

Advances in mobile phone app development and their relevance for social entrepren...

[Technology](#), [Mobile Phone](#)



Abstract

This prevalent business atmosphere is characterized by speedy innovation and dispersion of new information technologies (Bruin and Dupuis, 2003). Through these technologies, entrepreneurial opportunities have been widely increased. These technologies provide a “ communicationmedium that allows, for the first time, the communication of many to many, in a chosen time on a global scale” (Castells, 2001, p. 2 in Bruin and Dupuis, 2003), directs toward new paths of working and entrepreneurial opportunities. Unlike other forms of computer and internet based information technologies, which are still not easily accessible to the people living at the bottom of the economic pyramid in poor, rural communities, mobile phones are widely used by these people in developing countries. This makes mobile phone applications a viable choice of platform for social entrepreneurs in their attempt towards creating sustainable social value. This study aims to explore this contention. Using thecase studymethod, this study discusses the M-PESA as an example of such social entrepreneurial initiative and affirms that mobile applications can be of significant relevance for creating social, economical value.

Introduction

Despite the integration of information and communication technologies (ICTs) in our lives, governments and public and private providers of services still face a huge challenge of practically providing scalable services to the poor. Although information technologies are widely used in the mainstream

society wherein they provide us with tools to make our work more effective, a large number of global populations (estimated at 4 billion) are still deprived of access to necessary services, markets and most importantly information due to their inaccessibility to computer based information technologies. This market gap can be filled by the mobile technologies which have much more prevalence than other computer based information technologies. Mobile phone subscriptions have grown enormously over the years outstripping the world population growth; with 5.9 billion subscriptions (ITU, 2012). Mobile technologies offer hold great prospect in providing the poor with accessibility to public and private services. Although a large number of these subscribers use mobile phones mainly for voice and texting purposes, social entrepreneurs can use its platform to develop a wide range of applications for delivering a broad set of services. Social entrepreneurs can collaborate with a wide range of service providers to launch such applications. This study looks at the prospects of using mobile phone platforms and applications for social entrepreneurship. It will present a literature review which will elaborate the concept of social entrepreneurship and provide examples of various mobile phone applications currently being used for social entrepreneurship. Using a case study approach, this study will then assess a social entrepreneurship initiative in Kenya named ' M-PESA'. The findings this study will analyze the relevance of mobile technologies in creating social value. It will be followed by the analysis of the findings and some recommendations.

Literature Review

Social entrepreneurs are those that act as “ change agents in the social sectors by adopting and working towards a mission that creates and sustain social not private value, by identifying new opportunities to serve the mission, by involving themselves completely in the process of continuous innovation, adaption and learning, by exhibiting a bold behaviour by not being limited to the current available resources and showing a great sense of responsibility and accountability for the set outcomes and goals” (Dees, 1998). Due to the widespread prevalence of mobile technologies among the mass population in both developed and developing societies, it can play a critical role in assisting social entrepreneurs in confirming to the aforementioned characteristics. Multidisciplinary research on using mobile applications for social entrepreneurship and its impact in delivering benefit to the mass population is at an emerging stage (Karippacheril, et al. 2013). It highlights the potential of using mobile technologies and application “ for social and economic empowerment, ethnographic, anthropological and telecommunications aspects”. Academic literature mobile phone application largely focuses upon the acceptance, use and impact of mobile services (Andonova, 2006; Donner, 2008; Garbacz & Thompson, 2007; Minges, 1999).

Numerous studies have shown that mobile phone applications can significantly affect the economic and social life of people living at the base of the economic pyramid (BOP). For instance, a five- year study in India proves that mobile phone application can be used to increase the efficiencies of market, reduce price dispersion and minimize price fluctuations among fishermen (Abraham, 2008; Jensen, 2007). Likewise, another study shows

that mobile phone coverage was linked with a 10% increase in the farmer's market participation rate in Uganda. The same effect was greater for the farmer living in isolated communities away from district centres (Muto & Yamano, 2009). Similarly, mobile phones usage in Niger by grain traders reduced its price dispersion by 10% (Aker, 2008). Similar results were observed for the over farming households in rural Tanzania (Souter, McKemey, & Scott, 2005). Mobile phones are particularly important in enhancing the lives of rural poor and generally for improving the lives of masses because it breaks down the two primary elements of the digital divide; poverty and isolation (Navas – Sabater, Dymond, & Juntunen, 2002).

Pertaining to the platform theory, mobile phones provide platforms (both feature and smart phones) are vital for local providers, developers and social entrepreneurs in creating services that can be made available to a wide population in a trouble-free and affordable way. The goal of social entrepreneurs is to assess how these application platforms can be used in an innovative way to bridge access to the service gap for mass population.

Research Question and Method

This paper focuses on the advances in mobile phone application development and their relevance for social entrepreneurs. Its research questions are:

Are the advances in mobile phone platform/applications relevant for social entrepreneurs

How can mobile application be used to by social entrepreneurs to create and

sustain a social value

How effective are mobile phone platform/applications in enabling the identification of new opportunities and continuous innovation in serving the social objective

This study assesses how mobile phone platforms and applications are been used by social entrepreneurs to bridge the access to the services gap especially for the communities living at the base of the economic pyramid.

