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Abstract

This study sought to determine the effect of mobile technology usage on competitiveness of women entrepreneurs in Rongai Sub-County, Kenya. This was occasioned by the need to determine the factors that might influence the outcome of small and medium enterprises due to the critical role that these sectors play in achieving macroeconomic goals of nations, especially in developing nations. Women entrepreneurs in this sector form a significant part of the business and by identifying technological innovations that would improve their performance; this would have a positive effect of the entrepreneurs at the micro level as well as the nation at large due to the provision of employment and improvement of the economic position of a country. The specific objectives of the study was to investigate the effect of mobile commerce, mobile marketing, mobile banking, mobile money and mobile communication usage; on the competitiveness of women entrepreneurs in Rongai Sub-County. The research was anchored on theory of planned behavior and technology-organization-environment Framework. The research adopted a mixed method research design wherein both quantitative and qualitative data was used in the same research. The target population was the 564 registered women entrepreneurs in Rongai Sub-County and the main data collection instrument was a questionnaire. Data analysis was done using descriptive measures of mean and standard deviation, while to establish the nexus between the two variables a regression was applied determined. The results indicated that Mobile commerce, mobile marketing, mobile banking and mobile communication significantly influenced competitiveness of women entrepreneurs. However, mobile money did not have a significant effect on competitiveness of women entrepreneurs. The study concluded that mobile technologies play a vital role in increasing business competitiveness for women entrepreneurs. The study recommends that Governmental,



support is needed to foster skills of entrepreneurship and regulate the costs of mobile phone operators in order to reduce prices of airtime and make more bandwidth available for broadband usage.

Keywords: Mobile Technology Usage, Competitiveness & Women Entrepreneurs.

1.1 Introduction

Small and medium enterprises (SMEs) owned by women are acknowledged as the engines through which the growth objectives of the developing countries can be achieved and in the process reduce the level of poverty. Women entrepreneurship has two dimensions according to Swedish Institute Alexandria (2014), namely; at the microeconomic level women are creating new opportunities for themselves and ensuring financial security for their families while at the macroeconomic level women are contributing to an improvement in the economic situation of the country in which they operate. Despite their potential to create employment, create wealth and develop innovation in many developing countries, women owned SMEs encounter various problems and as a result perform dismally and fail to grow. The common challenges faced by women owned SMEs include inability to access a wider market, a lack of differentiation, inefficient communication with customers as well as the use of traditional banking system (Advani, 2017). With such challenges against the growth of women owned SMEs, Aker and Mbiti (2010) found that this group of business units are found to be less competitive as compared to the large firms. As a result of the critical role that women owned firms play at the micro and macro level through women owned SMEs, every effort should be directed to adopt approach practices that can enhance the level of competitiveness of firms. One of these strategies that have been advanced to have the potential of improving the competitiveness of a firm is the use of the mobile and its associated technology.

Mobile telephone usage is a popular mode of communication across the world, especially with the lower end of business units mainly due to its portability (Svanaes, Alsos, & Dahl, 2010). In addition to the portability advantage of mobile telephone, Donner and Escobari (2010) while undertaking a study across 13 African countries determined that 76% of small businesses use mobile phones to communicate with their customers, which was much higher than fixed telephone lines or fax machines. The potential of mobile phones in Africa can be evidenced by the percentage of Africans accessing mobile phones that leapt from10% in1999 to more than 75% by 2010 and 94% in 2016. Litondo and Ntale (2013) rightfully pointed out that the initial research focused on the determinants to use mobile money from the social and economic variables perspective. Aker and Mbiti (2010) highlight that the benefits associated with mobile phone usage include an improved access to and use of information, thereby reducing search costs, improved productive efficiency and also the fact that mobile technology facilitate communication among social networks in response to shocks, thereby reducing households' exposure to risk.

However, in Kenya, Kirui and Onyuma (2015) note that the potential of mobile services has not yet been fully experienced or realised. This is because Mobile services can meet the requirements of women starting up or managing an existing business with different aspects of life being affected by the use of mobile money. Ameen and Willis (2016) for example, enumerate the aspects of life in which mobile services can play a role which include mobile health, m-commerce, mobile marketing, mobile banking and mobile learning. These services can be used to overcome the



challenges faced by women entrepreneurs in Kenya. Therefore, this research sought to determine the influence of mobile technology usage on the competitiveness of women owned enterprise in Rongai Kenya.

