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Turning Scars into Stars in the Knowledge-Based Economy: A Case of M-PESA Women Empowerment Initiative in Rural Tanzania

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1. Introduction

Knowledge is increasingly becoming important in almost all economic affairs all around the globe (Pyka and Hanusch, 2006). Progressively, technology and the knowledge are used in production and in economic development (UNPA, 2009). Today's global economy is in transition to a knowledge economy (Andrew, 2011). Many countries including the U.K., United Arab Emirates (UAE), Bangladesh, India, Qatar, and Malaysia are moving towards a Knowledge-Based Economy (KBE). Similarly, in Africa, countries like Nigeria, Uganda, Rwanda, Kenya, Botswana, and Tanzania are in a transition to KBE (Ntale et al., 2013; Omar, 2013; Imiefoh, 2012; Aswad et al., 2011; Andrew, 2011; Utz, 2006; Blumen, 2003). However, a preliminary picture of Tanzania's overall readiness or preparedness for the Knowledge-Based Economy according to the Knowledge Economy Index (KEI) shows that, just like many African countries, it is placed at the lower end of the global KE map (with a KEI of 1.67). Although between 1995 and the most recent period a substantial improvement has been made, it is not as impressive relative to what is happening in other countries like Uganda, Kenya, Botswana and South Africa (Utz, 2006). The use of existing knowledge can help organizations do things better (Utz, 2006). With KBE enabling technology, small loans and financial services the poor women are helped to start self-sustaining businesses (GFUSA, 2005 cited in Miard, 2007). For example, by using cellular technology farmers and other producers the majority of whom were women distanced from larger markets are enabled to connect to the knowledge flows of the extended order, e.g., a city market. For those in search of the best price for supplies and the best markets for their output, the technology often pays for itself, cutting down transportation costs by hours or even days and speeding up response time to fleeting market opportunities (Gillwald, 2005). Despite these, rural women who are the major producers are still marginalized, a disadvantaged group and more vulnerable to poverty because of their weaker basis of entitlements while at the same time, they bear a disproportionate burden of responsibilities and costs associated with the care of family members (Miard, 2007; Crook, 2003). Therefore, maximising the participation of women as the national workforce in the transformation process to the knowledge-based economy is crucial (Aswad et al., 2011).

2. Literature review

In the knowledge economy, the economies are not of scarcity, but rather of abundance. Unlike most resources that become depleted when used, information and knowledge can be shared and actually grow through application (Olssen and Peters, 2005; Peters, 2004). The effect of location

is either diminished, in some economic activities: using appropriate technology and methods, virtual marketplaces and virtual organization that offer benefits of speed, agility, round the clock operation and global reach can be created and key technologies, such as Information and Communication Technology (ICT) play a decisive role in the development processes. Industries that apply and improve these technologies are in the center of interest of financiers, politicians, industrial actors and in particular for creative entrepreneurs (Pyka and Hanusch, 2006). Information and Communications Technologies (ICTs) are enabling technologies of a KBE. They are vital tools for women and knowledge workers, allowing them to take full advantage of technology's capacity to access, manipulate and process information (Tocan, 2012). ICTs offer women entrepreneurs new opportunities to strengthen their businesses. Through mobile phones, computers, radio, TV, the Internet and social media, women entrepreneurs are accessing information, resources and reaching out to customers in ways they could not do before. Effective use of ICTs helps women entrepreneurs to overcome many challenges they face (ILO, 2013) in the course of doing business including inaccessibility to market information and data in local and wider markets; inaccessibility to different distribution channels and logistics; inadequate training and knowledge for business optimisation and growth, inaccessibility to finance and credit to expand and grow their business sustainably. Due to gender discrimination, women face business development constraints especially inaccessibility to relevant business and sales networks both physical and digital. Also, women lack appropriate technical and business management skills; training, limited business development skills, business networks, and technology and many women still do not have access to the tools they need to grow their companies. By using the necessary technology women increasingly play a key role in fuelling economic growth (Kumar, 2012). In India, Uganda, Rwanda, Kenya and Tanzania Microfinance Institutions (MFIs) and mobile phones companies through the Village Phone such as, Grameen Village Phone India, Mobile Telephone Network (MTN) Village Phone Uganda, GFUSA Technology in Rwanda and Vodacom MWEI Project Tanzania are significantly empowering and supporting women and very poor households to access financial services, improve household economic welfare, enterprise stability or growth; economic participation and promoting gender-equality (Stanley, 2005; UNCDF, 2005). Mobile Phones are a vital tool for women entrepreneurs. Several villages, foundations, and associations collaborate with Vodafone Foundation to develop a mobile application tailored to the needs of women entrepreneurs in rural areas. The aim is to reach many women entrepreneurs and provide them with business technology, broader business development, financial credit, and literacy training (Guardian Reporter, 2013; UNCDF, 2005).

