

ISSN: 2320-8848 (Online)

ISSN: 2321-0362 (Print)



# *International Journal for Management Science And Technology (IJMST)*

**Volume 3; Issue 4  
Manuscript- 1**

**“EFFECT OF MOBILE COMMERCE ADOPTION ON  
PERFORMANCE OF TELECOMMUNICATION MOBILE  
INDUSTRY IN KENYA”**

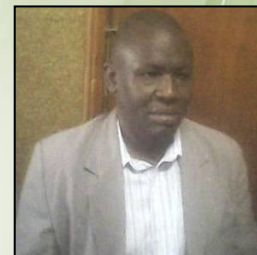


**Rajula Adimo**

*(Corresponding Author)*

*Masters Student*

*Jomo Kenyatta University of Agriculture and  
Technology Kakamega campus,  
Kenya*



**Mr Malenya Abraham**

*Lecturer Accounting and Finance*

*College of Human Resource and Development,  
Jomo Kenyatta University of Agriculture and  
Technology Kakamega campus,  
Kenya*



**Dr. Douglas Musiega**

*Director*

*Jomo Kenyatta University of Agriculture  
and Technology Kakamega campus,  
Kenya*

***www.ijmst.com***

***May, 2015***

## **Abstract**

The study sought to investigate the effect of mobile commerce adoption on the performance of telecommunication mobile industry in Kenya. The study was carried out with the following objective:- to find out how M-commerce Perceived Ease of Use affects performance of service industry in Kenya. The study used a descriptive survey design that sought to explain the relationship between the study variables. The study targeted three telecommunication mobile companies in Kenya, Safaricom, Airtel and Orange Kenya. Snowballing sampling technique was used to identify those with mobile phones then simple random sampling was applied to get a sample size of 130. Data was collected using structured questionnaires administered to the sample population. It was done analyzed using descriptive and inferential statistics with 95.0% confidence level with aid of SPSS version 20. The correlation results indicated that mobile commerce construct perceived ease of use had significant effect on the performance of telecommunication industry with  $r=0.534^{**}$ ,  $P<0.05$  and it accounted for 28.6% variance in the performance. Perceived ease of use was significant predictor of performance of telecommunication industry. The study recommended that for companies to realize increase in performance through revenue ease of use of mobile commerce is crucial.

**Key Words: Mobile Commerce, performance, Ease of use**

## **1. Introduction**

M commerce is been described as e commerce business practice that is been enhanced by been carried out on a terminal of mobile device (Gordon et al, 2001). Nonetheless, according to Abu Bakarans Osman (2005), M-Commerce is the exchange of goods and services through wireless handheld devices such as phone and PDA. Fung et al (2006) viewed M-commerce as a new and innovative business opportunity with unique characteristics and functions such as broad reachability and mobility. To this extend, Mobile commerce is the use of electronic device which are personalized, mobile and reachable to transact business anytime and anywhere so as there is internet connectivity. It allows consumer to consume a particular good or service using mobile devices rather than physically visiting a store to get the item delivered.

Increase in number of mobile devices leads to opening up huge possibilities and new types of applications for mobile users. Mobile technologies can be used for other tasks besides

communication - they can allow consumers to acquire products and services, when they want and where they are (Coursaris; Sung; Swierenga, 2010). These features, stemming from technological development, have attracted the attention of companies to mobile commerce: the application of marketing strategies that use mobile devices as mediums for communication and transactions (YANG, 2007). Pew Internet & American Life Project, (2006b) asserted that technology experts predict that by 2020 mobile communication presence will be felt all over the world and the cost associated with them will be extremely low for everyone to afford. Mobile commerce offer offers various advantages as compared to its predecessor electronic commerce. Some of the advantages associated with mobile commerce are ubiquity, personalization, flexibility, and distribution, mobile commerce promises exceptional business market potential, greater efficiency and higher fruitfulness (<http://www.roseindia.net/services/m-commerce/mobile-commerce.shtml>). These features, stemming from technological development, have attracted the attention of companies to mobile commerce: the application of marketing strategies that use mobile devices as mediums for communication and transactions (YANG, 2007).

The use of mobile commerce has the capacity to support all kind of business ranging finance, services, retails, and telecommunication and information technology services (Avraamidou, 2008). According to UNCTAD (2004) and Wresch (2003) relatively small number of individuals and companies are taking the advantage of this new technological advance resulting to uneven impact according to type of business. Nganga and Mwachofi (2013) found out that using of mobile device in transacting business offers numerous benefits to mobile user despite the fact mobile companies surcharge small fees. Customers can check account balances, transfer money, pay bills, collect receivables and ultimately reduce transaction costs and establish greater control over bank accounts.