1.2 Statement of the Problem

The importance of enterprises to achieving macroeconomic goals of nations, especially in developing nations has attracted the attention of scholars and government agencies in recent years. The need to support the SMEs is even more pronounced for those owned by women because the challenges that they face are much more than the ones owned by their men counterparts (Madichie, Mpofu & Kolo, 2017). In both the near and long term period, women owned SMEs are expected to continue to play an important role in Kenya due to their potential to reduce poverty, improve income distribution, source of exports, create employment opportunities and contribute to taxes (Minto-Coy & McNaughton, 2016). According to the Kenya National Bureau of Statistics Survey (2018), women owned businesses account for over 48% of the SMEs, contribute around 20% of the GDP and contributed to the employment of about 75% of the workforce. Consequently, such a constituent of a national economy needs to be supported through determination of the factors that would enhance their competitiveness and eventually performance. One of the technologies that is expected to increase the organization competitiveness is the use of mobile technology to facilitate communication, commerce and marketing.

Information, Communication and Technology (ICT) is recognised for its potential to contribute to the improvement of competitiveness of business ventures (Morgan et al., 2016) and it is also a vital tool for businesses. As a result, there is an increased need for small businesses to leverage the use of ICT to enhance their business as part of the country's socio-economic development. Many women owned businesses are still missing the huge potential benefits of using mobile technology as a part of their business enhancement (Ilavarasan & Levy, 2019). Different forms of interventions have been pursued and a study done by Gathuki (2019) on factors influencing effective implementation of women empowerment projects in Rongai Sub-County found that women are still lagging behind in development issues and lack empowerment traits. Most of them are still clinging to the old fashion mode of communication that include newspapers, radio, banners and posters, and the use of traditional yet ineffective landline when it comes to interpersonal communication. This has resulted to some of them despite, being in the market for long, being overtaken if not edged out of the business by those that have embraced mobile telephony because they are unable to achieve their set business goals (Svanaes, et al, 2017). Therefore, this research aimed at examining the influence of mobile technology on the competitiveness of women entrepreneurs in Rongai Sub-County.

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1.3 Research Objectives

- i. To determine the effect of mobile commerce on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya
- ii. To establish the effect of mobile marketing on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya
- iii. To evaluate the effect between mobile banking on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya
- iv. To determine the effect of mobile money on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya
- v. To establish the effect of mobile communication on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya

2.1 Literature Review

2.2 Theoretical Framework

Theory of Planned Behaviour

The theory of Planned Behavior (TPB) was advanced by (Ajzen 1991) and has become a popular basis that is used to explain the process of new venture creation in the area of entrepreneurship research due to its capacity to explain an entrepreneur mindset when starting a business. Theory of planned behavior (TPB) attempts to explain the antecedents of an entrepreneurs behaviour to use a new technology, which in most cases is affected by perceived behavioral control, personal attitude and subjective norms (Fretschner, 2014). These factors are combined to affect a person's intentions towards entrepreneurship as career selection and adoption of new technology that will boast their performance and competitiveness. According to the TPB, an entrepreneurial action to adopt mobile technology would be guided by three kinds of considerations, namely the belief about the likely outcomes of the behavior and the evaluations of these outcomes, normative beliefs about what others believe about the performance of the mobile technology and their willingness to comply with these expectations (Lortie & Castogiovanni, 2015). In addition, the assessment of the resources and opportunities possessed by an entrepreneur and the expected obstacles or impediments toward performing the target behavior is expected to influence his or her behaviour towards the use of mobile technology in their organization.

Technology-Organisation-Environment (TOE) Framework

The Technology-Organization-Environment (TOE) was advanced by Tornatzky and Fleischer (1990) and postulates that the adoption and implementation of technology in an organization is a function of three contexts, namely; technological, organisational, and environmental and the three need to work in sync for the best outcome to be achieved. The technology that is being introduced in an SME, for example, should consider internal organizational factors such as cost of procurement, maintenance, and adaptability of IT artefacts with existing skills and processes within the SME. According to Ayat, Masrom, Sahibuddin and Sharifi (2011) internal factors to an organization need to be considered in order for the SME to maximize the values derivable from IT. Some of the key organizational factors that need to be considered before the introduction of a

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particular technology include the size, structure, internal processes, and disposition of the top management in an SME. Similarly, Chen, Papazafeiropoulus and Wu (2011) explain that in addition to the internal factors, an organization needs to consider external factors that might have an influence on effective operations of the information system and these include government regulations, competition, and enabling infrastructure that mar or enhance the adaptation of new technology for the SME's business and market structure.

