Exploring Social Capital in Sustaining IT Adoption and Use in Micro-Enterprises

Mehruz Kamal

The College at Brockport, State University of New York, mkamal@brockport.edu

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Mehruz Kamal
The College at Brockport
State University of New York
mkamal@brockport.edu

ABSTRACT

This paper explores the notion of social capital and its potential role in being able to sustain IT adoption and use in micro-enterprises. Based on a review of the literature in the areas of social capital, IT adoption and micro-enterprises, and sustainable development, we suggest that there is a gap in our understanding of what is known about social capital as it impacts micro-enterprise activities and subsequently sustainability. We conclude the paper by discussing both the importance of social capital as well as some arguments against it for sustaining micro-enterprises. In addition, research issues that need to be addressed in this domain are also highlighted.

Keywords

Social capital, information technology, micro-enterprises, sustainability, development

INTRODUCTION

The dominant form of business in both developing as well as in many underserved regions of developed countries is a special form of small business known as the micro-enterprise. This form of business has the characteristic of comprising of less than ten employees – often just one who serves as the owner and sole employee of the business. According to the Association for Enterprise Opportunity (AEO), there are over 23 million micro-enterprises in the U.S making up 87% of all businesses within the country. On a historical note, micro-enterprises have been considered the backbone of the U.S economy. Most developing countries are predominantly comprised of micro-enterprises. Although, it is not the primary engine of growth, the micro-enterprise sector is very important for broad-based development, and for basic household economic survival. Grosh and Somoleke (1996) have stated that micro-enterprises have the potential to serve as the seedbed for economic development. But it is seen that this potential of many micro-enterprises are hindered from growing and functioning efficiently by an inability to use information technology effectively (Lichtenstein and Lyons, 2001). It then appears that in attempting to incorporate IT in micro-enterprises to help them reach their potential impact in a society, there are a number of challenges and barriers that obstruct their path. To highlight a few, micro-enterprises and their owners face challenges of limited finances, reduced technical skills, lack of systematic business infrastructure, and limited access to information and markets to name a few (Wolcott, Kamal and Qureshi, 2008). In addressing the myriad of challenges facing micro-enterprises, both economic as well as social development strategies need to be put in place. From an economic standpoint, government policies need to be put in effect that will provide policies to subsidize cost of basic technologies. This will enable small businesses to be able to afford the necessary technology for their business and setup the required infrastructure. There also needs to be support from non-profit organizations in terms of providing both business as well as technical training to help micro-entrepreneurs understand how they may reap the full potential of the technology that they may already have and become competitive with other businesses.

It then appears that it is important to discuss the social perspective of addressing some of the challenges facing micro-enterprises. Most micro-enterprises are run by one person and so there is hardly any form of social networks within the internal business. Forming networks and creating the notion of social capital with other small business owners may serve as a beneficial resource that the micro-entrepreneurs can turn to for advice (Servon, 1998; Steinberg, 2003; Vargas, 2000). According to The World Bank, social development creation strategies will help foster empowerment, participation, social mobility, social cohesion, cultural identity and institutional development and take micro-enterprises one step closer to achieving a form of sustainable growth. Subsequently, in this paper, we investigate the concept of social capital and the role it may play in sustaining IT adoption and use initiatives in micro-enterprises and their ability to grow within communities. Therefore, the research question being addressed in this paper is: Can social capital enable IT adoption and use in micro-enterprises to be sustained? We address this question through a review of literature on social capital, IT adoption and micro-enterprises, and sustainable development to highlight what is known and what there is to be known in this area. Based on the
Social Capital in Sustaining IT adoption in Micro-enterprises

