong influence on mobile commerce use in Kenya (Chan & Chong, 2013; Teoh et al., 2014). The moderating influence of gender on the relationship between perceived enjoyment and mobile payment use $H3_b$ revealed that gender had a significant moderating influence on this relationship. Female consumers were highly influence by perceived enjoyment on the use of mobile payment services than the male consumers. This resonate with previous studies results which indicated that female consumers were more likely to be influenced by perceived enjoyment of mobile payment service use than their male counterpart (Hwang, 2009).

PERCEIVED SECURITY

The influence of perceived security $H4_a$ was also confirmed with the hypothesis having the significant influence on the consumer use of mobile payment services in Kenya. This result resonate with prior studies finding which revealed that perceived security an important driver in the use of mobile payment services (Chan & Chong, 2013). The moderating influence of gender ($H4_b$) on the relationship between mobile payment services and perceived security was also confirmed in this study. In addition, male consumers were more highly influenced by perceived security than female consumers in Kenya. This is consistent with previous studies which revealed.

VIII.   DISCUSSION AND CONCLUSIONS

The main aim of this study was to analyze the effect of gender on consumer use of mobile payment services in Kenya. This research shows that effort expectancy, performance expectancy, perceived enjoyment and perceived security are important factors that influence the use of mobile payment services by consumers in Kenya. Performance expectancy has the strongest influence followed by effort expectancy based on the results of this study. This is supported by similar studies conducted by Chan & Chong (2013) and Issa & Mamoun (2013) which indicated that   performance expectancy and effort expectancy influence the use of mobile commerce activities. Although gender was found not to significantly influence the overall mobile payment use in Kenya the results shows that there exist gender differences when it comes to the influence of the four factors tested on the mobile payment use in Kenya. For instance on performance expectancy, this factor was found to influence more male consumers than female in the use of mobile payment services in Kenya. On contrary female consumers were found to be influenced by effort expectancy than their male counterparts as a determinants that influenced the use of mobile payment services in Kenya. These results support previous study findings that revealed that the usefulness of a mobile payment service influenced more men than women in its usage and also inconsistent with the findings that ease of use greatly influence more men than women in its use (Hwang, 2009).

Perceived enjoyment was also found to influence the use of mobile payment by consumers in Kenya and this is consistent with the previous studies findings which revealed that hedonic factors such as perceived enjoyment played an important role towards the adoption and use of mobile services (Chan & Chong, 2013). Although the F-statistic results showed that the relationship between perceived enjoyment and mobile payment use was not significant, the results shows that a different existed between the influence of male and female users though minimal. For instance more female consumers were influenced by perceived enjoyment than their male counterparts while deciding whether to use the mobile payment services.

Lastly, Perceived security risk was also found to influence the use of mobile payment services in Kenya. The more consumers perceived the service to be risky, the less they were willing to use it. This results are consistent to prior study's findings that revealed that security risk was an important factor that influenced the use of mobile systems (Chan & Chong, 2013; Teoh et al., 2014). Gender differences on the relationship between gender and perceived security risk was also confirmed revealing that the more male consumers were concerned about security risk than their female counterparts while deciding whether to use the mobile payment platforms in Kenya.

IX. CONTRIBUTION AND LIMITATIONS

With mobile payment systems becoming the norm in our business and trade arena, this research reveals that consumers in Kenya are highly influenced by their performance, effort needed in their learning and use, their enjoyability while learning and using and how secure they are. It is also important to note that gender plays a critical role as it influences the different factor that determines the use of these platforms. This study therefore contributes to the body of knowledge by revealing that gender differences on the factors that influence mobile payment use in Kenya have been established. The implication of this research is important to the mobile system developer, banker, manufacturers and mobile system dealers that for the use of these services to improve, they need to be effortless to use, useful to the users, enjoyable to use and security enhanced. The vendors should also occasionally update the users on the security measures they have improved for consumer to have confidence on the services and in order to continue using them. For the developers and marketers of these innovations, this study gives comprehensive information on the factors to focus on when differentiation of the market is needed based on gender. Any organization that intends to develop and penetrate a new market based on gender differences, they can base their promotional and advertising arguments based on these results. For instance, if the target is male consumers, their message should be focused on the performance and security of the platform, while if the target is the female consumer, their message should mostly focuses on the ease of use of the platform.

