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The usage and social capital of mobile phones and their effect on the performance of microenterprise: An empirical study[☆]

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ABSTRACT

This study aims to uncover the impact of the information and communication capabilities of mobile phone use on the performance of microenterprises in Bangladesh. Data were collected from microenterprise owners through face-to-face interviews and a series of statistical analyses were used to assess the effects of mobile phone use. The results of the study show a significant direct relationship between mobile phone use, social capital, and the performance of microenterprises. Further investigation revealed that social capital and non-financial business performance variables are involved in the mediation process between the financial performance of microenterprises and the use of mobile phones. The novelty of this research lies in being the first to establish a high-level statistical relationship between the use of the mobile phone, its mediating factors, and the financial performance of microenterprises.

1. Introduction

By the end of 2015, mobile phone subscriptions had dramatically increased worldwide. As a result of technological progress, infrastructure deployment, and falling prices, more than 97% of the world's population lives within range of a mobile network (ITU, 2016). Zamfir (2015) claimed that a society rapidly digitalizes information and communications technologies “will play an even more significant role in the post-2015 development agenda and in achieving future sustainable development goals” (p.2). It seems that the mobile phone has become a symbol of the use of new information and communication technologies in the developing world. In addition, mobile technology has increasingly become a tool for a variety of activities in the developing world (Qiang, 2017). Among other things, it is used to keep in touch with family members, conduct business, and communicate in emergencies. Some people carry more than one mobile phone, dedicating separate phones to the business, social, and personal use. Sife et al. (2010) described how, accelerated communication of information, in interplay with other factors, the use of mobile phones can increase productivity, enhance access to services, widen markets, simplify transactions, substitute physical transport, prevent crime, improve governance and create new socio-economic opportunities, among many other benefits. (p. 2).

According to Lynn (2013), few technologies in the world have created such an immediate and widespread impact as the mobile phone. Mobiles phones invoke change in the social and business lives of the poorest people, including in developing countries. Even if they do not have landlines or the Internet, if they live within range of a mobile network, they can access information and communicate with friends, family and business contacts. In this way, mobile phones create the ability to access and develop networks and develop productivity frameworks (Donner, 2007; Lynn, 2013). Moreover, “one of the key factors for business growth is the building and utilization of appropriate forms of social capital” (Tundui and Tundui, 2013, p. 51), specifically for microenterprises (MEs) (Dah and Zolnik, 2011). Thus, the existing literature has demonstrated clearly that mobile telecommunication is a substantial driver of economic growth.

However, the literature provides little discussion on the role of mobile phone use in enterprise business performance, especially in the developing world (Donner and Escobari, 2010). Thus, despite this increasing interest, evidence of the impact of mobile phone use on ME performance is still lacking. Specifically, the precise ways and the extent to which mobile phone use contributes to the performance of the smallest and most numerous businesses (or MEs) in developing countries are still debatable. For example, very few in-depth studies have been carried out to document how MEs benefit from mobile phone use;

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its impact on business growth and performance, and on their social networks; and how social capital mediates the relationship between mobile phone use and ME performance. As Helles (2013) pointed out, an “affordance-based analysis” (p.16) will explain the outcomes of mobile phone use more systematically, as it is important to understand their capacity to shape and indicate business performance in MEs.

With this in mind, the current study attempts to redress the balance by examining how mobile phone use is associated with changes in the social networks and business performance of MEs in Bangladesh. In particular, the focus of this study is to examine the direct and indirect links between mobile phone usage, ME performance, and social capital in Bangladesh. The mobile users' rates in Bangladesh are not far behind those of developed countries. Although Bangladesh is a developing country, by the end of June 2016 the total number of mobile subscriptions had reached around 131.38 million, with a penetration rate of 81% (BTRC, 2016). With such an enormous use of mobile phones, Bangladesh provides an ideal context in which to conduct a study of this nature.

2. Literature review

2.1. Microenterprises (MEs)

There is no common working definition of MEs as it differs across countries and among researchers. The different categories are based on the number of employees in a company and its turnover. For example, MEs are variously considered to be, in Australia, a business with a single owner-operator and up to 20 employees (Boston Consulting Group, 2006); in Europe, a business with fewer than ten employees and an annual turnover of two million euros or less (European Commission, 2003); and in the USA, a business with fewer than ten employees and an annual turnover of \$100,000 or less (Fajnzylber et al., 2006). Located in both rural and urban areas, some MEs are home-based and have no fixed location. Mead and Leidholm (1998), who conducted a study on the Dominican Republic and five countries of Eastern and Southern Africa (Botswana, Kenya, Malawi, Swaziland, and Zimbabwe), found that the majority of micro and small enterprises are self-employed. They often struggle to get by and will never grow their businesses into larger enterprises. Duncombe and Heeks (2002) stated that some firms are “entrepreneurial” and growing, with skilled owners and productive business models.

