Creating Comparative Advantage for Micro-Enterprises Through E-Governance

Jerry Gosen[1]

ABSTRACT

As micro-enterprises encounter increasingly more modern economies in developing countries, they find themselves at a disadvantage. This paper argues that e-governance can help these tiny businesses to survive and thrive. It suggests that micro-enterprise problems are in part caused by inadequate relationship development, that e-technology acquisition can help micro-entrepreneurs build relationships important in a more modern economy, and that e-governance can help micro-entrepreneurs by establishing a technological infrastructure and providing tools so that micro-enterprises can gain the needed technological skills.

Keywords: Micro-enterprises, relationship building among businesses, e-governance

1. Introduction

Research reinforced by informal observations (Nevin, 2004; Walusimbi-Mpanga, 2006) suggests that much of the development that takes place in the rural areas of the world's poorest countries occurs primarily as a result of the economic activity and industriousness of tiny entrepreneurs, heretofore called micro-entrepreneurs, plus the financial support for associations of such entrepreneurs, commonly called micro-credit associations (Bornstein, 2005). The research evidence indicates that micro-credit membership can result in greater local and country-wide economic activity (Easterly, 2006; Woller and Parsons, 2002) and greater profits (Copestake et al., 2001; Dunn, 2001). According a United Nations report distributed in 2005, such financial support has helped 20 million people in the world's poorest countries.

However as a country's economy develops, the business environment changes in a way threatening to these micro-enterprises, and according to Hoque (2004), a too high proportion of micro-enterprises are failing. As infrastructures and modes of transportation improve, more products become available to buyers from a more diverse set of outlets. Improved economies raise standards of living, and more people with disposable income can spend it in a greater variety of ways. This puts micro-enterprises at a disadvantage. Their customers who used to buy exclusively from them can now go to more outlets and choose from a greater selection of items. For example a consumer may have only bought locally grown fruit from a micro-enterprise, but now can buy fruit, vegetables, and grains grown all over the world from a newly established grocery store. This reduces market share for micro-enterprises. Arunachalam and Asha (2006) and Prasad and Tata (2006) have studied the saris industry in India and found that micro-enterprise owner/operators are burdened by similar trends. These authors observe that demand has been falling for silk saris weavers in India because of changing customer tastes and expectations, problems with middle men, and competition

[1] Management Department, University of Wisconsin Whitewater, Whitewater WI 53190, USA (Email: gosenpuj@uww.edu, Telephone: 262-472-3956)

from synthetics and cotton blend fabrics. Similarly, Pisani and Patrick (2002) have observed that in most industries, informal sector micro-entrepreneurs from Central America are at a disadvantage compared to imports and partially as a result, their revenues are falling.

It appears that micro-entrepreneurs are poorly equipped to successfully navigate this new environment. Pisani and Patrick (2002) have developed a model conceptualizing the problems confronting micro-entrepreneurs. According to this model, micro-entrepreneurs (MEs) display poor efficiency and low productivity due to poor quality and inconsistently reliable supplies, obsolete and poorly maintained machinery, inadequately trained personnel, and smallness, which prevents taking advantage of scale economies. In addition the model indicates that MEs have limited access to support from financial institutions and government and non-government agencies. McElwee (2006) also explored the situation facing micro-entrepreneurs and discovered that they have difficulty accessing capital, distribution channels, and business support, and Berma (2001) and Prasad, Tata, and Madan (2005) are among the scholars that conclude the powerless relationships with suppliers and distributors constitutes a major reason why MEs are inefficient.

2. The Value of Building Relationships

The difficulties described in the above paragraph can be resolved with successful relationship development. A business can increase the reliability of supplies, obtain innovative machinery, recruit and train personnel, obtain support from financial institutions, governments, and NGOs, and negotiate more effectively with buyers and suppliers if owners or managers can become skilled at developing relationships. Relationships help with stability and allow the focal organization to do what it does best while partners do what they do best.

The micro-enterprise literature refers to many problems experienced by micro-enterprises solvable by such relationship development. Perhaps the most frequently discussed problem is the unbalanced power relationship among supply chain members, relationships that put micro-entrepreneurs at a disadvantage, as MEs have less power than their suppliers and customers. Prasad and Tata (2006) discuss problems with reliable arrival of supplies and the difficulty in obtaining reliable information about product quality. Arunachalam and Asha (2006), Berma (2001), Cohen (1998), and Prasad and Tata (2006) observe that the power imbalance results in inflated prices for MEs to pay for supplies and deflated prices which MEs are able to charge to middle-men. The unbalanced power situation that Arunachalam and Asha (2006) describe is fairly typical. They report that middlemen control the prices paid to producers, doing nothing when prices are high, buying only when prices hit rock bottom, then delaying payment for up to a year after delivery. Prasad and Tata (2006) suggest that one of the keys to a more equal relationship is information parity. Unfortunately for micro-entrepreneurs, there is often unequal information between micro-entrepreneurs and their trading partners, as MEs are forced to provide confidential information to contractors but are dependent on unforthcoming buyers, brokers, and suppliers for information about markets and raw materials (Prasad and Tata, 2006). Size can also be a problem. Although not always, a service organization is more likely to respond to a larger more prominent organization requesting service than a smaller one.