3. Statement of the problem

Tanzania is a country whose about 73% of its population live in the rural areas (The World Bank, 2014) and predominantly reliant upon agriculture. Women constitute the majority (81%) of the total rural labor force engaged in agriculture (FAO, 2013) and in other non-farm economic activities and thus contributing substantially to the household budget and economy. However,

women's participation in the economy has not been given due recognition by the policymakers. Despite being major producers, women are still marginalized, do not have access to credit and considered unbankable. Some mobile phone companies have started reaching out and supporting rural women to access credit using mobile phones which are the KBE's enabling technologies and vital tools for allowing women to access finance and market information. However, there are still unmet demands for ICTs and telecommunications services in rural areas in Tanzania where about 80% of the population lives (Bagiire, 2007; International Telecommunications Union, 2003). Even though this perception may be changing, many Third World Countries still view mobile phones as luxury items appropriate only for business executives and rich people (Dholakia and Kshetri, 2003). Many telecommunications investors and rural development planners seldom incorporate rural telecommunications infrastructure in their planning (Richardson et al., 2000). This undermines the potential for mobile phone initiative to dramatically improve the lives of millions of economically marginalized women. This study investigated the social economic changes that Vodacom MWEI Project has brought to the women entrepreneurs in rural areas through KBE technologies used.

4. Method

4.1 Area of the study

The findings presented here were collected as part of a survey conducted to examine the extent to which the Rural Women are empowered economically in the Knowledge-Based Economy in Tanzania. This study was conducted between April and December 2013 at Vodacom Head Quarters and two villages of Luhembe and Kimamba in Kilosa District in Morogoro Region. The selection of these areas was based on the fact that they use M-PESA technology to empower women economically in rural areas through the Vodacom M-PESA Women Empowerment Initiative (MWEI). The proximity of the area was another reason.

4.2 Research design

This study used case study design based on an in-depth investigation of a single individual, group, or event (Yin, 2009). This design enabled the researcher to study deeply and thoroughly different aspects of rural women in the areas where this study was conducted. It enabled the researcher to capture the emotional perspectives of the respondents as far as rural women economic empowerment in the KBE is concerned. This Case study design was also proposed for its flexibility in the use of data collection methods.

4.3 Populations of the study

In this study, the populations included rural women entrepreneurs supported by Vodacom MWEI Project, Vodacom managers, and IT technicians. In this study, rural women entrepreneurs were the core population of study.

4.4 Sampling technique

In this study, purposive sampling which is also known as deliberate sampling or non-probability sampling was used to ensure purposive or deliberate selection of only information-rich cases/people. These were the people who provided information which was not forthcoming from other women entrepreneurs. These were the respondents who possessed a certain characteristic and were able to provide accessibility to micro-credit information clearly. This included women who had KBE knowledge.

4.5 Sample size

In this study, a total number of 40 respondents were selected for the study. Among them, 30 were rural women entrepreneurs. Exactly 5 respondents were managers and 5 were IT technicians.

4.6 Data collection method

This study used a combination of methods to collect data including a standardized questionnaire with both open and close-ended questions supplemented by in-depth interviews with key informants and observations. Observation enabled the researcher to visit the rural women entrepreneurs in situ and see the extent of the women empowerment without being influenced. The use of multiple instruments ensured validity and reliability of data collected. Secondary data were collected through library research and documentary review. Both published and unpublished materials like books, theses, journals, articles, research, reports from official and personal files and management meetings, budgets, project documents and e-resources were reviewed and major points summarized. This source of data was used because it provided contemporary information and helped in understanding the extent to which use of technology enables rural women to access micro-credit in Tanzania. Before these instruments were administered they were pre-tested on a smaller sample of there (3) respondents), one from each category of rural women, Vodacom managers, and IT technicians. Findings from the pre-test were used for reviewing the instruments. Questions that did not yield useful information were either revised or discarded.

4.7 Research objectives

The main objective of this study was to examine the impact of micro-credit provided by Vodacom MWEI in order to gauge the resulting social economic changes to the women entrepreneurs in rural areas.