Kamal

Social Capital is a key concept in business, economic, political science, organizational behavior, and sociology. Literature on social capital has investigated the effects that it has on various segments of business activities and in the overall economy of communities. Some of the popular definitions in use today have been adapted from Bourdieu (1983) who refers to social capital as “the sum of the resources, actual or virtual, that accrue to an individual or a group of people by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition.” According to Coleman, social capital is intangible; fungible; and context specific; exist only among groups rather than individuals; and difficult to measure (Coleman, 1988). Coleman recognizes three components of social capital: obligations and expectations, information channels, and social norms. Nahapiet and Ghoshal (1998) recognize three dimensions of social capital: (1) structural: the pattern of relationships linking actors, (2) relational: social relationships between individuals, and (3) cognitive: shared meaning and understanding (Nahapiet and Ghoshal, 1998). They distinguish between social capital and its consequences. Lin defines social capital as “resources embedded in social structures which are accessed and/or mobilized in purposive actions” (Lin, 1999). He identifies three components of social capital: resources embedded in social structures; accessing these resources by individuals; and mobilizing such resources by individuals to achieve purposive actions. Woolcock defines social capital as the norms and networks that facilitate collective actions (Woolcock, 1998). He notes that it is difficult to determine whether social capital is the infrastructure itself, the content of social relations, the medium, or the outcome. Resnick (2002) views social capital as an input/output model that has the following sources of social capital: communication paths, common knowledge, shared values, collective identity, obligations, roles and norms, and trust (Resnick, 2002). Its outputs include information routing, resource exchange, emotional support, coordination, and collective action.

It then appears that the different definitions of social capital refer to the characteristic of social interactions and networks that can provide value added resources to a society. Impacts of social capital can be broadly classified as (1) getting information (Granovetter, 1973); (2) transfer of knowledge, innovation, and diffusion of technology or practices (Ahuja, 2000); (3) combining complementary knowledge and helping solve problems (Greve and Salaff, 2001); and (4) brokerage (Burt 2005). Greve and others (2004) showed that a high degree of social capital helps bring about increased productivity of individuals working within a project-oriented environment that is devoid of any strict organizational routine. A study by Cooke and Wills (1999) looked at SMEs in three European countries and showed that adopting policies that promote new innovations helps build social capital and improves business performance. These studies provide evidence of the positive effects that social capital can have for small and medium sized enterprises (SMEs). In a study of technology innovation within chemical industries, Ahuja (2000) showed that the number of direct and indirect ties of a firm is positively correlated with innovation output. Brown and Duguid (1991) provide insight into how informal communities-of-practice within organizations collaborate to exchange perspectives and form communities-of-communities to promote learning, working, and innovating. These studies show the positive impact of collaborative business relationships on adopting new technology innovations. To sum up the various definitions and depictions that scholars have provided for the concept of social capital, we concluded that social capital may best be understood as organizational devices that promote cooperative and collaborative behavior from any ideological, political, or development perspective. However we also argue that it says nothing about the direction of the cooperative behavior. Within the context of development, being able to cooperate is not the same as desiring economic development. To explore these issues further requires that we examine not just associational contexts and their impacts, but also how individuals engage with these associational contexts. In the following sections we divulge into this issue further by first discussing issues relating to sustainability of IT adoption initiatives in micro-enterprises and the related challenges in accomplishing this and then the role that social capital may play in fostering such sustainability.

