Chapter 3
Role of Intermediaries in Providing Financial Access: Current and Future Research Trends

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Abstract Access to financial products and services is considered to be an important determinant of development, as it has been linked to poverty alleviation. Policymakers in the emerging economies design and implement various solutions to overcome barriers to financial access. Mobile phones have been highlighted as the potential means to extend financial services, especially in countries like India, where mobile penetration is high. However, gaps in digital literacy and financial literacy need to be overcome to realize the potential of mobile phones in enabling financial access. Scholars and practitioners have highlighted the role of 'intermediaries' who can bridge these gaps and provide the last mile connectivity between ICT initiatives and the user community. Traditionally, 'intermediaries' refer to the human intermediaries. We do, however, have some initiatives that use technology itself to bridge gaps related to financial literacy as well as digital literacy. For instance, user-friendly interactive systems that provide information about the use of mobile phones for payment as well as about financial products and services. In this chapter, we describe such initiatives where intermediation through both human intervention and technology was used for enabling financial access. Further, we outline potential research directions that can further illuminate the role of intermediation in enabling financial access.

Keywords Intermediaries · Financial inclusion · Access · ICT4D · Digital literacy

3.1 Introduction

The ease and convenience of financial transactions is directly linked to the economics of transactions and hence to the 'development'. Several empirical studies across various countries have shown that investment in 'financial development' perpetuates country-level growth (Claessens, 2006). A well-developed financial system

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entails several benefits related to individual well-being, and evidence suggests that financial inclusion can lead to reduction in poverty as well as income inequality (Beck, Demirgüç-Kunt, & Levine, 2004; Clarke, Xu, & Zou, 2003).

In the emerging markets, financial access has been generally found to be skewed towards those who are financially better off (Rajan & Zingales, 1998; Sundaram & Sriram, 2016). The lack of financial access to the poor and the needy impedes their growth prospects and subjects them to financial vulnerabilities, thus affecting their well-being. Studies have described several barriers to financial inclusion such as lack of awareness with regard to banking products, inability to produce documents needed for a bank account, high transaction costs and, most importantly, illiteracy as cause for financial exclusion (Ghosh, De, & Mahanti, 2014).

With about 48% of the citizens devoid of access to formal banking system in India, the problem of financial inclusion is significant and acute (Allen, Demirgüç-Kunt, Klapper, & Martinez Peria, 2012). Illiteracy, absence of required documentation, fear of approaching financial institutions and inaccessibility of banking systems have led to financial exclusion of about half of the adult population in India reference. In an effort to move towards financial inclusion, the Government of India has made it a policy objective, defining financial inclusion as the *process ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost* (Ghosh et al., 2014). It has introduced the 'Jan Dhan Yojana' scheme, which entrusts public sector banks with the responsibility of opening zero balance accounts for the underprivileged population and educating them about the various financial products and services. The Reserve Bank of India (RBI), the central bank of India, has also undertaken several initiatives to bring about comprehensive financial inclusion.

The Indian banking sector, consisting of the central bank, public sector banks, private sector banks, their branches, automated teller machines (ATMs), etc., constitutes the *formal* financial system in the country. However, studies suggest that the reach of the formal systems in India is limited, especially with regard to provision of services to the underprivileged sections. One of the ways of overcoming infrastructural and manpower constraints in extending financial services to the nooks and corners of India is through mobile banking. According to a study by Consultative Group to Assist the Poor (CGAP), within the developing country context, the underprivileged have limited financial access to banking services because there is considerably less deployment of formal banking infrastructure, including bank branches and ATM machines (Ignacio & Kumar, 2008). The report advocates tapping the potential of mobile phones to reach out to this population. A branchless banking channel with mobile phones is more likely to attract the poor people rather than the rich as they do not have access to formal banking infrastructure. Mobile banking presents a better opportunity for smaller banking organizations and microfinance institutions which handle transactions of smaller value and have customers dispersed over a larger geographical area. The key benefits have been identified as increased penetration, selling of more services, retaining customers and reducing the cost of providing services (Ignacio & Kumar, 2008).