Therefore, from the TOC theory perspective, before an SME implements a given technology in its processes, it is important that it assess its readiness for IT governance, which would focus on availability of skilled personnel to ensure the correct, sustained, and measurable implementation of the IT processes outlined in the framework. In addition, the SME should ensure that the necessary controls and regulatory processes are in place to manage the IT process. In addition, it is important that an organization realizes that the technological context of an SME is dependent upon the financial strength of the enterprise since a firm need to be ahead of competitors, both in terms of service offerings as well as customer service. Therefore, the TOC framework acts a good guide of implementing a mobile technology in a company.

2.3 Empirical Revue

Mobile Commerce (M-Commerce) has over time been used to refer to the process of selling and purchasing goods and services over a variety of electronic systems (Berry, 2009) that is based on the internet and other digital networks. However, according to Bharthvajan (2014), due to the recent advancements in ICT, the definition of m-commerce has been broadened to include other types of activities, such as the development, marketing, buying, delivery, and servicing of goods and services over the Internet or any other computer network. According to Al-Bakri and Katsioloudes (2015), m-commerce systems can be grouped into two, namely; the simplest form which that entails promotion and advertising of products and services, as well as distribution of goods, and the second and advanced level which includes payment and distribution at local and global levels. An increasing number of entrepreneurs have adopted the use of the internet in the sharing and exchange of information, knowledge, data and physical goods (Cragg, Caldeira & Ward, 2011). Through the adoption of m-commerce, entrepreneurs have been able to improve their organizational operational efficiency and effectiveness, since when m-commerce is used in conjunction with a sound business strategy, it can be applied to gain a competitive edge over industry rivals. This is because as Bharthvajan's (2014) highlight, m-commerce reliance by entrepreneurs presents an opportunity to entrepreneurs to perform better than competitors, offer low-cost quality products and respond to stakeholder's inquiries in real time.

According to Porter (1985), a firms' value is represented by a series of activities and processes, a value chain, providing the given level of value for consumers since the sustainable competitive advantage which is anchored on substantial, scarce or unique resources and competences integrated in the firms' value chain create barriers for direct competition. Mobile marketing is supposed to function as a tool for improving activities in an entrepreneur's value chain, through improved consumer communications and service interactions resulting in improved output value and potentially higher margins (Wang & Acar, 2014).

Mobile banking refers to the process that links a customer to a bank through a mobile device such as cell phone, Smartphone or personal digital assistant (PDA). The mobile banking technology can therefore be considered as the convergence of mobile technology and financial services and so can rightfully be said to be a subset of banking as it allows everyone easy access to their banking Volume 5||Issue 3||Page 26-40 ||September||2021| Email: info@stratfordjournals.org ISSN: 2616-8464



activities via mobile handsets (Laukkanen & Kiviniemi, 2010). Mobile banking not only is useful to banks but also to consumers and entrepreneurs. The systems offer many user a range of financial functions which includes micropayments to merchants, person-to-person transfers and also long-distance remittances which makes business to be conducted without physical travel of individuals (World Bank, 2009). In the case of financial institutions, mobile banking offers an opportunity to extend their services to customer and improve their competitiveness through addition of value-added mobile services as a result of the interactive banking transaction options that come with mobile banking.

Mobile money has been described by Aker and Mbiti (2010) as an item that permits customers to utilize instant messages to store the incentive in an available file in the handset, with the capacity to change over trade out and out of the record, and exchange cash among clients. In the same line, Afanu and Mamattah (2013) highlighted that Mobile Money allows endorsers to bank straightforwardly from their cell phones without a physical visit to a financial institution. Exchanges of money and virtual transactions take place through a mobile wallet that is present in the cell phone. Mobile Money (M-money) thusly, can be described for all intents and purposes as money in the accounts of a mobile subscriber of a telecommunication company that enables the subscriber to purchase goods and service without the utilization of physical money (Sogbodjor, 2015). The use of M-money in Kenya, for example, enabled many entrepreneurs undertake banking services even without holding an account and is also considered to be quicker, less expensive, more solid, and more secure. Aside from M-PESA, there are other M-money administrations being offered in Africa by MTN – MTN money, Airtel –Airtel money and TiGO TiGO Cash (Sogbodjor, 2015).