IT ADOPTION IN MICRO-ENTERPRISES

There is evidence to show that when small and medium sized businesses adopt and use ICTs they have seen positive outcomes related to operational efficiencies, increased revenues, and are able to better position themselves within their market niche. Qiang, Clarke and Halewood (2006) observed that businesses that utilized e-mail to communicate with their customers experienced sales growth 3.4 per cent greater than those which did not. Other research in this area also highlights the positive impact of IT use within small businesses. A 4% increase in sales as well as 5% increase in export performance was obtained when e-business techniques were adopted by SMEs in the manufacturing sector in Canada (Raymond, Bergeron and Bilili, 2005). In another study Southwood (2004) found that ICT investments by SMEs in South Africa resulted in...
profitability gains from cost savings rather than from increase in sales. However, in order to achieve such outcomes, small businesses and in particular micro-enterprises and their owners need to overcome a multitude of challenges. As mentioned earlier, micro-enterprises face obstacles such as limited finances, reduced technical skills, lack of systematic business infrastructure, and limited access to information and markets to name a few (Wolcott, Kamal and Qureshi, 2008). These obstacles prevent micro-enterprises from adopting and using IT and reaping the benefits stated above. An innovative approach which involves a mix of technology, training, and trust building has been proposed and documented as being a solution to assisting micro-enterprises in adopting and using IT in their businesses. This approach has been referred to as IT therapy (Wolcott, Qureshi and Kamal, 2007; Wolcott, Kamal and Qureshi, 2008; Qureshi, Kamal and Wolcott, 2009). The concept behind IT therapy deals with, providing individualized technology-related assistance, with an emphasis on relationship-building, customized training, context sensitivity, and solutions that target strongly-perceived needs of the businesses. This form of assistance was provided by a local university’s IS students for a duration of one semester. Although IT therapy served as an innovative approach, it could only address a subset of the challenges that micro-entrepreneurs encounter. The results from those studies showed that IT therapy was most beneficial in ameliorating certain attitudinal challenges such as fear of technology, lack of confidence, and lack of awareness. But it seemed to be less effective in addressing many challenges related to capabilities, access, resources, operations, and context. A major limiting issue of the IT therapy approach is that it is not well suited for providing professional development services or basic infrastructure. Moreover, the duration of one semester of technical support from IS students served only as a temporary short-term solution to an on-going problem of continuous support, training and guidance needed for the micro-enterprises. In order to provide such form of on-going support, various agencies such as local universities, technologically advanced corporate organizations as well as non-profit agencies need to collaborate on their expertise and channel efforts to helping these small businesses.

SUSTAINABLE DEVELOPMENT

Before we talk about sustainability within the context of micro-enterprises, we need to understand what is meant by sustainable development. According to the World Bank, sustainable development entails the simultaneous achievement of economic (growth, equity and efficiency), social (empowerment, participation, social mobility, social cohesion, cultural identity and institutional development) and ecological objectives (ecosystem integrity, carrying capacity, biodiversity and protection of global commons). In situations of entrenched poverty micro-enterprises arguably offer individuals a way of supporting themselves and their families. However, while the data suggest that a large number of people start micro-enterprises, only a small number actually succeed in developing their enterprise and generating a sustainable living from it (Pingle, 2005). As stated earlier in the introductory section of this paper, one of the major reasons for stunting the growth of micro-enterprises is their inability to adopt and use IT as a result of the myriad of challenges that these tiny businesses encounter. Such problems have been investigated under the realm of IT for Development (IT4D) that investigates the implementation, use and management of Information Technology infrastructures to stimulate human, social and economic development (Qureshi, 2005). IT4D literature distinguishes between five main types of sustainability: economic or financial, technological, social, institutional, and environmental (Proenza, 2001). Economic or financial sustainability refers to the long-term ability of ICT projects to generate enough income to meet their operational and maintenance costs, in addition to a reasonable surplus for renewing broken and obsolete equipment (Proenza, 2001). Financial sustainability is the greatest challenge for many of the ICT projects which continue to be donor funded for a finite period (Hudson, 1999). Technological sustainability is the ability for a technology to exist for a long period of time without major shifts in hardware or software affecting its availability or durability (Misund and Hoiberg, 2003). This ability includes operational simplicity, flexibility, maintainability, robustness and also the availability and capability of technical and managerial personnel (Kiggundu, 1989). Social sustainability requires user buy-in and participation, taking into account local traditions, considering differences within communities, empowering marginalized groups, sharing and aligning goals with local people and adapting to evolving community needs (Gómez and Casadiego, 2002). Social sustainability is about looking beyond equitable access and asking whether the access is actually to something useful (such as a government service) and provides relevant content (Gómez and Martinez, 2000). Institutional sustainability is closely related to social sustainability, pointing to the buy-in of key institutional actors. Finally there is the environmental sustainability of ICT for development projects. For Kumar and Best (2006), this is when a large number of PCs are used “without plans for their eventual disposal or reuse when they reach the end of their effective life” (p. 11). The stated types of sustainability are harder to achieve in micro-enterprises because of their lack of various resources as stated in the earlier section. In order to sustain improvements in the growth of micro-enterprises, organizational and technical infrastructures are needed to provide technical and business assistance within the community in which the entrepreneurs reside (Qureshi et al., 2008). In addition, for development to be sustainable, it needs to be meaningful to vulnerable beneficiaries, to be desired by them, and to be socially sustainable in a multicultural and highly interconnected world. This requires individuals to balance the demand for cultural recognition and respect with that for the enhancement of economic development. Whether and how associational membership makes a positive contribution to the process individuals engage in to make their lives meaningful, and how that relates to the development agenda remains
unclear. The following section addresses this issue further by discussing the role that social capital may play in sustaining micro-enterprises.