Europe and Asia have embraced the value of mobile commerce as compared to the rest parts of the world. The dollar value of global m-commerce activity reached US\$37 billion by 2007 (Ovum, 2007). According to KPMG the market for m-commerce in Europe alone is estimated to be worth 23 billion Euro with penetration levels for mobile phones have reached 30 per cent, it is estimated that 10 per cent of the adult population will be mobile Internet users. Revenues to mobile phone companies and content providers from telephone handset screen logos and ring tones alone generated US\$2.9 billion in Western Europe (<http://www.mcommercetimes.com/Technology/317>). In Asia, IDC (2002) predicted the

Singapore m-commerce market to be US\$403 million in 2005. Mobile youth report (2003) revealed that main consumer of mobile commerce were youth in Asia Pacific region with 14% of their total leisure spending on mobile products. Even though the US is considered as mother of all technological invention, it lags behind the Europe in term of mobile commerce. This is attributed to lack of a standard for mobile phone network technology. According to The Age (2003), the uptake of SMS is expected to develop rapidly once m-commerce takes off in Europe.

Mobile commerce in Africa is still at infant stage just as other developing countries such as Kenya in Sub-Saharan Africa (Zhao and Frank, 2003). According to Campbell and Sellbum (2002) noted that the total international bandwidth for all of Africa is less and is comparable to cities in other continents like São Paulo, Brazil in south America. This indicate that the adoption of mobile commerce in Sub-Saharan Africa lags behind other region of the world making the large populous to miss out of information technology boon (Bigum, 2000). It is believed that subscription of fixed telephone lines will be outlined by mobile phone subscribers especially in those developing countries like Africa & Asia (ITU 2000, cited in Dholakia et al. 2004).

There is growing demand in the business environment for mobility. eDigitalResearch and Portaltech (2011) found that over one quarter (28%) of users use their Smartphone to shop, browse and research products via their phones. Companies venturing into the mobile market have the same goal: leveraging this channel to create customer value (Kalakota & Robinson, 2001).

Telecommunications are one of the most vital, competitive and dynamic industrial sectors of the future. Revenue from global Telecom Industry is predicted to be in the order of US\$1,300 billion by the year 2016. Industrialization and information technology era has made the telecommunication industry to diversify their functions to support and accommodate the technological advancement demanded by any nation in the globe (Sultana, Irum, Ahmed, & Mehmood, 2012). Nonetheless, in the 21st century, the industry has to face with the increasing unpredictability of market competitiveness and dynamic business environment due to the globalization witnessed in the business (Arasa and Githinji, 2014). Arasa and Githinji asserted that Africa presents great opportunities in the telecommunication sector due

liberalization resulting to extension of services by multinational conglomerates leading to its revolution calling for firms to remain competitive through innovations.

It was in the late 1990s that cell phones paved their way into the Kenyan market and ever since then, it has been expanding endlessly. By then, Kenya was home to two cell phone network providers; Safaricom and Celtel. Because of the intensified competition between the two service providers, it is no surprise that these companies are constantly introducing new services to maintain their subscribers' loyalty as well as to attract more (Arasa and Githinji, 2014). This led to introduction of other players in the market notably Telecom orange and Essar under trade name of Yu Mobile.

The Mobile telecommunication industry in Kenya has been very competitive leading growing price war between Safaricom and Airtel. Airtel intensified its marketing and introduced products to attract more customers. Safaricom replied by introducing new products and by cutting down further the prices of its products. More recently the price wars led to the calling rates in Kenya being the lowest in Africa with the four companies fighting to retain and even attract more customers hence growing their market share.

Therefore, the current study filled some knowledge gaps on the theme, seeking to identify effect of m-commerce on the performance of telecommunication industry. The research built on and complemented related research in various important ways. Shankar and Balasubramanian (2009) provided a review of mobile marketing; this study extended by finding its effect on performance. Bolton and Saxena-Iyer (2009) offered a review of interactive services; we dwelled on the mobile aspects of commerce environment that includes interactive services. Although the mobile can be viewed as a channel, we do not focus on multichannel issues as they are outside the scope of this article and are addressed by Zhang et al. (2010) in this special issue.

