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Mobile banking in a developing economy: A customer-centric model for policy formulation

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ABSTRACT

India needs inclusive growth to pull millions out of poverty. Despite the best efforts of mainstream financial institutions, financial exclusion is depriving millions of poor any chance to attain adequate standard of living. Telecommunication infrastructure growth especially mobile phone penetration has created an opportunity for providing financial inclusion. The current state of mobile banking is characterized by a top-down approach. This paper presents a bottom-up approach of designing mobile banking service which would be acceptable and accessible to the poor customers. The results point to clear preference of the urban poor for a joint bank–telecom led mobile banking model. Conjoint analysis of the data points to preference for attributes related to security/safety of a bank along with the coverage, accessibility and nimbleness of a telecom service provider with minimal documentation. The paper in its conclusion exhorts the regulators, telecom service providers and financial institutions to involve end-users in order to create a sustainable mobile banking service for financial inclusion.

1. Introduction

In an international banking summit held this year (March, 2012) on "Regulation of cross border mobile payments and regional financial integration", Dr. K. C. Chakrabarty, Deputy Governer, Reserve Bank of India observed "… Besides the technology capability to transmit financial information in an efficient, secure and cost-effective manner enabled by development of mobile phone based applications for banking, the most significant fact about this idea is the ubiquity of the mobile phones. Hence, banking and financial services, which have already come a long way from the branch level services to the customer's home desktop and laptop, can now be reached to a much larger section of the society, including the financially excluded, through the medium of mobile phones."

The aforesaid words highlight a long cherished dream of every welfare state i.e., accessibility to financial services for all the sections in the society. As mentioned by Dr. Chakrabarty, the mobile technology can be leveraged to realize this dream. Based on the potential offered by mobile technology, the present paper makes a case for identifying an acceptable and sustainable mobile banking model by involving the potential users (financially excluded) in the process.

The paper is organized in eight sections. Section 2 deals with the definition of mobile banking and the key determinants of mobile banking. Section 3 focuses on the relationship between mobile banking and financial inclusion. The subsequent section gives an overview of the mobile banking experience of a select few countries. Section 5 reports the current state of

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mobile banking in India. Section 6 discusses the proposed model for mobile banking in India. This is followed by a section on analysis and results. The paper concludes with the discussion on the implications of the results and limitations of the present study.

2. Understanding mobile banking

2.1. Mobile banking—Definition

Contrary to popular notion, electronic banking is not restricted to internet based transactions. Instead it includes all the banking activities that use electronic media and therefore also encompasses banking activities that involve the use of cellular phone (Cracknell, 2004; Porteus, 2007). According to Porteus (2007), mobile banking consists of activities that result in an entity's access to the range of banking products (related to savings or credit) by using a cell phone. This also includes payments (transfer of value, bill payments etc.) made using a cellular/mobile phone.

Academic as well as popular literature underscores various terms used partly or wholly with reference to mobile banking. A recent definition given by Donner and Tellez (2008) clubs all such terms associated with cell phone facilitated financial transactions and states that "The terms *m*-banking, *m*-transfers *m*-payments and *m*-finance refer collectively to asset of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds or even access credit or insurance products."

Cracknell (2004) treats mobile banking as a part of electronic banking and sums up its importance in the following words: "Electronic banking brings the potential to extend low cost virtual bank accounts to a large number of currently un-banked individuals' world-wide. Change is being driven by falling cost of technology, by competition and by the ability of electronic banking solutions to offer customers an enhanced range of services at a very low cost".

2.2. Determinants of mobile banking

Brownet al. (2003) have utilized the innovation diffusion perspective (Rogers, 1983) for the South African market and have observed that the banking needs and the perceived risk are the key factors determining the adoption of mobile banking services. This study also highlights "perceived risk" as one of determinants of mobile banking. In another study on mobile banking Cracknell (2004) observes that accessibility to mobile banking services and their affordability are the important factors that would influence the choice of such services. More recently, Porteus (2007) has developed a profile of mobile banking users in South Africa and using a survey based study has concluded that the "trust" and "awareness" are the key determinants of the adoption of mobile banking. The importance of trust is also highlighted by Luarn and Lin (2005) and Gu, Lee, and Suh (2009) who found trust to be a key determinant influencing the choice and usage of mobile banking. The results further indicate that the trust, in turn is determined by the quality of the mobile banking system (Lee & Chung, 2009), familiarity (Gu et al., 2009) and financial costs/benefits (Gu et al., 2009).

Apart from trust and perceived risk extant literature also underlines individual expertise with technology (self efficacy: Luarn & Lin, 2005; Gu et al., 2009), financial cost and usefulness (Cracknell, 2004; Luarn & Lin, 2005) as some of the key antecedents of the intent to use mobile banking.

3. Mobile banking and financial inclusion

Warren (2007) observes that the underprivileged, particularly in rural areas stand to benefit the most from technology. In the context of internet access he contends that the reduction of 'digital divide' will lead to overcoming of traditional barriers to growth and thereby result in social inclusion. More specifically in the domain of mobile technology, Porteus (2007) had studied the impact of mobile banking on the financial inclusion in developing countries. He classified the mobile banking models as being additive or transformative. While additive model results in addition of one more channel (apart from banks) for conducting financial transactions, the transformational model results in mobile banking as the primary mode of doing such transactions, aimed at those who do not have access to banking services. The author observes that the South African market is characterized by dominance of the additive model but argues that it is the transformational model that will lead to greater financial inclusion. Maurer (2008) states that when the key stakeholders from the finance, banking and telecommunication sector design the ecosystem of mobile banking services, the regulators will have a very important role to play in ensuring that the objective of financial inclusion is met.

4. Mobile banking in emerging economies

The key reasons touted for the phenomenal growth of mobile communication are the ease of use and widespread availability coupled with cost-effective solutions. In particular low investment and low operating costs coupled with various usage option and multiple service providers have resulted in a scenario whose impact is felt in urban as well as rural areas. As a result, the population in the developing world (especially African and Asian countries) has lapped up the mobile telecommunication technology.