Two research objectives were used to guide this study.

- To determine the extent to which Vodacom empower women entrepreneurs economically in rural areas using KBE's enabling technologies.
- To establish the impact of micro-credit provided by Vodacom MWEI using the KBE's technologies to the women entrepreneurs in rural areas.

4.8 Data processing, analysis, and presentation

Data analysis was done by using Statistical Package of Social Science (SPSS) software particularly in descriptive statistics whereby frequencies and percentages were calculated. Qualitative data from interviews and open-ended questions were organized into meaningful themes and analyzed using content analysis. This enabled the researcher to interpret data collected and ultimately make necessary, recommendation and reach a conclusion. Data were presented using tables, graphs, and charts.

5. Results and Discussion

Economic empowerment of women entrepreneurs in rural areas:

Realizing the increasing contribution of women entrepreneurs in evolving economies within the micro-entrepreneurial segment and the importance of technology in the modern Knowledge-Based Economy, findings show that Vodacom Tanzania LTD through its MWEI Project empowers women entrepreneurs economically in rural areas using M-PESA KBE's enabling technologies in the following ways:

Cheap credit without interest

Findings show that Vodacom through MWEI Project ensures that women are provided with interest-free loans.

Table 1: Women receive interest-free credit

S/N	Responses	Percentage
1.	Received credit	80
2.	No credit	20
3.	Total	100

Field data (2013)

More specifically, findings from 80% of the respondents reveal that women received interest-free credit. Only 20% of the respondents had no idea of such a project this being the first time (Table 1). Complementary findings from interview show that Vodacom reaches women who do not meet minimum requirements and criteria for accessing loans from financial institutions to empower them. On probing further it was revealed that Vodacom has set effective strategies to reach out more rural women and empower them economically. An interesting finding shows that nearly 150 women entrepreneurs in Luhembe village, Kilosa district in Morogoro region received interest-free loans from Vodacom Foundation, through M-PESA Women Empowerment Initiative (MWEI). The majority of the interviewed women said that they liked the MWEI project because the loans were interest-free, processing procedures were not cumbersome and the beneficiaries received their loans within a week. They revealed that this was the first time their village received loans for women entrepreneurs. The loans ranged between Tsh50,000/= and Tsh150,000/= for the first-timers. Additional findings from an interview with MWEI officials disclosed that funds worth more than Tsh9 million were disbursed as loans and women constituted the majority of the beneficiaries. A further inquiry disclosed that in Kilosa District alone, villages that received loans are Mkuyuni, Kimamba, and Mkamba in Mikumi Division. Overall, countrywide a total of 42 villages have benefited from the project.

The implication of this is that women who do not have access to banking services are now empowered with cheap credit. In Tanzania, poor women are now able to get interest-free loans that they can use for starting new businesses or boosting existing ones through Vodacom Foundation MWEI project. Vodacom uses M-PESA technology which is a safe, easy and accessible mode of money transfer in the disbursement and recovery of credits. This facilitates the recovery process and gives customers convenience and relief to accessing and repayment of the loans. The disbursed loans are above 200,000/-shillings (per single woman) for those who have successfully repaid their loans and require additional funding. Additional findings from interview show that women have been faithful in paying back the loans. Implicitly, this loan scheme has relieved women from very high-interest rates and cumbersome loan procedures

given by banks. M-PESA technology is convenient and relieves the customers in accessing the loans. Women do not need to close their businesses when they solicit for loans. This correlates with the findings from a study by the MTN Village Phone Project in Uganda which is replicated in Rwanda where KBE enabling technology has facilitated the extension of very small loans (microloans) to the unemployed, to villages, to poor entrepreneurs, women and to others living in poverty who are not considered bankable (Pessa, 2013; Bagiire, 2007). Similarly, findings from a study by Comminos et al. (2008), show that the mobile phone technology presents a great opportunity for the provision of financial services to the unbanked. This has enabled small-scale businesswomen who did not qualify for loans from Community and Commercial Banks although they were interested in setting up small businesses in their communities to get micro-credit. According to Biztech Africa (2013) over a period of 10 years, gains resulting from accessing ICT for the poorest in Tanzania are twice as much as compared to the non-poor. Commenting on this Prof. Ophelia Mascarenhas said:

"A two-year research conducted in Iringa region between 2007 and 2010 indicated that access to Information and Communication Technologies (ICTs) has cut poverty levels in some areas in Tanzania by over 20%"...