With India's subscriber base for mobile phones having crossed 1 billion as per Telecom Regulatory Authority of India (TRAI, 2015), the use of mobile technology for banking holds promise. However, there are some key constraints when it comes to the reach and financial access provided by mobile banking within the Indian context. Studies have found that lack of literacy prevents mobile phone users from using features such as text messaging and exploring functionalities beyond voice calls (Sambasivan & Smyth, 2010). According to Kumar, Martin, and O'Neill (2011), factors such as perceived low self-efficacy, fear of making a mistake while using mobile phones, fear of incurring additional payments and lack of confidence prevent low-income communities from engaging in mobile banking. Thus, though low-literate communities are faced with unavailability of financial infrastructure and can benefit greatly from mobile banking, access to phones does not translate into financial access. In order to be successful, such technology-based interventions need to take into account issues of non-literacy, lack of technology-related skills and low self-efficacy of the end users.

Another key challenge in introducing mobile banking to the marginalized community members is their lack of knowledge regarding the financial products and services. Exposure to mobile banking and financial infrastructure can lead to financial access only when the end users are able to make sense of the products and services and make an informed decision in using these services. Unfortunately, due to lack of knowledge and exposure to financial services, these community members are oftentimes unable to make use of mobile banking applications. Financial literacy, therefore, has been identified as another factor that serves as a barrier to financial inclusion reference.

3.2 Overcoming Barriers to Financial Access: The Role of Intermediaries

As noted in the earlier section, there are two broad categories of barriers to the use of mobile phone for financial inclusion – lack of financial literacy and the gaps in digital literacy. Overcoming these barriers, and providing 'access' to financial system, hence, entails a multipronged approach. Oxford dictionary defines access as 'a way of approaching, reaching or entering a place, as the right or opportunity to reach, use or visit'. Access, thus, has both processual and outcome aspects. One of the ways to achieve the inclusion and provide access is the use of intermediaries to address the specific barriers. In order to successfully make use of mobile phones for financial access, these intermediaries need to address both the gaps – digital literacy and financial literacy.

Scholars have advocated the role of intermediaries in extending the reach of the formal systems. According to Cutrell (2011), 'In intermediated interactions, we break apart the traditional notion of user into at least two people. First is the beneficiary user who instigates the interaction and derives direct value from it. Second are

intermediary users who directly interact with the device or service to achieve some outcome for the beneficiary user. Intermediaries "constitute an important part of information and communication technologies for global development (ICT4D) projects, because they transfer technological benefits to grassroots levels, ensure that projects run smoothly, and contribute to their sustainability"' (Sambasivan & Smyth, 2010, p. 2584). Several initiatives have reported the important role of intermediaries in enabling access. For example, there has been considerable support for linkages between self-help groups (SHGs) and banks (reference). Scholars have also highlighted the role of microfinance institutions in educating the consumers about the financial products and services and in provision of these services at the community level (Cole, Sampson, & Zia, 2009). These microfinance institutions, being nearer to the grass root, are aware of the sociocultural and economic nuances of the communities and hence are effective in bridging the gap between the formal financial system and the citizens.

According to Toyama (2010), the role of human intermediaries in technology-based interventions has become a common phenomenon in developing countries where the 'notion of a single technology "user" splits into two or more people fulfilling roles as either technology beneficiaries or technology manipulator' (p. 60). The manipulator, also referred to more commonly as the intermediary, handles the device to perform tasks such as entering data or dialling numbers, while the system is geared towards providing goods/services to the beneficiary. This has led to increasing number of studies focusing on the role of community members as intermediaries.

Use of such intermediaries for financial access entails several aspects, including access to the technology that links the community members to the services (e.g. Internet kiosks and mobile banks), access to the knowledge about the available financial solutions in terms of products and services (e.g. the variety of insurance policies available for crops), and the skills as well as capabilities to make use of the technology (e.g. understanding the process of making payment through the application). Thus, technology-based intermediaries such as Common Services Centres (Dwivedi, Sahu, Rana, Singh, & Chandwani, 2016) can play a key role in creating awareness and reducing knowledge-based barriers (Toyama, 2010).