This study aims to collect and analyze information regarding M-PESA initiative in Kenya to achieve its research goal. The research can opt for either of the two popular research approaches for this purpose. If the researcher wishes to get a broad and representative data, he/she can opt for a survey approach; while for getting in-depth understanding of a particular situation, case study approach is most suitable (Fisher, 2004). Fisher contends that although “ case studies inevitably lose their representativeness, the power of case study just lies in its capacity to provide insights and resonance for the reader, and it is not true to claim that case studies lack generalisability” (Fisher, 2004, p52). Moreover, generalisability of case studies is deemed more valuable and insightful when it is about organizational processes and business strategies (Tony, 1994 cited in Fisher, 2004). Indeed case studies can be used as experiments to test a theory and if a case study shows a theory to be untrue, the rejection of the theory can be generalized (Yin, 1994). Considering the scope and purpose of this essay, which is essentially focused on a particular

application/platform or business situation, case study method is deemed as most appropriate.

Analysis and Results

M-PESA is a social entrepreneurial initiative which provides mobile money transfer service. It was launched in Kenya in 2007. Plyler et al, (2010) describe M-PESA as “ an agent-assisted, mobile phone-based, person-to-person payment and money transfer system, was launched in Kenya on March 6, 2007 M-PESA an agent-assisted, mobile phone-based, person-to-person payment and money transfer system”. Its social objective is to facilitate financial transactions for those who do not possess a bank account in Kenya. M-PESA allows users to store money on their mobile phones in an e-account and deposit or withdraw money in the form of hard currency at one of M-PESA’s numerous agent locations (Plyler et al, 2010). It does not pay interest on deposits, nor does it make loans (GSMA, 2010). According to Safaricom, the company behind this initiative, there are as many as 9.7 million 30-day active customers currently registered with the company in Kenya (Levin, 2012). Overall, company has 15 million Kenyan registered. M-PESA service facilitates an incredible \$1.4 billion USD in payment ever month (Leishman, 2012).

M-PESA Technology

M-PESA is delivered through a Sim Toolkit (STK) technology which is part of the GSM standard and can work on almost every mobile phone available in the market. It is vital that this service is based on STK technology as advance

applications requiring an operating system platform available in smartphones would render this service ineffective due to the inaccessibility of smartphone technology to the wide Kenyan population. With STK, this application can be stored on a SIM card which can be accessed through a phone's menu. With this, the application is highly secured unlike other internet enabled applications. It does not require SIM card to be swapped (GSMA, 2009).

M-PESA service accepts cash deposits from customers having a Safaricom SIM card and registered with M-PESA as a user. Registration process is simple as it only requires any official identity document such as national ID card or a passport. In exchange for the cash deposit, the service offers a commodity called 'e-float', which is measured in the same unit as money and held under the account of the depositor. These e-floats can be transferred to another user, who can redeem it in cash from any M-PESA service agent. The withdrawals are charged by the company at 40 US cents flat rate. Due to the widespread prevalence of this service, e-floats are widely used as an alternative to cash payments in Kenya (Jack and Suri, 2010). The success of this service has led to the emergence of several similar services in Tanzania, Zambia (GSMA, 2009) among various other developing countries.

Research indicates that M-PESA has had an overwhelming impact “ in reducing the cost, time and security issues of sending money to family members, receiving payments and improving efficiency for small businesses in the informal sector” (Reid, 2012). Over the years, the ease of

money transactions facilitated by M-PESA has had a significant positive impact upon:

foodsecurity; by impacting upon the local agricultural production, increasing the purchasing power of consumer's, food availability

water security; by impacting upon agricultural productivity and business expansion

overall community; in terms of local economic expansion, security, capital accumulation and businessenvironment

(see GSMA, 2010 for details)

The provision of M-PESA service was enabled by the mobile phone technology platform and its success was partly due to the prevailing widespread use of the mobile phones in Kenya. It is vital that this service is based on STK technology as advance applications requiring an operating system platform available in smart phone would render this service ineffective due to the inaccessibility of smart phone technology to the wide Kenyan population. In context of the platform theory, the enablement of this social entrepreneurship through the STK technology confirms the relevance of mobile phone applications as a platform in creating innovative solutions for the society.

Discussion and Implications

Referring back to the research questions, the findings of this study confirm the significant relevance of mobile phone platforms and application for social

entrepreneurship. The impact of M-PESA upon the Kenyan rural communities and people living at the base of economic pyramid affirms this contention. Moreover, the usage of this application by 15 million people, and the amount of economic activity being performed over it shows that this mode of service is reliable and creates sustainable social value for the users. The rise of such applications in various other developing countries also affirms the contention that mobile application enables the identification of new opportunities and continuous innovation in serving the social objective.

It should be noted that the success story of M-PESA does not necessarily imply that every other social entrepreneurial initiative using mobile phone application will be as successful as this. This study is limited in its scope in that it does not detail the particular factors that contributed towards the success of this social entrepreneur initiative.

Conclusion and Recommendations

Mobile phone application offers an effective means of creating social value through innovative and sustainable solutions and services to people living at the base of economic pyramid. The low-cost of handsets and increasing penetration of mobile phone networks across the globe provides millions of people who do not have regular access to computer based information technologies or fixed-line telephones to communicate and transfer data through mobile phone applications. M-PESA is an exemplary social entrepreneurial initiative which uses mobile phone application platform to enable more than 15 million users in Kenya to transfer money electronically

without having a bank account. The ease of financial transactions has triggered numerous social and economical benefits to poor masses.

Based on the finding of this research, this study proposed several recommendations for making a social entrepreneurial initiative successful through the use of mobile application. These are:

A social entrepreneur planning to launch a mobile application service should build a clear proposition for potential users.

For instance, in the case of M-PESA, there was a well established urban-rural remittance corridor in Kenya which was further enhanced by Safaricom through this mobile application

A social entrepreneur should carefully consider the unique country context in creating a tailored mobile application solution for potential users.

M-PESA application was developed using STK technology considering the demographics of the population. The service also integrated with the existing remittance stream (service agents) which led to its widespread acceptance.

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