Additionally, Mascarenhas said the research also found out that gaining one unit of access to ICT was associated with a 2.4% improvement in per capita expenditure. Similar findings from Uganda show that the communications sector contributed 1.4% to the total GDP of Uganda in 2003 only. It created about 5,000 jobs and 125,000 indirect jobs (Tusubira et al., 2005).

Entrepreneurship training

Apart from accessing credits, the majority of women entrepreneurs who are mostly involved in small businesses and non-farm activities benefit by getting entrepreneurship training offered under the sponsorship of Vodacom Tanzania through the MWEI foundation. As evidenced by a significantly large proportion (75%) of the respondents Vodacom Tanzania trains its clients. Only 25% of the respondents who were, seemingly, not involved in the training and MWEI project said they were not trained (Table 2).

Table 2: Entrepreneurship training

S/N	Responses	Percentage
1.	Trained	75
2.	Not trained	25
3.	Total	100

Field data (2013)

Findings from exclusive interviews with managers revealed that before disbursing the loans to women Vodacom Foundation Tanzania in collaboration with Small Industries Development Organisation (SIDO) and other stakeholders first trained them on how to manage their businesses. More specifically, a follow-up question established that Vodacom trained women entrepreneurs on business technology, marketing strategies, financial management and global business opportunities. The training analysis of the competences shows that women who received Vodacom MWEI project training are well empowered with competency-based skills to enable them to master their enterprises and ensure proper financial management than those who did not receive such training in the area where this study was conducted. These findings are in accordance with the outcomes of the studies by Sconosciuto (2012) and Finscope (2006) who established that education is one of the critical pillars to support the development of a knowledge-based economy. Training of the women is crucial for proper financial management. The major barriers to accessing financial services in Tanzania are lack of education in general and financial literacy in particular. By implication, women are taken less seriously than men in matters of business. In particular, they lack business training. Very little has been done to design training aimed at female entrepreneurs.

Socio-economic impact of MWEI project to rural women

It was vital to examine the impact of microcredit provided by Vodacom MWEI in order to establish the social economic changes that KBE technologies used by Vodacom have brought to the women entrepreneurs in rural areas. Vodacom MWEI has targeted low-income women and SMEs especially the un-bankable rural. The findings from interview further show that Vodacom foundation reaches different types of women who perform different economic activities. In so doing the foundation has created economic impacts in the following areas:

Job creation

The findings of the study established that 75% of the respondents said that they use the Vodacom MWEI micro-loans to engage themselves in self-employment projects that enable them to generate income. Only 25% of the respondents said they have never accessed MWEI credits.

Data from interview shows that one of the main tasks of Vodacom MWEI project through M-PESA is to provide access to financial services to the unreachable and not considered bankable rural poor women or their Small and Micro-Enterprises. In this way, it has enabled its clients who were once downtrodden, deprived or jobless to create new jobs. It was found out that each woman was able to start her own enterprise or engage in non-farm activities and those in SMEs revealed that their SMEs employed between two and five people, the borrower and one or four additional person (s). A follow-up question established that women's small businesses that are supported by MWEI include: batik making, food vending, setting up market stalls and selling of soft drinks. In the areas where this study was conducted, women engage in selling cereals (maize, rice, wheat, soybeans, sorghum etc.), vegetables (onions, tomatoes, cabbages) and poultry farming, artifacts and charcoal making. Vodacom MWEI supports these projects. Further to that Vodacom create employment opportunities through street vendors and agents employed to sell company and services like airtime or M-PESA. These findings support those of Sife et al. (2010) and Gottfried et al. (2007) which reported that technology has facilitated self-employment in the cultural and new media sectors. In Morogoro, Tanzania households earn money through selling mobile phone goods and services like recharge voucher, making phone calls and sending SMS, charging phone batteries and repairing mobile phones. Implicitly, the findings show that mobile phones provide both direct and indirect incomes.

Housing

Vodacom MWEI project has created a tremendous impact in the housing sector. Data from questionnaire show that 75% of the respondents said that part of the profit realized from the loans went to improving housing as contrasted to 25% of the respondents who declined. Data from the interview with two third (60%) of the respondents shows that credit free loans from MWEI have been used for housing. Data from an exclusive interview with MWEI Project Manager revealed that the loans are either used for construction or renovation of houses. Both data from interview and observation showed that in the area understudy Vodacom MWEI microcredit is the only products that positively impacted job creation through the construction or renovation of houses which is one of the major employers for youth by masonry work, roofing, and making of bricks. By implication, with regards to housing quality, there is quite an improvement. The houses that were once constructed of mud and thatched with grass are now improved. Similar observations have been made by Sife et al. (2010) that the great majority (84%) of the houses in rural areas are constructed of mud bricks and some roofed with

corrugated iron sheets. Some of the households have access to clean water that is mostly available outside the houses. A few households are connected to the electricity grid.