According to the Bangladesh Bank (bdnews24.com, 2011), in manufacturing, a micro industry or enterprise would have assets worth from BTd 0.5 to BTd 5 million and/or from 10 to 24 workers; and in the service industry and in business, MEs would employ up to ten people and have assets worth up to BTd500,000. In Bangladesh, very small businesses and household-based enterprises are considered to be MEs. They create employment for family members and other poor people (Alam et al., 2011). There is a common agreement that the small and medium enterprise (SME) sector is one of the “principal driving forces in the development of the Bangladesh economy” (Helal uz Zaman and Islam, 2011, p.145). In 2003, there were 3.71 million industrial enterprises in Bangladesh, of which 3.62 million were MEs and contributed over 97% (Bangladesh Bureau of Statistics, 2007). The structure and composition of enterprises remained almost the same in 2013; out of 4.5 million enterprises, 3.73 million were MEs (83%) (Bangladesh Bureau of Statistics, 2013). In spite of this immense contribution of MEs to the development of the economy of Bangladesh, no research has yet investigated the impact of mobile phone use on their performance in that country. By addressing this vacuum, the significance of this study is clearly justified.

2.2. The use of mobile phones and enterprise performance

Although landline has long been recognized as the communication media for enterprises in the 20th century, the rapid spread of mobile

phones has led to significantly higher levels of communication access and use. As a result, in recent years, academics and practitioners have become increasingly interested in examining how the use of mobile phones impacts the performance of enterprises. For example, Duncombe and Heeks (2002) stated that mobile phones can reduce the transaction costs associated with the exchange of information, especially the time it takes to receive market information (e.g. prices) and to conduct and agree to transactions. Donner (2007) also reported that mobile phones have done the most to “reduce costs, increase income, and reduce uncertainty and risk” (p.6), which have been considered a measure of enterprise performance. Samuel et al. (2005) carried out a study on the importance of mobile phones to MEs in South Africa, Tanzania, and Egypt, and reported that the mobile phone had increased MEs' profitability. Meanwhile, Donner (2005) reported a mixed impact of using mobile phones to improve ME productivity. Some enterprises have reported that using mobile phones had improved enterprise productivity (Bertolini, 2002; Blattman et al., 2003; McKemey et al., 2003; Richardson et al., 2000; Souter et al., 2005; Wellman, 2002).

A number of recent empirical studies have confirmed the positive impact of mobile phone use on enterprise performance, for example, increasing innovation, attracting more customers, reducing business transportation and transaction times, reducing costs, and reducing storage losses, all of which have led to greater business revenue and profits (Aker and Mbiti, 2010; Boadi et al., 2007; Makee et al., 2014; Njau and Njuga, 2015; NOKIA, 2006; Ogalo, 2011). For example, Njau and Njuga (2015) demonstrated that “the more the use of mobile phone services by micro entrepreneurs the more the business successes” (p. 1047). As well, about 87% of the respondents in their study reported that mobile phone services have contributed positively to the MEs' performance. The use of mobile phones increases the revenues and profits of enterprises through the increase in sales and market share and the reduction in costs (Makee et al., 2014). Thus, it is more likely that the higher the use of mobile phones by MEs, the more they will benefit from this technology. Therefore, we hypothesize the following:

H₁. Mobile phone usage is positively associated with the financial performance of MEs.

H₂. Mobile phone usage is positively associated with the non-financial performance of MEs.

2.3. Mobile phone usage and social capital

The relationship between social capital and ICTs (particularly mobile phone technology) is heavily debated. McPherson et al. (2006) and Gergen (2008) depicted the rise of the internet and mobile phones as one of the major trends that pulls people away from traditional social settings, neighborhoods, voluntary associations, and public spaces that have been associated with large and diverse core networks. Others have pointed to the potential for mobile phones to open up new ways of interacting and new social and networking benefits that will supplement, if not replace those afforded by traditional physical participation (Wellman et al., 2003).

However, it is commonly agreed that both individual and collective social capital is strongly and positively related to the development, adoption, and use of mobile phones. For example, Bhavnani et al. (2008) stated that “mobiles facilitated three types of social capital: as an amenity & shared commodity; to mediate strong links (with family and friends and other community members) and to mediate weak links (with businessmen, government officials, tradesmen, etc.)” (p.19). Mobile phones are known to be widely used to maintain social networks (Souter et al., 2005) and it has been reported that their greatest use is for ‘keeping in touch with family and friends’ rather than as a tool for business and finance (Zainudeen et al., 2006, p.21). However, Kakiara and Sorensen (2002) claimed that mobile technology is continuously reshaping human interactions. This interaction is the precondition of

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