There are other problems that MEs experience which are solvable by developing good relationships. Berma (2001), Pisani and Patrick (2002), and Prasad and Tata (2006) found that MEs often have trouble attaining needed financial resources. Berma (2001) and Cohen (1998) discuss the difficulties that MEs have in accessing markets, either due to an insensitivity to market needs (Prasad and Tata, 2006) or the inability to access the markets that do exist (Berma, 2001; Cohen, 1998; and Pisani and Patrick, 2002). Finally, Pisani and Patrick (2002) point out that in their Central American sample, owners and managers were using obsolete machinery, with production based on existing orders only and labor with few accessible value-

added skills.

There is evidence from the developing world that building relationships with other entities is beneficial for micro-entrepreneurs. Arunachalam and Asha (2006) found that buyer-seller meets resulted in increased exports and a 57% increase in income. Ger (1999) reported that when rubber trappers and forest residents formed a partnership with progressive international entrepreneurs to market Brazilian nuts to northern consumers, the result was a lucrative market for all parties of the partnership. A textile association from Pakistan was able to partner with large manufacturers to outsource unwanted aspects of their businesses and procure the assistance of maintenance contractors to reduce the risk of new technology acquisitions (Kahn and Ghani, 2004). Dawar and Frost (1999) reported multiple instances of beneficial effects of an alliance between small companies from developing countries and multinationals from the developed world, and Walusimbi-Mpanga (2006) reported that an association of MEs were able to influence their country's export strategy. Finally, Jones, Kashlak, and Jones (2004) observed that when groups of micro-entrepreneurs collaborated with private sector investors, outcomes in four Latin American countries were mutually beneficial. In summary, then, deficient relationships can cause serious problems for micro-entrepreneurs, while good relationships help micro-entrepreneurs attain beneficial effects.

The development of these valuable relationships can be assisted by e-governance, and Table 1 presents how. The entities which MEs can build relationships with are depicted in the second (from the left) column of Table 1, and the far left column shows some of the purposes or reasons why micro-entrepreneurs and their associations can and should build relationships with these entities. Referring to the two left hand columns of Table 1, MEs can obtain financial services and resources from banks, insurance services and resources from insurance companies, financial information from financial markets, training services from a variety of institutions, and marketing and materials information from information banks. MEs can share information and technology with other members of their value chain and influence policy by communicating with governments. They also can balance power with other entities by negotiating with suppliers to pay lower prices or gain more reliable delivery; by negotiating with merchants and distributors to receive higher prices for their goods and services; by attending buyer-seller meets; and by drawing contracts with contractors, other members of the value chain, and other manufacturers. All of these help the business process become smoother and more controllable for micro-entrepreneurs.

3. Role of Technology and E-Governance

Technology can help micro-enterprises build relationships which will in turn help micro-enterprises survive and thrive. Larson et al. (2005) found that when micro-enterprises gained technological sophistication, information quality disparity and the resulting power imbalance between micro-enterprises and larger trading partners were reduced. Singh, Garg, and Deshmukh (2006) found that the utilization of information technology enhanced organizational performance for Indian plastics firms, and the Faisalabad, Pakistan textile owner cluster (mentioned above) thrived due to technological innovation diffusion which resulted in outsourcing arrangements and extensive exporting (Kahn and Ghani,, 2004). In addition, Deichmann et al. (2004) found that among Mexican manufacturers, new technology adoption enhanced both productivity and access to markets. In addition and in contrast, Arunachalam and Asha**,** (2006), Berma, (2001), and Hoque, (2004) report poor outcomes when micro-entrepreneurs are unable to adapt to modern technology. A high percentage of the enterprises of Indian sari weavers (Arunachalam and Asha**,** 2006), Malaysian handicraft producers (Berma, 2001), and El Salvadorian fishermen, (Hoque, 2004) failed in part because they did not adopt newer technologies for undertaking their businesses. These studies suggest that technology adoption, which includes information system utilization, may be a necessary condition for success in many industries regardless of company size or location.