Education

Findings from the interview with three quarters (75%) of the respondents showed that part of the profit generated from the loan was used to meet education expenses of their children. Therefore, it is apparent that MWEI has positively impacted the rural community by providing an opportunity for children of low-income parents to attend schooling even beyond primary education. Additional data from interview showed that most respondents indicated paying school fees as the major use of the profit from loan almost every year.

Using KBE's technology to reach and empower the unreachable and un-bankable rural women

Admittedly, Vodacom Foundation has made significant progress with regard to use of M-PESA technology to empower women economically in rural areas. Transactions are moving from traditional to knowledge-based economy. More specifically, findings from interview revealed that through the M-PESA Women Empowerment Initiative (MWEI), Vodacom is increasingly empowering many unreachable and once considered un-bankable women by providing them with interest-free micro-credit in a number of regions and villages. Additional data from the interview with Vodacom Foundation and MWEI loan officers show that the majority of the beneficiaries in MWEI loan product scheme are rural and women in the periphery. They have benefited from micro-loans, which provide them with working capital for their small businesses, which finally enable them to meet their social and economic needs. Generally, women dominate the microfinance industry. Through its interest-free loan product, MWEI has managed to reach over 200 women in the area where this study was conducted. This is a new product which has been in operation for the past three years. Loans are delivered through financial services centers located within the communities hence providing a convenient location for women clients. Repayment is done through M-PESA. Women form the majority of customers under the Vodacom MWEI loan product. Notwithstanding the fact that most of them are taking only small loans still, women are more active in micro businesses and they are more creditworthy than men. Basically, rural women have been economically empowered through loans provided by Vodacom MWEI. According to Bagiire (2007), similar propositions have been made by Grameen Bank's founder, Dr. Muhammad Yunus who maintains that:

"If we are looking for one single action which will enable the poor to overcome their poverty, I would focus on credit..."

The increased use of information technology is rapidly changing the way banking financial services are designed and delivered (Kharaim et al., 2011; Lee et al., 2007). Findings from interviews and observation indicate that M-PESA technology is convenient and has relieved the customers from several hassles they used to encounter when accessing the loans. The technology does not require women to close their businesses when they solicit and pay for loans. The statistics on financial access before the launch of M-PESA in Kenya and Tanzania show some interesting findings. In Kenya, 38% of people were excluded as contrasted to 54% of adults in Tanzania. These didn't use any form of financial service; formal, semi-formal or informal (IFC, 2010). Additional findings from interview show that in combating poverty Vodacom's M-PESA Women Empowerment Initiative (MWEI) identified three regions in 2013/14 financial year. These included Ruvuma, Singida, and Njombe. In Ruvuma region, more than 300 women who are small businesses entrepreneurs in Lilambo, Lundusi, and Peramiho are empowered with cheap credit programme without interest securities under the supervision of MWEI the reason is to build wealth and emancipate them from poverty.

Women contribution to the national economy

Data from interview with Project Manager (M-PESA Women Empowerment Initiative) and other respondents showed that the covert aim of the Vodacom MWEI project which disburses interest-free loans is to enable rural women to pay various taxes and thus contribute to the national economy, both in terms of direct and indirect taxation (like VAT, duties, and levies). Vodacom interest-free loans have also enabled rural women to contribute significantly to the household economy. This is achieved by their participation in some informal economic activities including carrying out both farm and non-farm produce transactions. In rural areas, non-farm activities are part and parcel of the household economy. These economic activities enable women to borrow money, buy and sell vegetables, onions, tomatoes, maize at the marketplaces for rural or urban consumption. It is imperative that through MWEI Vodacom has helped rural women to significantly increase their contribution to the household and national economy.