Adoption of mobile technology possesses many possibilities of addressing the shortcomings of entrepreneurial firms such as improving the organization's performance, through decreasing activities and paperwork, improving the quality and accuracy of tasks. Ajagbe, Olujobi, Udo, and Uduimoh (2016) find that mobile technology improves decision making, more relationship and coordination at the institution level and also improving costumers' services, making a linkage between customers and goods suppliers. Mobile communication compresses time and space making it easier for entrepreneurs to expand beyond regional boundaries (Solomon et al., 2014) which in an earlier study Sarrafizadeh (2009) noted that mobile technology eliminates geographical boundaries and enhances business relationships.

2.4 Conceptual Framework

A conceptual framework is a model that gives further details on the relationship and structure of study variables. It also gives the researcher a detailed insight into the phenomenon of study.



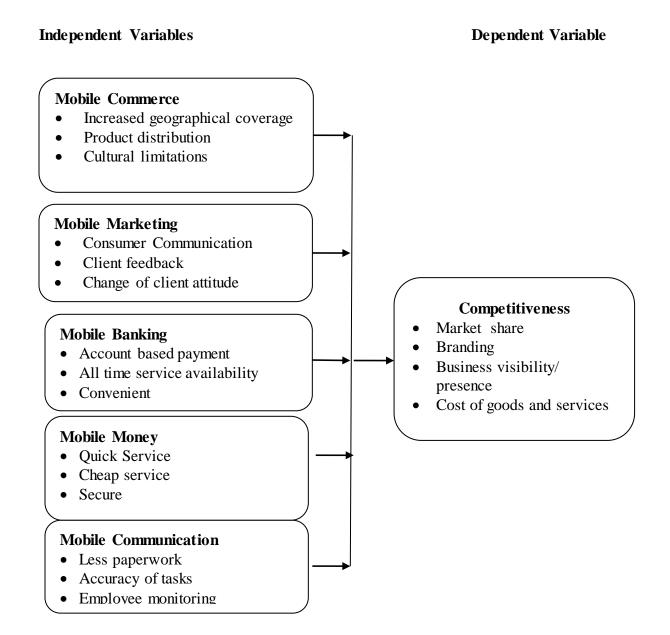


Figure 1: Conceptual Framework

3.1 Research Methodology

The research adopted a mixed method research design wherein both quantitative and qualitative data was used in the same research. The target population was the 564 registered women entrepreneurs in Rongai Sub-County and the main data collection instrument was a questionnaire. Regression analysis was carried out to determine the connection between mobile technology and competitiveness of women entrepreneurs businesses. The pre-estimation tests conducted on Multicollinearity Test, Test for Heteroscedasticity and Normality Test indicated that the underlying assumptions were fit for regression analysis.



4.1 Results and Findings

4.2 Response Rate

The response rate was analyzed to show the representative from the sample size. The study administered a total of 235 questionnaires. A total of 215 questionnaires were filled and returned resulting to a 91.64% response rate.

4.3 Correlation Analysis

Correlation analysis was conducted to establish the relationship between the independent and dependent variables. The correlation matrix is presented in Table 1.

Table 1: Correlation Matrix

Variables	Business Competitiven ess	Mobile Commerce	Mobile Marketing	Mobile Banking	Mobile Money	Mobile Communication
Business			11.141.110.1119	2 41111119	1,101103	
Competitiveness	1.000					
Mobile						
Commerce	.770**	1.000				
	0.000					
Mobile						
Marketing	.768**	.650**	1.000			
	0.000	0.000				
Mobile Banking	.766**	.675**	.658**	1.000		
	0.000	0.000	0.000			
Mobile Money	.753**	.672**	.646**	.686**	1.000	
	0.000	0.000	0.000	0.000		
Mobile						
Communication	.765**	.649**	.649**	.665**	.677**	1.000
	0.000	0.000	0.000	0.000	0.000	

The results revealed that Mobile Commerce $(r=0.770^{**}, p=0.000)$ is positively and significantly associated with competitiveness of women entrepreneurs in Rongai Sub-County. The results further indicated that Mobile Marketing $(r=0.768^{**}, p=0.000)$ is also positively and significantly associated with competitiveness of women entrepreneurs in Rongai Sub-County. The results showed that Mobile Banking $(r=0.766^{**}, p=0.000)$ and competitiveness of women entrepreneurs in Rongai Sub-County is positively and significantly associated. Mobile Money $(r=0.753^{**}, p=0.000)$ and competitiveness of women entrepreneurs in Rongai Sub-County is positively and significantly associated. Lastly, the results showed that Mobile Communication $(r=0.765^{**}, p=0.000)$ and competitiveness of women entrepreneurs in Rongai Sub-County are positively and significantly related. This implies that an increase in Mobile Commerce, Mobile Marketing, Mobile Banking, Mobile Money and Mobile Communication would lead to an increase on competitiveness of women entrepreneurship.