**SOCIAL CAPITAL AND SUSTAINABILITY OF IT ADOPTION AND USE IN MICRO-ENTERPRISES**

From the discussion so far it appears that to ensure that IT adoption and use initiatives are sustainable, one must consider the growth of micro-enterprises within the context of a larger development strategy that takes into account the social capital needed to sustain them (Servon, 1998; Steinberg, 2003; Vargas, 2000). Most of the efforts in micro-enterprise development have focused on economic development while ignoring the social networks that sustain these entrepreneurs (Servon, 1998; Vargas, 2000). Community development efforts to support micro-enterprise growth can enable sustained improvements to be achieved (Steinberg, 2003; Vargas, 2000). Social capital appears to have an effect on how ICTs can bring about development.

As discussed earlier, this concept refers to the characteristic of social interactions and networks that can provide value added resources to a society. In the context of world development, increasing importance of social capital is being recognized as a key component affecting the increase in incomes (Fine 1999). Steinmuller (2004) claims that ICTs may help communities have enhanced capabilities of global sourcing of knowledge and problem-solving activities resulting in greater social capital. Steinmuller goes on to say that the social networks of communities of practice help extend knowledge markets. In addition, he states that changes in communities of practice that are impacted by ICTs may have implications for growth, competitiveness, and employment. It then appears that ICTs have a role to play in enhancing and promoting social capital within communities and in turn serve as a strong force in enabling literacy and education within and among communities.

Access to greater knowledge through communities of practice has direct implications for enhancing necessary IT skills and awareness of new technologies that may be beneficial to micro-entrepreneurs in operating their businesses more efficiently and being more competitive. Phillips and Bhatia-Panthaki (2007) examined the practices of Zambian entrepreneurs and discovered that their primary difficulty of growing their businesses lies in the area of risk assessment. The entrepreneurs, she discovers, have been making poor decisions based on inadequate information obtained from informal sources. Her research suggests that training and information availability provide the keys to business expansion for microenterprises (Phillips and Bhatia-Panthaki, 2007). Once again it is apparent that this study also may have direct implications for the importance of social networks that are available for such micro-entrepreneurs that help provide them with the necessary information needed for their businesses. Vargas (2000) emphasizes community development and strong social networks to help microenterprises improve their survival. Vargas notes that communally oriented micro-enterprises become more attractive to investors by virtue of their enhanced stability, size, and cohesion. This then has the potential to bring in monetary capital that may potentially enable micro-entrepreneurs to purchase and set-up the needed IT infrastructure for their businesses and facilitate the use of IT in their business activities. It is also important that electronic systems facilitate the social development of enterprise, by providing community forums where entrepreneurs can go for help and advice in navigating financing and credit issues, government bureaucracy, and the marketplace itself. Partnerships among multiple micro-enterprises should be fostered, along with collective action. In interventions, common technology platforms should be created to ease support and training issues, as well as collaboration difficulties that would be greater if differing systems were used in interventions. Group buying power should be leveraged where necessary, and open source solutions favored where shared development efforts can benefit the community. Targeting technology to facilitate community and social networks has implications for economic growth. However there are aspects of communities and the related consequences of social capital that may inhibit IT adoption and prevent micro-enterprises from growing to the potential that it can be in society. When we talk about community, we need to keep in mind that there are two inherent views - the internal and the external. The former is usually culture-based, geographically bounded, and can inhibit individual autonomy. The latter is essentially associated with networks outside the immediate community and can often enhance individual autonomy, especially as it concerns women micro-entrepreneurs (Pingle, 2005). Pingle goes onto conclude that women micro-entrepreneurs at the periphery of a community have considerably greater freedom than those at its center. Whether women are at the periphery or at the core is influenced by local, cultural, and historical factors. In South Africa, marital status matters less than integration into social and familial networks. Therefore in South Africa, those who are not significantly involved in familial, or social support networks, are more likely to have successful micro-enterprises than those who are. In South Africa, Egypt, and Nigeria social capital generated via membership in local organizations appears to have no noticeable impact on the ability to generate sustainable livelihoods from micro-enterprises. On the contrary, micro-entrepreneurs who are at the periphery of their communities, only minimally engaged with associational networks in their local community, are more likely to develop successful micro-enterprises especially when they are drawn into networks outside their community (Pingle, 2005).