Market networking and access to information on emerging markets, agriculture and health

Social media is becoming an increasingly important channel and platform for women and men to network, learn and access information in many emerging markets. Research shows that Facebook is now accessed principally via mobile phone (Social Bakers, 2011a, b, c). Implicitly, this shows the pervasiveness of mobile phones in providing access to Internet-based content. This correlates with findings established by previous studies. In Tanzania, for example, mobile phones are used

by rural women and other entrepreneurs to; access information on socio-economic and business opportunities, contact with relatives and cut travel needs and costs (Sife et al., 2010; Samuel et al., 2005; Souter et al., 2005). Essentially, mobile phones have significantly changed the way business is conducted in rural areas. They help rural entrepreneurs to find better markets, price information and make transactions using M-PESA. This, according to Molony (2006) relieves farmers from their produce fetching low prices set by middlemen. This correlates with findings from a study by UNPFA showing that across Africa, cell phones are increasingly being used to empower women. From an isolated rural village, a business owner can make a bank deposit through her phone; a farmer can access current crop prices, and an expectant mother can learn about antenatal care. Now, in Tanzania, cell phones offer a chance of treatment for women living with obstetric fistula. Using cell phones many women in Tanzania can access medical help at CCBRT hospital which uses Vodafone's mobile banking system M-PESA (M for "mobile" and PESA for "money" in Swahili) to send money to penniless fistula survivors to cover travel costs to the hospital in Dar es Salaam for their repair surgery (UNFPA, 2011). Similarly, Lund (2013) revealed that by using mobile phones hospitals in Zanzibar use wired mothers system which is popularly known in the Swahili language as "Mama mtandao". By wired mothers, pregnant women are linked to a primary health care center through use of mobile phones. They receive standard text reminders for care appointments and can call the primary provider in case of acute or nonacute problems. As Taifa Mbaruku puts it:

"I felt something was wrong with my labor and I called the midwife who told me to come to the health center. The midwife there tried to help me and even called the hospital to ask for advice. Then she called again and the hospital sent an ambulance for me. I had an operation and my child survived..."

Farmers in Bagamoyo are using Sauti ya Wakulima translated into English as Farmers' Voice-a mobile phone platform providing a wide range of valuable information and tracking services for farmers to manage their dairy cattle and crops. A limited number of Android smartphones with the Swahili version of the ojoVoz are provided to the farmers in Tanzania. These amplify the work of extension officers who are insufficient in number (Sauti ya Wakulima, 2012). Similarly, findings from Ntale et al. (2013) show that the government of Rwanda has a framework that utilizes ICTs as enablers for socioeconomic development. ICT has enabled the country to have online trade information and agricultural information portals. In agriculture: the-E-Soko provides a mobile market information solution that allows farmers and consumers to access market information for agricultural products.

Reducing financial dependency

The findings indicate that the majority of the respondents (75%) felt that women have been emancipated from the shackles of depending on their husbands and relatives for financial support. However, there are still cultural barriers to women access to loans as affirmed by 25% of the respondents. Besides, the findings from interview indicate that in the areas under study Vodacom MWEI Project empowers rural women SMEs by setting them free from financial dependency on their husbands. All the women under study are making a relatively good progress in terms of using the micro-credit loans for starting a business. According to the Women interviewed from Mkamba village in Kilosa District in Morogoro region they use the micro-credits for improving their maize, sweet potatoes, and sunflower business. However, variations in the levels of success were observed among the women entrepreneurs and across the villages. This is attributed to long-standing sociocultural barriers which make it more difficult for women to start and run enterprises. Some of the women are restricted by their husbands to access loans from microfinance institutions for fear of them being more powerful and controlling their husbands. Traditionally, in the male chauvinism thinking, women's place was thought to be in the kitchen and, therefore, in the same line of thinking some conservative men question the ability of their wives to repay back the borrowed money. It is only in recent times that women entrepreneurs have started to emerge. Most of the today's women entrepreneurs are considered as first generation entrepreneurs. The implication being that they are newly emerging. For most of them, the source of capital/finance is own savings or inheritance, or informal borrowing which means very few of them had the experience of doing business.

Conclusions

Vodacom MWEI Project has changed positively the lives of a disproportionately high number of women in rural areas both socially and economically. Through MWEI, women engage themselves in self-employment and generate income that contributes significantly to the household and national economy. Isolated rural businesswomen now make bank deposits through their phones and access current crop prices whilst expectant mothers access antenatal care information. Also, through M-PESA infected women receive treatment of obstetric fistula.

Recommendations

Based on the findings, the study recommends the following; the government, MFIs and mobile phone companies should chart out strategies that will enable more rural women entrepreneurs to access loans and training on entrepreneurship. Telecommunications investors and rural development planners should incorporate rural telecommunications infrastructure in their planning.

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