



Technology acceptance among micro-entrepreneurs in marginalized social strata: The case of social innovation in Bangladesh



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ABSTRACT

Technology adoption by the marginalized community is indeed an important issue in global poverty reduction. To realize it, this paper contributes by doing an empirical test of the technology acceptance model, amongst those users typically always deprived in the existing social structure. Firstly, the study aims to examine the influence of Technology Readiness Index (TRI) 2.0's four indicators (optimism, innovativeness, discomfort and insecurity) on bKash entrepreneurs' perceived ease of use (PEOU) and perceived usefulness (PU) of bKash technology. Secondly, it aims to investigate the effect of 'bKash' entrepreneurs' PEOU and PU on their well-being. A total of 360 usable data were collected from the bKash agents in Bangladesh. We employed SEM-PLS3.0 for data analysis. The results indicate that optimism and innovativeness strongly drive perceived ease of use and perceived usefulness. Subjective well-being was found to be strongly predicted by perceived ease of use and perceived usefulness. The study indicates that poor people are somewhat ready to use and accept technology that leads to a sense of well-being. Bringing together the concept of subjective well-being with TRI and Technology Acceptance Model (TAM) is this paper's contribution to the knowledge domain.

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1. Introduction

With the advancement of science, technology has become an integral part of modern civilization. Technology has made our lives so simple that the world is now at our fingertips. The robustness and effectiveness of technology have introduced a tremendous, dynamic change to the course of socio-economic development. It has been well argued that information and communication technology (ICT) can reduce the poverty level in a country, if marginalised people are supported by appropriate access to information, education, health, as well as financial services (Ashraf and Malik, 2011; Cecchini and Scott, 2003; Thatchenkery et al., 2004). In fact, ICT has fuelled a surging wave of innovation which is diffusing across the globe to bring about social and economic uplifting (Mwachofi, 2013). According to scholars, information and communication technologies have enabled new patterns of industry dynamics by persistently creating new types of markets (Lee et al., 2015). However, the question that is still unsettled is whether the poor are ready to handle technology? Another unanswered question is how technology can ensure the well-being of the poor people. Indeed, there are stands for and against these issues. Muhammad Yunus, noble laureate and social entrepreneur, predicted decades ago that technology

will be in the hands of the poor around the globe. They are capable and ready to use technology, and eventually this will alleviate poverty (Yunus, 1998). It can therefore be asserted that technology can be one of the tools for social development. Technological inclusion can also be perceived as an integral part of inclusive growth. The World Economic Forum stated in a global information technology report that in the developing countries the usage of ICT is still very low (<50%), and Bangladesh ranks 120 out of 142 countries (World Economic Forum, 2015). Yet, even against such a backdrop, the triumph of technology is unprecedented. This is what affects developing countries adversely.

Using technology as a means to uplift the condition of the poor is considered a remarkable example of social innovation. In recent times, social innovation is deemed to be new panacea for achieving socio-economic development (Bock, 2015). According to Mulgan (2006), social innovation refers to creative activity and service that aim to meet social needs. Phills et al. (2008) have discussed social innovation as innovation which brings novel and useful solution to a social need, and creates values that accrue primarily to the society as a whole. Some of the social innovations appeared to be successful in enabling inclusive growth due to amalgamation of technological and financial inclusion (authors of this paper term it as techno-fin inclusion). Financial inclusion denotes a method that warrants easy access, availability, and usage of the formal financial systems for all members in an economy, which eventually leads to inclusive growth (Sarma and Pais, 2011).

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Scholars, however, have also demonstrated financial inclusion to be a solution for the market problem, besides being a market opportunity (Schwittay, 2011). Under the techno-fin inclusion approach, financial transactions are carried out by a particular technology in order to achieve inclusive growth (for all) in the society. For instance, in Kenya, the emergence of M-Pesa was a classic example of social innovation and techno-fin inclusion, through which the societal need for inclusive growth was served. M-Pesa is considered as one of the successful projects (Dunn, 2015) to bring out the fact that mobile phone technology adoption is a worthy initiative for economic and social change of the marginalized strata. According to scholars, the rapid growth of M-Pesa in Kenya was fuelled due to the poor alternatives for money transfers (Mas and Morawczynski, 2009). Similar social innovations that use technology have transformed the economic and social conditions of the marginalized people in several developing countries. Bangladesh is one such nation. As a true representation of social innovation and techno-fin inclusion, the first mobile money service deployment in the country, bKash, a private venture was launched in Bangladesh in 2011. M-Pesa and bKash are both considered as market disruptions, and disruptive social innovations, in the financial services sector. However, compared to M-Pesa, bKash gained customers much quicker due to its ease of use, vast availability, broad acceptance, diverse group of investors, supportive regulatory environment, and strong brand presence (Davidson, 2015). In addition, it has been put forward that bKash is the cheapest phone-to-phone money transfer option, and the cheapest cash-out option among all the money transfer providers in the world (Amin, 2014). That enabled bKash to hold 95% of the mobile money services business in Bangladesh, whereas in Kenya, 55% is captured by M-Pesa (Realini and Mehta, 2015). Further, according to Chen and Rasmussen (2014) from Consultative Group to Assist the Poor that is housed in the World Bank, bKash was the fastest-growing mobile money service in the world during the year 2013. It has been designed to work as a mobile money transaction tool for the entire population, aiming for inclusive growth. The users can open an account linked to a mobile phone number. Account owners can deposit or withdraw at appointed bKash agents, using any kind of handset. These bKash agents are basically the micro-entrepreneurs located in different parts of Bangladesh. In addition, it has been found that most transactions are made by people sending money to family members. They include migrant labours, garment factory workers, and rickshaw pullers sending money home. Also benefitting from bKash are students receiving money for living expenses (Chen and Rasmussen, 2014). Therefore, scholars have asserted that mobile money services ensure and add value to the well-being of people.