4.4 Results of Regression Analysis

The study conducted regression analysis to establish the statistical significance relationship between mobile commerce, mobile marketing, mobile banking, mobile money and mobile communication on business competitiveness. The results presented in Table 2 present the results used of the regression model in explaining the study phenomena.

Table 2: Regression Model

Model	R R Squar		re Adjusted R Square		Std. Error of the Estimate		
1	.850a	0.723		0.719	0.37818		
	Sum of S	Squares	df		Mean Squar	e F	Sig.
Regression	112.478		5		22.496	157.292	.000b
Residual	43.048		210		0.143		
Total	155.527		215				
		Unstanda	ardiz	ed Coef	ficients Sta	andardized Co	oefficients

	Unstandardiz	zed Coefficients	Standardiz	ents	
	В	Std. Error	Beta	t	Sig.
(Constant)	2.026	0.066		30.926	0.000
Mobile Commerce	0.132	0.034	0.217	3.885	0.000
Mobile Marketing	0.145	0.033	0.234	4.35	0.000
Mobile Banking	0.100	0.034	0.172	2.962	0.003
Mobile Money	0.069	0.035	0.115	1.983	0.058
Mobile Communication	0.128	0.035	0.206	3.707	0.000

The variables mobile commerce, mobile marketing, mobile banking, mobile money and mobile communication were found to be satisfactory variables in explaining competitiveness of women entrepreneurs. This is supported by coefficient of determination also known as the R square of 0.723. This means that mobile commerce, mobile marketing, mobile banking, mobile money and mobile communication explain 72.3% of the variations in the dependent variable, which is competitiveness of women entrepreneurs. This results further means that the model applied to link the relationship of the variables was satisfactory.

The findings further confirm that the regression model is significant and supported by F=157.292, p<0.000) since p-values was 0.000 which is less than 0.05. The study conducted a regression of coefficient analysis to establish the statistical significance relationship between the independent variables notably mobile commerce, mobile marketing, mobile banking, mobile money and mobile communication on the dependent variable that was business competitiveness of women entrepreneurs.

The constant of 2.026 showed that when mobile commerce, mobile marketing, mobile banking, mobile money and mobile communication are held constant, Business Competitiveness would remain at 2.026 units. The regression of coefficient results show that Mobile Commerce and business competitiveness of women entrepreneurs is positively and significantly related (β =0.132, p=0.000). The results further indicated that Mobile Banking and business competitiveness of women entrepreneurs is positively and significantly related (β =0.145, p=0.000). Mobile Marketing and business competitiveness of women entrepreneurs was positively and significantly related (β =0.100, p=0.003). Mobile Money and business competitiveness of women entrepreneurs was positively and insignificantly related (β =0.069, p=0.058). Lastly, results showed that Mobile Communication and business competitiveness of women entrepreneurs is positively and significantly related (β =0.128, p=0.000).

The regression model was presented as follows.

$$Y = 2.026 + 0.132X_1 + 0.145X_2 + 0.100X_3 + 0.069X_4 + 0.128X_5$$

Where

Y = Business Competitiveness

 X_1 = Mobile Commerce

 X_2 = Mobile Marketing

 X_3 = Mobile Banking

 X_4 = Mobile Money

 X_5 = Mobile Communication

4.5 Discussion of findings

The overall objective of the study was to determine the effect of mobile technology usage on competitiveness of women entrepreneurs in Kenya. The first objective was to determine the effect of mobile commerce on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya. Correlation results indicated that Mobile Commerce is positively and significantly associated with competitiveness of women entrepreneurs in Rongai Sub-County. The regression of coefficient results indicated that Mobile Commerce and business competitiveness of women entrepreneurs is positively and significantly related. The p-value for Mobile Commerce was 0.000 < 0.05 and thus implied that Mobile Commerce significantly influenced competitiveness of women entrepreneurs. Further, it implied that a unitary improvement in Mobile Commerce would lead to improvement on competitiveness of women entrepreneurs by 0.132 units.