The social capital literature has argued that levels of social capital explain why economic development occurs in certain communities and not others, and why some entrepreneurs succeed where others fail. According to this argument, entrepreneurs who are embedded in strong social capital networks draw on the high levels of trust to sustain and expand their business, to demand better services from the state, to engage in cooperative activities that enhance their ability to improve the
quality of their life. In his classic book, Putnam (1994) points to the argument made by Sable and Piore (1986) about flexible production in the northern Italian context. High levels of social capital in northern Italy generate high levels of trust that is critical for allowing manufacturing firms, flexibility in production schedules and processes, such that they are able to outperform their competitors. However, in the study by Pingle (2005) that looked at rural women micro-entrepreneurs and sustainable livelihoods, it is seen that social capital does not work in a similar manner as was evidenced in Sable and Piore (1986). A review of the available literature offers notoriously unclear evidence as to why this is the case. We argue that this is partly a function of researchers using varying definitions and indicators for social capital. It is also partly a consequence of different studies sampling from different categories of poor individuals, and not always recognizing that men and women are likely to use, contribute, and relate to social capital differently. Consider for instance a study about social capital and its role among agricultural traders in Madagascar. Fafchamps and Minten argue: “traders with better relationships with other traders, suppliers, and customers earn higher margins.” (2002, p.151) They continue that social capital has “the same characteristics as other types of inputs, such as physical capital and labor. Like other types of capital, social capital is accumulated over time and significantly improves economic performance.” (Ibid, p.152) This conclusion is based on measuring social capital in terms of the number of relatives in agricultural trade; numbers of traders known; number of people who can help; number of suppliers and customers known personally. What this leaves unclear is whether familiarity contributes towards trustworthy relations or to suspicion, resentment, and jealousy. Moreover, their study focuses largely on male traders – their average respondent is “thirty-seven years old, male, and married with three children.” (Ibid, p.127) Does their argument work as well for women traders and entrepreneurs? Does it operate in a similar manner across cultural contexts? Is it indeed the case that familiarity and knowledge of people leads to trustworthiness? The following figure illustrates the issues discussed so far to highlight the factors that may impact social capital which may subsequently facilitate the sustainability of IT adoption and use in micro-enterprises.

![Figure 1. Social Capital Factors Impacting Sustainable Development](image)

**CONCLUSION**

The social capital perspective assumes that the trust and the cooperative sensibilities generated by social capital motivate individuals to seek to improve their lives economically, financially, and socially – and the improvements are in the direction desired by the development community. However, opponents of this view have raised strong arguments that state that the connections are dependent on many social, cultural and interactive considerations, and the resulting behavioral principles would tend to be complex as well as variable with respect to time, place and group. They go onto say that it is important to also consider that social capital might motivate individuals to act in ways that undermine the development agenda by enhancing restrictions for example on women’s autonomy, and strengthening cultural values and practices that do not particularly contribute to entrepreneurialism. Therefore, it is apparent that our understanding of the role that social capital may play in sustaining micro-enterprise activities to enable growth needs further investigation. Future studies will aim to carry out in-depth field studies to investigate the factors raised in this paper.

**REFERENCES**