### **1.1 Statement of the problem**

Telecommunication industry in Kenya is operating in dynamic market characterized by offering similar services and products to same consumers (Daniel, 2007). In Kenya telecommunication industry was identified by then Kencel and Safaricom, the entry of Orange and Yu mobile made the industry very competitive for the firms. Consequently, price wars were inevitable as firms try to maintain and gain customers leading to the lowest call prices being witnessed in Africa (Rapoport, 2005). Mobile commerce was identified as one

way to increase firms' revenues by which telecommunication companies develop services and application consumers can adopt besides phone calls revenue.

For a customer to adopt a particular innovation, telecommunication firms are tasked to come up with applications and services that will fulfill customers' expectations and needs without any difficulties. This increase in subscription of this applications and services lead to additional increase in revenue (Taulavuori, 2005). Investors would want to know if there are operational benefits which include reduction in marketing cost, increase in profits; relational benefit which include improve in communication between firms and customers and strategic benefits which are associated with increase in market reach i.e. new customers, customer retention and loyalty (Pura, M. 2002).

Researches by (Okiro and Ndungu, 2013; Wambari, 2009) on the adoption of mobile device in transaction process like Mbanking and Mpesa thereby leaving significant gap of research in mobile commerce on telecommunication industry which this research aimed to fill. Other related studies (Islam et al, 2010; Qunli, 2009 )were done on developed countries whose environment is dissimilar to developing countries especially sub Saharan like Kenya which telecommunication mobile industry has witness tremendous growth (Goodiel, Hilda and Hitoshi, 2013).As a result of these benefits in other industry and other continents, this research project was keen to identify to effects of mobile commerce on performance of telecommunication industry in Kenya.

### **1.2 Objectives of the study**

The aim of the study is to find out the effect of M-commerce adoption on the performance of telecommunication industry in Kenya. Specifically to find out how M-commerce perceived ease of use affect performance of telecommunication mobile industry in Kenya.

## **2. Literature Review**

Mobile commerce service can classified either as business to consumer or business to business or consumer to consumer. According to Paris et al. (2001) the most common service is the business to consumer where businesses offer m-commerce service to their customers. The most common B2C applications are mobile financial services, mobile marketing and advertising, wireless business re-engineering, mobile inventory management, mobile interactive games, mobile trade service, travel, concert ticket reservation and location based application. According to Tunku et al (2010) mobile commerce services can be categorized

into four groups. The entertainment category consist of games, music, graphic, video and TV streaming; communication category consisting of email, SMS, chat rooms, video conferencing and unified messaging; information which consist of city guide, news, directory service, maps, corporate information, market data and mobile advertising; and transaction which consist of shopping, auctions, betting, mobile wallet, banking, broking and competition/contesting.

## **2.1 Classification of mobile commerce applications and services**

Classification of mobile commerce services and applications can be done according to the functionality they provide to the mobile users. There are two classifications according to the functionality; directory oriented services and applications and transaction oriented services and applications. In directory oriented mobile commerce the user performs read only requests to the directory while in transaction oriented mobile commerce the user performs both the read-and-write requests to the transaction server.

## **2.2 Theoretical review**

Several theories and models have been advanced by various researchers on the adoption and acceptability of using particular technology. The most common theories are Theory of Planned Behaviour (TPB), Theory of Reasoned Action (TRA), Diffusion Innovation Theory (DIT) and Technology Acceptance Model (TAM). In this study we considered theory of diffusion innovation theory and technology acceptance model.

### **2.2.1 Diffusion innovation theory (DIT)**

According to Elena Andresen, Erin DeFriesBouldin (2010) diffusion involves communicating a particular innovation amongst member of a certain group or social system using certain channels within a given time period (Titus, 2014).An innovation is an object, an idea or practice that is perceived or believed to be new phenomenon by an individual or other unit of adoption”.

In innovation, communication involves a process by which participants create then share information with other individuals or group with a mutual understanding (Ismail, 2006). This theory of Diffusion innovation has five basic elements which are ideal for this study. First, adoption of a given innovation is influenced by its characteristics. Secondly, an individual has to make a decision when considering adopting a new idea, innovation, product and practice. Thirdly, individuals have specific characteristics that make them adopt a particular

innovation or idea. Fourthly, the effect or consequences of an individual, society and organizations as a result of adopting an innovation and lastly the specific communication channels that adoption process will utilize. (Mathew, Michael and Troy, 2010)