The second objective was to determine the effect of Mobile Marketing on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya. Correlation results indicated that Mobile Marketing is also positively and significantly associated with competitiveness of women entrepreneurs in Rongai Sub-County. Regression results indicated that Mobile Marketing and business competitiveness of women entrepreneurs was positively and significantly related. The p-value for Mobile Marketing was 0.000 < 0.05 and thus implied that Mobile Commerce significantly influenced competitiveness of women entrepreneurs. Further, it implied that a unitary improvement in Mobile Marketing would lead to improvement on competitiveness of women entrepreneurs by 0.145 units.

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The third objective was to determine the effect of Mobile Banking on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya. Correlation results showed that Mobile Banking and competitiveness of women entrepreneurs in Rongai Sub-County is positively and significantly associated. Regression results indicated that Mobile Banking and business competitiveness of women entrepreneurs is positively and significantly related. The p-value for Mobile Banking was 0.003<0.05 and thus implied that Mobile Banking significantly influenced competitiveness of women entrepreneurs. Further, it implied that a unitary improvement in Mobile Banking would lead to improvement on competitiveness of women entrepreneurs by 0.145 units.

The fourth objective was to determine the effect of Mobile Money on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya. Correlation results indicated that Mobile Money and competitiveness of women entrepreneurs in Rongai Sub-County is positively and significantly associated. Regression results indicated that Mobile Money and business competitiveness of women entrepreneurs was positively and significantly related. This implied that a unitary improvement in Mobile Banking would lead to improvement on competitiveness of women entrepreneurs by 0.069 units. The p-value for Mobile Banking was 0.058>0.05 and thus implied that Mobile Banking does not significantly influence competitiveness of women entrepreneurs.

The fifth objective was to determine the effect of Mobile Communication on the competitiveness of women entrepreneurs in Rongai Sub-County, Kenya. Correlation results indicated that Mobile Communication and competitiveness of women entrepreneurs in Rongai Sub-County are positively and significantly related. Regression results indicated that Mobile Communication and business competitiveness of women entrepreneurs is positively and significantly related. The p-value for Mobile Communication was 0.000 < 0.05 and thus implied that Mobile Communication significantly influenced competitiveness of women entrepreneurs. Further, it implied that a unitary improvement in Mobile Communication would lead to improvement on competitiveness of women entrepreneurs by 0.128 units.

5.1 Conclusions

The study concludes that mobile technologies play a vital role in increasing business competitiveness for women entrepreneurs. The study concluded that Mobile Commerce significantly influences competitiveness of women entrepreneurs in Rongai Sub-County. Further, mobile Commerce has a strong association with competitiveness of women entrepreneurs in Rongai Sub-County. The responses that showed that majority agreed that Mobile Commerce improved competitiveness of women entrepreneurs. The study concluded that Mobile Marketing significantly influences competitiveness of women entrepreneurs in Rongai Sub-County. Further, Mobile Marketing has a strong association with competitiveness of women entrepreneurs in Rongai Sub-County. The responses further indicated that showed that majority agreed that Mobile Marketing improved competitiveness of women entrepreneurs.

The study concluded that Mobile Banking significantly influences competitiveness of women entrepreneurs in Rongai Sub-County. Further, Mobile Banking has a strong association with competitiveness of women entrepreneurs in Rongai Sub-County. The responses further indicated that showed that majority agreed that Mobile Banking improved competitiveness of women entrepreneurs. The study concluded that Mobile Money does not significantly influence competitiveness of women entrepreneurs in Rongai Sub-County. However, Mobile Money has a strong association with competitiveness of women entrepreneurs in Rongai Sub-County. The



responses further indicated that showed that majority agreed that Mobile Banking improved competitiveness of women entrepreneurs. Lastly, the study concluded that Mobile Communication significantly influences competitiveness of women entrepreneurs in Rongai Sub-County. Further, Mobile Communication has a strong association with competitiveness of women entrepreneurs in Rongai Sub-County. The responses further indicated that showed that majority agreed that Mobile Communication improved competitiveness of women entrepreneurs.

6.1 Recommendations

In view of the conclusions Governmental, support is needed to foster skills of entrepreneurship and regulate the costs of mobile phone operators in order to reduce prices of airtime and make more bandwidth available for broadband usage. Efforts should be made by governments and service providers to ensure women entrepreneurs are made a ware of new applications and innovative services that are of use to the business sector. Governments should encourage television, and radio advertisements of new application. Furthermore, mobile alerts should be sent to every subscriber explaining how these new innovations can help women entrepreneurs to improve mobile commerce.