While the term 'intermediaries' have largely been used for 'human intermediary', the rise of technology-based solutions and machine learning has paved the way for designing digital intermediaries. We conceptualize 'digital intermediary' as a technology that enables the 'user' to make sense of the financial services and products and also facilitates the use of technology itself. For instance, this can take a form of a video clip, which could be used for several purposes, including knowledge sharing, trust building, smooth onboarding of the user, etc. In these cases, technology-based intervention itself attempts to bridge the gaps in financial literacy as well as digital literacy. The major advantage of using a digital intermediation is that it can achieve scale rapidly as it subverts the need of 'employing' human intermediaries for last mile connectivity to the users. Technology-based intermediaries can potentially increase access and lead to financial inclusion, provided they

are designed keeping in mind the existing community ecosystems, sociocultural context and lack of digital literacy of the end users.

In this section, we describe three ICTs for development initiatives that enable financial access and explicate how these intermediaries act as enablers of access.

3.2.1 Samwad

Digital intermediaries can play a significant role in helping the farmers understand and choose appropriate financial products, provided they take into consideration lack of skills, lack of affordability and low literacy in the design of their platform. Samwad, a digital learning platform aimed at increasing financial literacy of the underprivileged section of the society through the use of basic mobile phones, falls under such a category and could possibly be classified as an instance of digital intermediary.

Scholars have noted that providing financial infrastructure is not enough to achieve financial access – oftentimes, marginalized sections of the society are unable to engage with formal financial institutions due to lack of knowledge and perceived low self-efficacy. Financial access, therefore, also needs to translate into appropriate usage of financial products, which in turn necessitates imparting of financial education. Strategies for increasing financial literacy can lead to increase in usage of formal services and lessen the dependency on costly informal alternatives. Samwad attempts to empower the users so that they are able to make the right choices based on accurate understanding of their own needs as well as the risks associated with the financial products. In an attempt to reach out to low-literate users with limited exposure, Samwad primarily uses images and engages in storytelling via videos. Stories embedded in the cultural context of the users enable them to easily grasp information regarding financial products and services. Multilingual content in case of storytelling as well as IVR further increases the reach of this platform.

3.2.2 Awaaz.De

In a similar vein, Awaaz.De, a venture engaged in providing voice-based solutions to organizations working in the social sector, combines digital as well as human intermediation to provide financial information to the community members. The goal of financial literacy is accomplished through audio lessons on the cell phone, along with interactive quizzes, shared at regular intervals. Users can avail the required information by dialling a designated number and responding to simple voice-automated prompts through the touch-tone keys on their phones (Patel, Klemmer, & Parikh, 2011). Since there is no reading or writing involved, Aawaz.De is accessible to all

communities, including those that are low literate, as long as they are able to recognize and dial numbers on a basic phone.

In case of Awaaz.De, interactive quizzes and FAQs can be regarded as digital intermediation. Community members need to dial a phone number and respond to automated prompts through their touch-tone keys, which will allow them to browse through FAQs and navigate through interactive quizzes. Human intermediation takes place in the form of community managers, who facilitate response to specific queries made on community boards. Community members are expected to dial in and choose the relevant community board through touch-tone keys, and if they are unable to find a pre-existing response to their query, they can select the 'audio record' option and pose their question. The role of the community manager is to go through these questions and assign subject matter experts who respond to them and, at the same time, post appropriate answers on the community board.

3.2.3 Eko

Eko is an example an alternative design system that uses mobile phone-based technology for reaching out to those below the poverty line, with a local community member – usually a shopkeeper or vendor – as the human intermediary. Eko identifies, trains and mentors local shopkeepers for the role of Customer Service Point (CSP) agents, till they manage to engage with 50–100 beneficiaries. In order to open an account with the State Bank of India through Eko – India's largest government-owned bank – the beneficiaries require a cell phone and a visit to a neighbourhood CSP they trust. For deposit, transfer or withdrawal of money, the CSP dials certain predetermined numbers on the cell phone, and the customer receives a confirmation text message, which is often saved by them as a proof of their transaction. For every new account, a CSP earns a commission of US$0.6. Eko, thus, makes use of existing social infrastructure by employing community members as intermediaries to achieve financial inclusion. This marks a significant departure from the traditional banking practices to tap unreached customer base, since the customer does not need to enter a bank, operate an ATM or use online banking for any of the basic functions, including opening a bank account.