### **2.2.2 Technology acceptance model (TAM)**

TAM was developed by Davis (1989) as the classical information system model to explain computer and other related information technology devices usage behaviour and the factors related with acceptance of technology from Fishbein and Ajzen's Theory of Reasoned Action. The theory examines factors which influences individual intentions to accept or reject usage of information system (Wu and Wang, 2005). To theory shows that the usage of information system in this case mobile devices for the purpose of marketing is influenced or explained by the behavioural intention. This intention is in turn determined by perceived usefulness, perceived ease of use, and perceived self-efficacy (Willy, 2009). These factors will determine if an individual will accept and use mobile device for marketing or not both in the long and short run (Hu et al 1999). Perceived ease of use can be referred as to the degree which an individual assume that using a particular application or system would free of effort (Davis 1989). Perceived usefulness can be referred as the degree to at which an individual assume that using a particular system or application will improve his or her performance (Davis 1989) while self-efficacy is the degree at which an individual using a particular application or system will enhance the efficiency and effectiveness.

Validation of TAM has been through various technologies relevant to an individual and organization adoption such as online shopping (Gefen et al, 2003), electronic commerce (Pavolu, 2003), worldwide web (Lederer et al, 2000) and intranet (Hortol et al, 2001). Nonetheless, previous studies have revealed omission of trust and resource construct are the major limitation of TAM model that affected the user adoption and acceptance. According to (Luarn and Lin, 2005) there was additional constructs to original TAM model that aided the understanding of adoption of information systems. This additional constructs formed the fundamental basis of extended TAM and they addressed technological factors that may affect the decision making of an individual behaviour about mobile commerce (Luarn and Lin, 2005). The extended TAM had five factors which included perceived ease of use, perceived financial cost, social norms and perceived self-efficacy (Venkatesh and Davis 2000). This study adopted the factors of the extended TAM model and examined how it affected performance of telecommunication firms in Kenya through mobile commerce.



### **2.3 Perceived ease of use**

Perceived ease of use is the extent an individual believes by using mobile device for the purpose of mobile commerce he or she will use less or no effort (Davis 1989). In mobile m-commerce, perceived ease of accessing and getting information is the extent to which a mobile user believes that getting product and service information from a service provider or seller by use of a mobile gadgets and device would be free of effort (Pavlou and Fygenson, 2008). Complexity of a particular system or technology will tend to discourage the adoption of an innovation. Perceived ease of use has been identified as an important construct in the adoption of innovation in information technology. Some of the applications include; intranet (Hortol et al, 2001), online banking (Jahangir & Begum, 2008), online shopping (Gefen et al, 2003), intranet (Hortol et al, 2001), mobile commerce (Wang & Barnes, 2007; Kurnia et al, 2006; Lin & Wang, 2005), worldwide web (Lederer et al, 2000), 3G (Liao et al, 2007) and Internet commerce (Cho et al, 2007). Consumers are likely to adopt mobile commerce applications and services that are easy to use as they perceived them as under the user full control, hence making transactions effortless and easier to accomplish (Tariq, 2007).

### **2.6 Conceptual framework**

Conceptual framework entails conceptualization of the relationship that exist amongst study variable diagrammatically (Mugenda and Mugenda, 2003). Figure 2.1 presents the conceptual framework that was used in this study

Figure 2.1 Conceptual framework

From figure 2.1, the independent variable construct were derived from factors that made a consumer to adopt mobile commerce. These were effortless (Norazah and Norbayah, 2011), easy to understand and easy to operate (Janelle and Gerard, 2006). Performance of telecommunication mobile industry used as dependent variable was considered using revenues as a result of introduction of mobile commerce applications and services to the consumers.

### **2.7 Empirical review**

Many previous empirical studies show that perceived ease of use has a positive influence in the adoption of mobile commerce (Khalifa and Shen, 2008b, Kim and Garrison, 2009; Wei et al., 2009). Many users take PEOU as a crucial factor since many of them are common citizens who are not necessarily adept in technology. This construct should therefore be

included in the model. PEOU is considered as an important determinant in adoption of past Information Technologies such as intranet (Chang, 2004), 3G (Liao et al., 2007), online banking (Guriting and Ndubisi, 2006; Jahangir and Begum, 2008), wireless internet (Lu et al., 2003), internet commerce (Cho et al., 2007) and recently m-commerce (Lin and Wang, 2005; Wang and Barnes, 2007; Kurnia et al., 2006; Mallat et al., 2006; Luarn and Lin, 2005). Mbogo (2010) Perceived ease of use directly affects perceived usefulness and both determine the user's attitude towards use, (behavioral intention to use -BIU) and eventually to the actual use of the system (Viehland and Leong, 2007). Perceived ease of accessibility had an impact on the intention to use the mobile payment services. Majority of the micro business operators who completed the survey questionnaire strongly agree that accessibility of the mobile phone payment is easy.