Awareness and training programs are required to educate women entrepreneurs on how to make use of mobile phone for accessing market information in simple ways such as text messages. Creation of awareness to women on the usage of mobile phone in business is important for them to expand business. Establishing and promoting women entrepreneurs clubs in order to create networks and discuss challenges they face about accessing market information.

Lastly, government support is needed to develop sound business models, foster skills through establishment of software incubation centers in universities, and to ensure that the infrastructure is in place and affordable. Furthermore, governments need to make more bandwidth available for broadband usage to manage impending data deluge, which threatens to swamp mobile broadband networks.

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References

- Advani, A. (2017). Insurance networks and poverty traps. Working Paper.
- Aker J. C & Mbiti M.I. (2010). Mobile Phones and Economic Development in Africa. *Journal of Economic Perspectives*. 24 (1), 207-232.
- Al-Bakri, A. A., & Katsioloudes, M. I. (2015). The factors affecting e-commerce adoption by Jordanian SMEs. *Management Research Review*. 49(1), 65-85.
- Ameen, N. A., & Willis, R. (2016). The use of mobile phones to support women's entrepreneurship in the Arab countries. *International Journal of Gender and Entrepreneurship*
- Azmat, F. (2013). Opportunities or Obstacles? Understanding Challenges faced by migrant women entrepreneurs, International *Journal of Gender and entrepreneurship*, 5(2), 198-215
- Berry (2009). Small business growth and internal transparency: The role of information systems. *MIS quarterly*, 473-506.
- Bharati, P., Zhang, W., & Chaudhary, A. (2015). Better knowledge with social media? Exploring the roles of social capital and organizational knowledge management. *Journal of Knowledge Management*. 5(2), 103 127
- Bharthvajan, R. (2014). Women entrepreneurs & problems of women entrepreneurs. *International Journal of Innovative Research in Science, Engineering and Technology*, *3*(9), 16109.
- Bhattarai, D. (2018). Generic strategies and sustainability of financial performance of Nepalese Enterprises. *Pravaha*, 24(1), 39-49.
- Campbell, S. W. (2013). Mobile media and communication: A new field, or just a new journal?. *Mobile Media & Communication*, *I*(1), 8-13.
- Donner, J. &Escobari M. (2014). A review of the Research on Mobile Phone use by Micro and Small Enterprises. ICTD2013.
- Franck, A. (2011). Factors motivating women's informal micro- entrepreneurship, *International Journal of Gender and Entrepreneurship*, 4(1), 65-78
- Gathuki, S. (2019) Factors influencing participation of women in development projects, Nyeri County (MA project), University of Nairobi.
- Gichuki, C. N., & Mulu-Mutuku, M. (2018). Determinants of awareness and adoption of mobile money technologies: Evidence from women micro entrepreneurs in Kenya. In *Women's Studies International Forum*, 67 (1), 18-22.
- Hales, G., & Mclarney, C. (2017). Uber's Competitive Advantage vis-à-vis Porter's Generic Strategies. *IUP Journal of Management Research*, 16(4).
- Henfridsson, O &Lindgren, R. (2003). Facilitating in-car use of multi-context mobile services: the case of mobile telephone conversations. Americas Conference on Information Systems, Tampa, Florida. 19, 341-354.
- Ilavarasan, P. V. & Levy, M. R. (2012). ICT access and use by micro entrepreneurs in Mumbai, India: A value chain model analysis. In *Information Communication Technology Development*, 259–267