Previous research indicates that using mobile phone has positive influence on the subjective well-being of people (Chan, 2013). So far, the influence of mobile phone financial services on subjective well-being has been overlooked. Previous studies have carried out integrating technology readiness model and technology acceptance model, popularly known as TRAM (technology readiness and acceptance model) in different research settings (Lin et al., 2007; Chen, 2011; Chen and Li, 2010). To the best of the authors' knowledge, till date the impact of technology readiness and acceptance among the marginalized group has not been revealed. However, the impact of TRAM as outcome could be versatile, and one significant outcome is subjective well-being. Scholars also believe that there is a significant lack of research in the area of social innovation (Phillips et al., 2015). However, in the domain of social innovations like bKash technology, there is lack of studies that measure people's subjective well-being, focusing particularly on the marginalized. There are numerous social innovation activities occurring around the world, but to what extent the marginalized populace can benefit from them is still unclear. However, a unique attempt has been made here by targeting a marginalized group of people. The objective is to see whether, and the extent to which, use of technology has influenced their subjective well-being. Perhaps that would illustrate how social innovations impact the marginalized population. Hence, the major

contribution of this paper is in investigating the technology readiness and acceptance model comprehensively in a marginalized setting, by positing subjective well-being as an outcome. This will also validate a social innovation initiative that brings prosperity and development to the deprived segment of the society. Along this line, the current study has embarked on investigating the role of technology readiness of the bKash agents, using the technology acceptance model to understand the possible attainment of subjective well-being. The study aims to examine the influence of TRI 2.0's four indicators (optimism, innovativeness, discomfort and insecurity) on bKash entrepreneurs' PEOU and PU of bKash technology. Secondly, it aims to investigate the effect of PEOU and PU on bKash entrepreneurs' subjective well-being.

2. Theoretical background

2.1. Technology Readiness Index (TRI)

The Technology Readiness Index (TRI) was developed by Parasuraman (2000) to measure technology readiness (TR) of individuals. TRI has been defined as "people's propensity to embrace and use new technologies for accomplishing goals in home life and at work" (Parasuraman, 2000, p. 308). Technology readiness, with a 36-item scale, comprises two dimensions. Positive enablers include optimism and innovativeness, and negative inhibitors include discomfort and insecurity (Chen et al., 2014). Optimism refers to "a positive view of technology and a belief that it offers people increased control, efficiency, and flexibility in their lives"; innovativeness is "a tendency to be an early adopter of technology and opinion leader"; discomfort refers to "a perception of being unable to control the technology and a feeling of being overwhelmed by it"; insecurity is "suspicion of technology and doubt about its capability to work" (Kuo et al., 2013; Parasuraman and Colby, 2015).

However, recently TRI (TRI 1.0) was modified by Parasuraman and Colby (2015) and named TRI 2.0. The reason behind the modification is the accelerated pace of technological change in form of high-speed Internet access, mobile commerce, social media, and cloud computing (Parasuraman and Colby, 2015). TRI 2.0 has a 16-item scale measuring the four dimensions of TRI 1.0. Optimism and innovativeness are motivators contributing to TR, whereas discomfort and insecurity are inhibitors detracting from it (Parasuraman and Colby, 2015). People who have optimism and innovativeness, and have less discomfort and insecurity, are more likely to accept and use a new technology (Parasuraman, 2000). However, collective experience, feedback from researchers, and personal communications motivated Parasuraman and Colby (2015) to develop TRI 2.0. There was need to: (a) reassess scale statements referencing contexts that were no longer innovative; (b) examine and incorporate relevant implications of a changing technology environment; (c) make the instrument more parsimonious. Parasuraman and Colby (2015) elaborate why they had to modify the 36-items scale. Firstly, technologies change over time, Scale items measuring specific technologies cannot be relevant if the referenced technologies become outdated. Secondly, many formative technologies today were in the initial stages in 1999. These would include smartphones, wireless Internet services, social media, home videoconferencing, and cloud applications. Thirdly, there was a need to confirm that the TRI captures current technology-related subjects. Finally, the 36-item index was too long. The current research applies TRI 2.0 to measure technology readiness of entrepreneurs.

2.2. Technology Acceptance Model (TAM) and TRI 2.0

According to the Technology Acceptance Model (TAM) proposed by Davis (1989a), perceived usefulness (PU) and perceived ease of use (PEOU) are the two salient beliefs determining people's attitude towards accepting a technology. Perceived usefulness has a stronger relationship with user acceptance of a technology, compared to perceived

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