### **2.8 Critique of the existing literature relevant to the study**

Most of the previous studies have failed to identify the role mobile commerce played on the effect of organization performance. Most dwelled on the adoption of mobile commerce by different organizations (Molla and Licker, 2005; Aghaunor and Fotoh, 2006; AlGhamdi et al., 2013 and Gitau and Nzuki, 2014) while other studies focused on the limitations and challenges of mobile commerce (Kapurubandara and Lawson, 2006; Abbad, 2011 and Carlsson and Walden, 2002). None of these studies have touched effect on organization performance. This leaves a significant gap which this study sought to fill using local context.

Molla and Licker (2005) conducted a study to develop a model to identify the factors affecting mobile commerce adoption in South Africa. The model's main factors were; perceived organizational e-readiness and perceived external e-readiness. Molla and Licker (2005) did not recognize factors such as ease of use of mobile commerce and this study sought to find out its effect on the performance. Abbad (2011) studied the limitations and barriers that face m-commerce in Jordan from a consumer perspective. Security and trust, Internet experience, Language, Legal issues, and Technology acceptance (ease of use and usefulness) were factors that included in the research model. In his study, Abbad (2011) used ease of use to find out if it affected the adoption of mobile commerce in Jordan. The current study took a different perspective by finding out the effect of mobile commerce ease of use on the performance of telecommunication mobile industry in Kenya as performance in terms of increase in revenue is the main purpose of introducing technology innovation.

### **3. Research Methodology**

#### **3.1 Research design**

A descriptive research was adopted as it determines and reports as accurately as possible facts as they are found in their natural setting. This kind of research design has the capability of producing statistical information which is of importance to researchers, academician as well as policy makers (Borg and Gall, 1996). This design was ideal since the researcher looked at the effect of the independent variable (mobile commerce) on the dependent variables (performance of telecommunication industry).

#### **3.2 Study population**

The study target mobile users within Nairobi CBD and telecommunication industry (Safaricom Ltd, Airtel ltd and Orange Ltd) and the target respondents were the 30 staffs drawn from revenue departments. The study employed purposive sampling to get one staff from each firm and snowballing sampling technique due to the uncertainty regarding the identity and characteristics of consumers utilizing mobile commerce, the snowballing sampling technique (Dwivedi et al., 2007a). Initial respondents from academia, the private sector, government employees, and students within Nairobi city were targeted and identified first. They then referenced and suggested their friends and colleagues who utilized mobile commerce. This progressively increased the sample size (Ooi et al., 2011) to 130.

#### **3.3 Research instruments**

The study used both secondary and primary data collection method. For the purpose of this study the researcher used structured questionnaire. One set of questionnaires will use both with closed and open ended questions for the respondents. The questionnaire utilized a five point Likert type scale which ranged from strongly agrees to strongly disagree. Secondary entailed document analysis of the three firms' performance in terms of subscription of m commerce applications and services of the firm.

Cronbach's alpha was used in this study to found reliability of research instruments because it was based on test which was on a single form and administered during single occasion (Brown, 2002). The researcher used content validity by taking this research instrument to experts in the research department and School of Human Resource and Development, JKUAT for validation of the instruments. Their comments, corrections, suggestions, assisted in the validation of the instruments. The study employed both descriptive and inferential

statistics to analyze data with help of SPSS program version 20. Descriptive statistics was used to describe the respondents' degree of agreement with various statements as per the objective of the study. Inferential statistics which comprised of Correlation and regression analysis were used to examine the relationships between mobile commerce use and performance of telecommunication firms in Kenya.

## **4. Results**

### **4.1 Results of reliability tests**

#### **Table 4.1 Cronbach Alpha**

The study used Cronbach's Alpha to test the reliability of the research instruments. A quarter of the questionnaires were administered at Kakamega town which were later used to found the reliability of the research instrument in pilot study. Results revealed that Cronbach's Alpha coefficients on all the three variables were greater than 0.6 hence there were reliable. This finding is shown in table 4.1 below.