- Kenya National Bureau of Statistics (2020). Retrieved from https://www.knbs.or.ke/?wpdmpro=economic-survey-2020
- Kirui, R. K., & Onyuma, S. O. (2015). Role of mobile money transactions on revenue of microbusiness in Kenya. *European Journal of Business and Management*, 7(36), 63-67.
- Komunte, M., Rwashana, A.A & Nabukenya, J (2012). Comparative Analysis of Mobile Phone Usage among Women Entrepreneurs in Uganda and Kenya, African Journal of Computing & ICT, 5(2), 74-86
- Korten, D. C. (2010). *Getting to the 21st century: Voluntary action and the global agenda* (p. 2). West Hartford, CT: Kumarian Press.
- Kwaka, A.P. (2012). Mobile Phone Usage by Micro and Small Scale Enterprises in Semi-Rural Ghana, *International Review of Management and Marketing*, 2(3), 156-164
- Lerro, A., Linzalone, R., Schiuma, G., Cabrilo, S., Nesic, L. G., & Mitrovic, S. (2014). Study on human capital gaps for effective innovation strategies in the knowledge era. *Journal of Intellectual Capital*. 3(1), 76-88
- Litondo, K. O., & Ntale, J. F. (2013). Determinants of mobile phone usage for e-commerce among micro and small enterprises in the informal sector of Kenya.
- Madichie, N. O., Mpofu, K., &Kolo, J. (2017). Entrepreneurship development in Africa: Insights from Nigeria's and Zimbabwe's telecoms. In *Entrepreneurship in Africa* (pp. 172-208). Brill.
- Mair, P. (2018). Factor analysis. In *Modern Psychometrics with R* (pp. 17-61). Springer, Cham.
- Methodological and practical challenges. *International Journal of Medical Informatics*, 79(4), 24–34
- Minto-Coy, I., & McNaughton, M. (2016). Barriers to Entrepreneurship and Innovation: An Institutional Analysis of Mobile Banking in Jamaica and Kenya. *Social & Economic Studies*, 99-131.
- Morgan, A., Colebourne, D., & Thomas, B. (2016). The development of ICT advisors for SME businesses: An innovative approach. *Technovation*, 26(8), 980–987.
- OECD (2012). Oslo Manual: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data. Paris.
- Ojukwu, D. (2006). Achieving Sustainable Growth through the Adoption of Integrated Business and Information Solutions: A Case Study of Nigerian Small & Medium Sized Enterprises. Journal of Information Technology Impact, 6(1), 47-60.
- Omsa, S., Abdullah, I. H., & Jamali, H. (2017). Five competitive forces model and the implementation of Porter's generic strategies to gain firm performances.
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual review of psychology*, 49(1), 65-85.
- Pines, A. M., Lerner, M., & Schwartz, D. (2012). Gender differences among social vs. business entrepreneurs. *Entrepreneurship: Gender, geographies and social context*, 3-14.
- Porter, M. E. (2011). Competitive advantage of nations: creating and sustaining superior performance. Simon and Schuster.

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- Porter, M. E. (2011). Competitive advantage of nations: creating and sustaining superior performance. Simon and Schuster.
- Porter, M.E. & Millar, V.E. (2008). How information Gives You Competitive Advantage," Harvard Business Review (63:4), 2(1), 149-160
- Qiang, C. Z. W., Rossotto, C. M., & Kimura, K. (2009). Economic impacts of broadband. *Information and communications for development 2009: Extending reach and increasing impact*, 3, 35-50.
- Rabayah, K.S., & Qalalwi, K. (2011). The Impact of Mobile Telephony on Developing Country Enterprises: A Palestinian Case Study. The Electronic Journal on Information Systems in Developing Countries, 46(4), 1-20
- Rajapathirana, R. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation & Knowledge*, *3*(1), 44-55.
- Raymond, C. Z. W., & Kimura, K. (2005). Economic impacts of broadband. *Information and communications for development 2009: Extending reach and increasing impact*, *3*, 35-50.
- Roomi, M.A. & Harrison, P. (2010). Behind the veil: women-only entrepreneurship training in Pakistan. *International Journal of Gender and Entrepreneurship*, 2(2), 150-172.
- Sachs, J. (2013). LTE release 12 and beyond [accepted from open call]. *IEEE Communications Magazine*, 51(7), 154-160.
- Shemi, A. P., & Procter, C. (2018). E-commerce and Entrepreneurship in SMEs: Case of my Bot. *Journal of Small Business and Enterprise Development*.
- Street, C. T., & Meister, D. B. (2004). Small business growth and internal transparency: The role of information systems. *MIS quarterly*, 473-506.
- Svanaes, D., Alsos, O. A., & Dahl, Y. (2010). Usability testing of mobile ICT for clinical settings:
- Swedish Institute Alexandria (2014). Retrieved from https://www.worldwaterweek.org/community/organization/7521-swedish-institute-alexandria
- Ukpere, C. L., Slabbert, A. D., & Ukpere, W. I. (2014). Rising Trend in Social Media Usage by Women Entrepreneurs across the Globe to Unlock Their Potentials for Business Success, Mediterranean *Journal of Social Sciences*, 5(10), 551-559