X. LIMITATION AND FURTHER RESEARCH

Although this study has helped the research to make important contributions, it has limitations that should not ignore; Firstly, this study only focused on the mobile payment services in Kenya. It is important to note that there are other mobile services that have been rolled out in the last few years and future studies should also focus on a comparative study that compares the different platforms.

Secondly this study only focuses on Kenyan consumers. As mobile payment services use have not succeeded in this country alone, future research should focus on other countries in Africa to see if these results are replicated elsewhere.

Thirdly, in regards to data collection method, this study adopted a cross-sectional approach which does not allow for long term evolution of users. As technology is dynamic in its

adoption and use, future studies should have a long term focus that would allow for the verification of the established relationship as time progresses.

Lastly, this study only focused on four factors alone. As previous studies have revealed that different factor influence adoption and use of technology in different environment, future studies should include other factors to enrich the study.

REFERENCES

[1] Cabanillas, J. (2014). Role of gender on acceptance of mobile payment. *Emerald Group Publishing Limited*.

[2] CAK. (2014). Communication Authority of Kenya ; Quarterly Reports. *Communications authority publication*.

[3] Chan, F., & Chong, Y. (2013). Analysis of the determinants of consumers' m-commerce usage activities. *Emerald Group Publishing Limited*, Online Information Review, *37*(3), 441–466.

[4] Chong, A. (2014). Understanding mobile commerce continuance intentions: an empirical analysis of Chinese consumers. *Journal of Computer Information Systems*, 22–31.

[5] Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Sage publications Ltd.

[6] GSMA. (2015). The Mobile Economy: GSMA Intelligence.

[7] Hair, J. (1995). Multivariate data analysis with readings. *Prentice-Hall, Inc, New Jersey*.

[8] Hwang, J. (2009). Mobile payment adoption in South Korea: Switching from credit cards.

[9] Issa, M., & Mamoun, A. (2013). Assessing Key Factor that Influence on the Acceptance of Mobile Commerce Based on Modified UTAUT. *International Journal of Business and Management*, *8*(23).

[10] Jeong, B., & Yoon, T. (2013). An Empirical Investigation on Consumer Acceptance of Mobile Banking Services. *Published by Sciedu Press*, Business and Management Research, *2*(1).

[11] Krejcie, V., & Morgan, D. (1970). "Determining sample size for research activities", education and psychological measurements, *30*, 607–610.

[12] Mobile Payments Readiness Index. (2015). The Mobile Payments Readiness Index: A global market assessment. *mobilereadiness.mastercard.com 9*.

[13] Salwani, M. (2009). E-commerce usage and business performance in the Malaysian tourism sector: empirical analysis. Information Management & Computer Security, *17*(2), 166–185. DOI 10.1108/09685220910964027

[14] Saunders, M., & Lewis, P. (2012). *Research Methods for Business Students* (Six Edition.). Pitman publishing.

[15] Teoh, W., Chong, S., & Lin, B. (2014). Factors affecting consumers' perception of electronic payment: an empirical analysis. *Emerald Group Publishing Limited*, *23*(4), 465–485.

[16] Venkatesh, V. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quartely*, *27*(3), 425–478.

[17] Venkatesh, V., & Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies, 186–204.

[18] World Economic Forum (WEF). (2014). Global Competitiveness Report for 2013-2014.

[19] Zhou, T. (2014). Understanding the determinants of mobile payment continuance usage. *Emerald Group Publishing Limited*, *114*(6), 936–948.