### **4.2 Demographic characteristics**

The findings revealed that male were 36.7% while female were 63.3%. Most of the respondents were bachelor degree holder with 46.7% and were followed closely by college diploma holder. Among the minorities were KCSE forming 8.3% and post graduate with 9.2%. Most of the respondents were between 18 and 35 years with 42.5% while over 55 years were 9.2%. Other notable age groups were 36-45 years forming 20.0% and 46-55 years forming 28.3% of the respondents. Most of the respondents used mobile commerce for over 4 years which represented 43.3% while less than 2 years were 15.8%. Between 2 and 4 years were 40.8%. The findings revealed that male were predominant in the usage of mobile commerce while youth were identified as who used mobile commerce frequently with elderly people representing a small percent of the respondents.

### **4.3 Descriptive Statistics**

#### **Table 4.2 Descriptive statistics**

From the table 4.2, perceived ease of use of mobile commerce applications and services was identified by 99.2% of the respondents was the key for them to use telecommunication products of which 91.7% of them strongly agree and 7.5% agree with only 0.8% remaining unsure. None of the respondents either strongly disagree or disagree that mobile when mobile

commerce applications and services with ease of use affected performance of telecommunication negatively.

### **4.3 Correlation results**

#### **Table 4.3 Correlation results**

Karl Pearson's coefficient of correlation ( $r$ ) was used to establish the correlation between mobile commerce and performance of telecommunication industry in Kenya. The correlation analysis was conducted at 99 percent confidence interval. The correlation analysis revealed that there was significant positive effect between mobile commerce perceived ease of use and performance with  $r=0.534$ ,  $p<0.01$  with 99.0% confidence level. The findings were consistent with Gupta et al. (2008) and Al-Gahtani et al. (2007) who found out that mobile commerce perceived ease of use has significant effect on the performance. As mobile commerce applications and services are ease to use by the consumers, more and more consumers adopted them which led to increase in revenue of the mobile telecommunication firms hence increase in performance.

### **4.4 Variation in performance as a result of M-commerce perceived ease of use**

#### **Table 4.4: Variation in performance as a result of M-commerce perceived ease of use**

From table 4.4, R Square ( $R^2$ ) of 0.286 is the coefficient of determination and 28.6% of the variation in the performance of telecommunication firms is been explained or accounted by the Mobile commerce perceived ease of use leaving 71.4% to be explained by other factors. The adjusted R square of 28.0% also shows that the value is a fair assessment of the relationship between the variables. The percentage change in performance is statistically significant with  $F(1, 119) = 47.173$ ,  $p<0.05$  further indicating that the M-Commerce perceived ease of use significantly accounted for 28.6% of variance in the performance of mobile telecommunication industry.

### **4.5 Predicating performance from M-commerce perceived ease of use**

#### **Table 4.5: Predicating performance from M-commerce perceived ease of use**

From table 4.5, if M-commerce perceived ease of use is held at zero or is controlled, the performance of service industry will be 2.368  $p<0.05$  and  $t=6.328$ . This indicated that in absence of Mobile commerce applications and services perceived ease of use, performance will be 2.368. M-commerce perceived ease of use with a predication coefficient of 0.523,  $P<0.05$  and  $t=6.868$  indicated that for every one unit change in perceived ease of use of

mobile commerce applications and service, revenue of telecommunication mobile industry increase significantly by 0.523.

## 5. Conclusion

This paper revealed that mobile commerce has significant effect on the performance of telecommunication industry in Kenya due to increase in revenue. The study posited that, mobile commerce perceived ease of use significantly affected the adoption and usage of mobile commerce application and services which affected the performance of telecommunication through increase in revenue. The study identified mobile commerce applications and services ease of use made most of the consumers to adopt applications and services offered by mobile telecommunication firms through mobile device as they are able to use them with low degree of effort leading to increase in revenue.

The study recommended that firms that choose to use mobile commerce option as a way to increase their revenue and remain competitive should focus on perceived ease of use of the applications and services that are offered through mobile devices. The application should consider demographic characteristics of the consumers as this will bring new group of consumer especially the elderly who find it difficult to use and embrace new technology. Further studies should be carried out on how government policies and regulation affect the adoption of mobile commerce.