Geographically, Eko currently operates across eight states in India but is most active in the National Capital Region (NCR), Bihar and Jharkhand. There is a large segment of population that relocates from Bihar and Jharkhand to the NCR region in search of jobs and livelihood; thus, NCR has a large immigrant population. Poverty, illiteracy and lack of local support result in a large section of the migrant population being completely or partially cut off from the large-scale benefits of formal banking and financial services. Eko's daily transaction volume exceeds Rs 50 million ($ 1 million) and is considered one of the most successful examples of branchless banking.

The three different initiatives described above use either human or digital intermediation to address the gaps in digital as well as financial literacy. While the

scholarship has largely explored the design, implementation, pros and cons of human intermediaries, extant literature has not yet examined the role and design of digital intermediaries. Both types of intermediation processes have their advantages and disadvantages. Digital intermediation can be rapidly scaled up; indeed, it can follow the penetration of mobile phones itself. On the other hand, the human intermediation has a 'personal touch' by definition and hence may have higher acceptability. Furthermore, human intermediaries can be assigned according to the sociocultural nuances, as in the case of Eko. However, these two types of intermediation need not be mutually exclusive. Further research is needed to explore how to take advantages of both types of intermediation for design and implementation of ICT for financial inclusion. The following section highlights the directions for future research that can inform scholarship and policymakers on these aspects.

3.3 Directions for Future Research

While human intermediation has limitation in terms of scaling up, digital intermediation can be rapidly scaled up. However, as the arena of digital intermediation has recently evolved, researchers and policymakers need to understand the process of intermediation in greater detail. The future researchers should explore various dimensions of digital intermediation, for example, what are the design elements of an appropriate digital intermediary? What processes are involved in designing a context sensitive digital intermediary? How do the community members make sense of the digital intermediation process? The 'learning process' is a highly context-specific and culturally embedded phenomenon. Does the learning from digital intermediation differ from culture to culture, if so how? For example, in a high context culture, the use of 'voice' in the intermediation process may be preferred over text, as it might give an 'impression' of a 'person' behind the digital platform. Similarly, video might be a preferred mode of learning of some communities. It would be interesting to investigate the links between the communities' conceptualization of learning process and the culturally appropriate aspects of intermediation design.

Studies focusing on the use of human intermediaries in technology-based interventions usually examine the way in which beneficiaries make use of such systems or the way in which these systems enhance access. From the systems perspective, these studies examine how social infrastructure affects technology design and implementation. However, we have little knowledge of how intermediation impacts the intermediaries themselves. This question is of some significance because sustainability and scalability of these initiatives hinges predominantly on involvement of community members as intermediaries. Future research can delve into questions such as: How are intermediaries affected by their role in such initiatives? Does it impact their standing within the community? How does it shape their relationship with the beneficiaries?

Prior research has also emphasized the importance of processes and systems for creating trust (Moloney, 2009). The issue of trust becomes salient especially in case

of multiple users (community member as well as the intermediary) operating the same technology (mobile phone) and accessing sensitive information related to financial matters. What are the design features that can facilitate trust in technology as well as the human intermediary? Can blending the two different types on intermediaries enhance trust? Is there a difference in trust levels in case of intermediaries who are members of the local community as compared to intermediaries such as business correspondents who are formal representatives of the financial institution?

Further, the researchers need to compare the two types of intermediation, human and technological. Is one more effective than the other? If so why and how? While the effect of the two types of intermediation will depend upon cultural understanding of the learning process, the context and the related content also might play an important role. For example, the requirements of content design for financial literacy about crop insurance products might be different from those of health insurance products for the family members. In other words, the cultural understanding of the targeted behaviour should also be taken into account for designing digital intermediaries.

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