## References

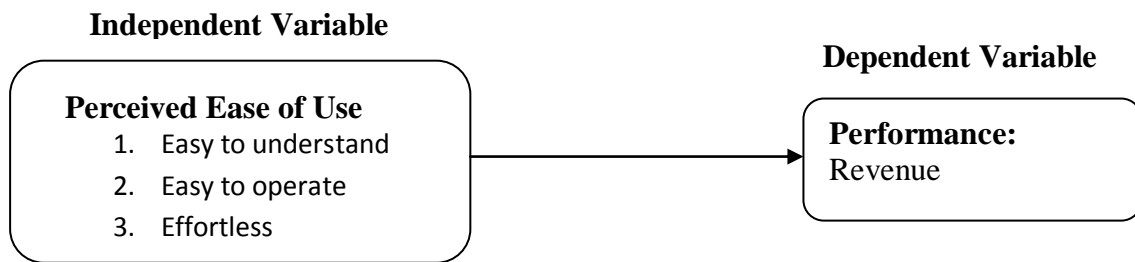
- Agarwal, R., and Prasad, J.,(1998);A conceptual and operational definition of personal innovativeness in the domain of information technology; *Information Systems Research*, vol. 9, no. 2, pp. 204-215.
- Ajzen, I and Fishbein, M. (1980); *Understanding Attitudes and Predicting Social Behaviour*. New Jersey: Prentice-Hall,.
- Aldás-Manzano, J., Ruiz-Mafé, C., and Sanz-Blas, S., (2009) ;Exploring individual personality factors as drivers of m-shopping acceptance; *Industrial Management & Data Systems*, vol. 109, no. 6, pp. 739-757.
- Bigné, E., Ruiz, C. and Sanz, C.,(2007) ;Key drivers of mobile commerce adoption: An exploratory study of Spanish mobile users; *Journal of Theoretical and Applied Electronic Commerce Research*, vol. 2, no. 2, pp. 48-60.
- Bruner, G.C. and Kumar, A.,(2005); Explaining consumer acceptance of handheld internet device; *Journal of Business Research*, vol. 58, no. 5, pp. 553-558.
- Chong, A.Y.L., Chan, F.T.S. and Ooi, K. B., (2012); Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia; *Decision Support Systems*, vol. 53, no. 1, pp.34-43.
- Davis, F. D., Bagozzi, R. P. and Warshaw, P. R.,(1989); User acceptance of computer technology: A comparison of two theoretical models; *Management Science*, vol. 35, no. 8, pp. 982-1003, .
- Davis, F. D.,(1989); Perceived usefulness, perceived ease of use and user acceptance of information technology; *MIS Quarterly*, vol. 13, no. 3, pp. 319-340.
- Feng, H., Hoegler, T. and Stucky, W., (2006) Exploring The Critical Success Factors For Mobile Commerce, *Proceedings of the International Conference on Mobile Business*, IEEE, 2006.
- Goodiel Charles Moshi, Hilda Mwakatumbula and Hitoshi Mitomo (2013).Regulation, Competition and Productivity Growth in the African Telecommunications Industry. *International Journal of Managing Public Sector Information and Communication Technologies (IJMPICT)*, Vol. 4, No. 4
- [http:// ihub.blogspot.com/Kenya's mobile money revolution: m-pesa turns five/](http://ihub.blogspot.com/Kenya's%20mobile%20money%20revolution%3A%20m-pesa%20turns%20five/) accessed on October 3, 2013 21 2012 12.54 pm.
- [http://www.pamojamedia.co.ke/advertising in Kenya/current state of e-commerce in Kenya/](http://www.pamojamedia.co.ke/advertising%20in%20Kenya/current%20state%20of%20e-commerce%20in%20Kenya/)accessed on October 3, 2013 18 5.30pm.

- Irvine, C. (2001); Emerging Value Propositions for M-Commerce; *Journal of Business Strategies*, v18, pp 133-149.
- Ismail Sahin (2006) Detailed review of Rogers' Diffusion of Innovation Theory and Educational Technology- Related Studies based on Rogers' Theory. *The Turkish Online Journal of Educational Technology* Volume 5 Issue 2 Articles 3.
- Janelle Rose and Gerard Fogarty (2006). Determinants of perceived usefulness and perceived ease of use in the technology acceptance model: senior consumers' adoption of self-service banking technologies. *Academy of World Business, Marketing & Management Development Conference Proceedings*, Volume 2 No 10.
- Karahanna, E., Straub, D. W., and Chervany, N. L., (1999); Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs, *Telematics and Informations*, vol. 22, pp.257-277.
- Keen, P. G., Mackintosh, R., and Heikkonen, M. (2001); *The Freedom Economy: Gaining The M-commerce Edge In The Era Of The Wireless Internet*. Emeryville: McGraw-Hill Professional,
- Keng, S., Ee-Peng, L. (2001); Mobile Commerce: Promises, Challenges, and Research Agenda. *Journal of Database Management*, v12, i3, 4-24.
- Kennedy Oriko and Jacky Ndungu (2013). The Impact of Mobile and Internet Banking on performance of Financial Institutions in Kenya. *European Scientific Journal* Vol. 9 No 13 ISSN 1857-7881
- Md. Aminul Islam, TunkuSalhaBinti Ahmad, Mohammad Aktaruzzaman Khan & Mohammad Hasmat Ali (2010). Adoption of M-Commerce Services: The Case of Bangladesh. *World Journal of Management* Vol.2 No.1
- Mennecke, B. E. and Strader, T. J. (2003); *Mobile Commerce: Technology, Theory, And Applications*; London: IDEA Group Publishing,.
- NorazahMohdSuki and NorbayahMohdSuki (2011). Exploring the relationship between perceived usefulness, perceived ease of use, perceived enjoyment, attitude and subscribers' intention towards using 3G mobile services. *Journal of Information Technology Management* Volume XXII, ISSN #1042-1319
- Pitoura, E., and Samaras, G.,(1998); *Data Management for Mobile Computing*; Mumbai; Kluwer Academic Publishers.
- Qunli (2009). *Mobile Telecommunication Networks and Mobile Commerce: Towards Its Applications in Chinese Market*. Université Du Québec À Montréal



- Rogers, E. M. (1983); Diffusion of Innovations,; 3rd ed., New York: The Free Press.
- Sim J., (2012); Influence of Personal Innovativeness, Self-efficacy and Subjective Norm in M-commerce Acceptance: A Conceptual Review; International Journal of Network and Mobile Technologies, vol 3, issue no 3,pg 43-44
- Tariq Bhatti (2007). Exploring Factors Influencing the adoption of mobile Commerce.Journal of Internet Banking and Commerce Vol 12 no 3.
- Titus Tossy (2014).Modelling the adoption of Mobile payment System for paying Examination fees in Tanzanian Major Cities.
- Tiwari, R., Buse, S., and Herstatt, C., (2007); Mobile services in banking sector: The role of innovative business solutions in generating competitive advantage; Proceedings of the International Research Conference on Quality, Innovation and Knowledge Management.
- Varshney, U. and R. Vetter, R. (2002);Mobile commerce: Framework, applications and networking support; Mobile Networks and Applications, vol. 7, no. 3, pp. 185-198,
- Velti(2012). Present and Future of mobile marketing. *Mobile Marketing Association*
- Wambari Andrew (2009). Mobile Banking in Developing Countries (a case study on Kenya). VaasanAmmattikorkeakoulu University of Applied Sciences
- Willy Abdillah (2009). The Effect Dispositional and Situational Cognitive Factors on the Intention to Use Internet: An Empirical Study of the Acceptance of Information Technology at Universitas Bengkulu. Journal of Indonesian Economy and Business ISSN (2085-8272)
- Wood, S. L., and Swait, J. (2002) Psychology indicators of innovation adoption: Cross-classification based on need for cognition and need for change, Journal of Consumer Psychology, vol. 12, no. 1, pp.1-13.
- Yiu, C. S., Grant, K. , and Edgar, D. (2007);Factors affecting the adoption of internet banking in Hong Kong – implications for the banking sector; International Journal of Information Management, vol. 27, no. 5, pp. 336-351.

## Table and Figures



**Figure 2.1: Conceptual Framework**

Source: Researcher 2015

**Table 4.1 Cronbach Alpha**

Variable	Cronbach's Alpha	No of Items
M-commerce Perceived Ease of Use affects performance	0.672	6

Source: Researcher 2015

**Table 4.2 Descriptive statistics**

Mobile Commerce	SD	D	N	A	SA
M-commerce Perceived Ease of Use affects performance	0	0	0.8	7.5	91.7

Source: Researcher 2015

**Table 4.3 Correlation results**

Correlation with Telecommunication performance	Pearson Correlation	Sig (2 tailed)	N
M-commerce Perceived Ease of Use affects performance	0.534**	.000	120

Source: Researcher 2015

**Table 4.4: Variation in performance as a result of M-commerce perceived ease of use**

R	R Square	Adjusted R Square	F Value	S-Value
.534 <sup>a</sup>	.286	.280	47.173	0.000

Source: Researcher 2015

**Table 4.5: Predicating performance from M-commerce perceived ease of use**

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.368	.374		6.328	.000
Perceived ease of use	.523	.076	.534	6.868	.000

Source: Researcher 2015