Table 1: Relationships of micro-enterprises with other organizations and institutions

Purpose	Institution or Organization	Source	Potential for e governance	Form of e-governance
Obtain Services/ Resources: Finances	Banks	Berma (2001)	Institutional information and rankings: services similar to e-loan search engines	Decision support systems and expert systems
Obtain Information: Financial markets	Financial Markets	Pisani and Patrick (2002)	Information on various financial instruments and an expert system for recommendations	
Obtain Services/ Resources: Insurance	Insurance Companies	Kahn and Ghani (2004)	Web page information on available services	Information and authentication
Obtain Services: Training	Government, Industry networks and NGOs	Berma (2001); Pisani and Patrick (2002)	Web page information on available services	
Influence Policy	Governments	Arunachalam and Asha, 2006; Wal-usimbi-Mpanga, 2006	Links to agencies that can help MEs -- with local, regional, state or national agencies.	
Obtain Information: Markets and materials	Information Banks	Prasad and Tata (2005)	Government collected data, access via web	Data collection, aggregation and access
Share technology and diffuse innovations	Other members of the industry and value chain	Kahn and Ghani (2004)	Web page describing value chains and recommendation on technology and links to companies supplying technology. Messaging software to communicate	Communicat-ions, negotiations and transaction processes with partners including value chain partners
Balance Power: To obtain lower prices or reliable delivery for parts or supplies	Suppliers or Supplier Networks	Arunachalam and Asha (2006); Cohen (1998); Hoaque (2004; Pisani and Patrick (2002)	Develop a on-line supply line information system – similar to what Caterpillar has in controlling info for its suppliers	
Balance Power: To gain better prices for products and services. Open new markets	Merchants, distributors or merchant associations	Berma (2001); Kaplan and Hurd (2002); Malewicki, (2005)	e-Bay type system for connecting entrepreneurs to markets. Websites to promote product or service features.	
Balance Power: Reliable contracts with other members of the value chain	Buyer-seller meets	Arunachalam and Asha (2006)	Websites to promote. Messaging software to communicate.	
Balance power and relationship development: Reliable contracts with other members of the value chain	Other manufacturers: to sub-contract for parts	Pisani and Patrick (2002)	Development of an electronic reverse auction for subcontractors to bid on. Messaging software for adjustments and quality control.	

E-sophistication makes relationship building easier for almost any business. Since relationship building expertise is a competitive advantage in almost all industries, then access to e-expertise is a plus. Hence, a responsible government should provide the resources to enhance e-expertise for such entrepreneurs.

Table1, in the far right column, shows four kinds of e-expertise that governments could support in ME relationship building: 1) decision support systems and expert systems, 2) information and authentication, 3) data collection, aggregation and access, and 4) communications, negotiations, and transaction processes among partners.

Decision support systems and expert systems
Providing guidance or advice to micro-credit entrepreneurs can entail developing decision support systems. For example, decisions support systems can be developed on-line to provide recommendation on the types of financial instruments suited for an MEs' specific needs. A decision support system would be based on a series of if-then rules based upon logic extracted from financial experts encased within an expert system.

Information and authentication
Governments can create portals, which are designed as primarily sources of reference for micro-entrepreneurs and would include information, authentication, and validation of services and service providers. In addition, links to authenticated websites can also be provided. For example, training programs (available in the respective local languages) could be developed and the knowledge base be made available through the internet so that MEs could be shown how to negotiate with buyers and sellers to ensure long-term profitability. The portal could also provide links to reliable service providers such as insurance companies, NGOs, and regional and national governments. Finally information from such portals can be useful to help MEs develop opinions/rating systems, which could be valuable in the service of influencing policies of governments and other institutions.

Data collection, aggregation and access
Portals can be developed to collect data of various relevant activates such as raw material or market prices. This type of data could be aggregated with trends and correlations. This type of information would certainly help entrepreneurs negotiate prices with their buyers and suppliers and could even help them decide upon what products to produce.

Communications, negotiations and transaction processes along value chain partners
A government could develop an information backbone for entire value chains for each of the various micro-enterprise sectors. This information would allow partners along the value chain to communicate, negotiate and transact with parties, perhaps those two or three steps up or down the stream. Such a system could allow a retailer to communicate fast selling items to the producer without including the middleman. Such an information system should also allow for negotiation and transactions to occur by setting up both electronic auctions and reverse auctions. In addition, this information infrastructure can help value chain members share innovative knowledge so all can benefit.

Note the many of the e-governance techniques discussed above are sophisticated, for a small business expensive, and for poorly educated MEs complicated. If MEs can organize themselves into coops or become members of associations, though, the expenses can be spread, people can be trained, and expertise can be hired. However even for associations of entrepreneurs, obtaining and maintaining e-expertise is expensive and difficult. Still the benefits of e-technology far outweigh the costs, benefits in terms of access to expanded markets and potential trading partners, available information and data banks, potential services, communication methods, and analytical tools. And if the competitors that MEs face are large, possess sophisticated e-tools, and can use those tools to advantage, then MEs are going to need similar tools to successfully compete.

It is up to e-governance to facilitate the process of MEs attaining e-expertise, because it is governments that have the resources, expertise, and awareness of societal needs. E-governance according to Iyer, Baqir and Vollmer (2006) includes the use of information and communication technology, particularly web based

applications, to provide access and deliver information and services to the public, businesses, other agencies, and governmental entities. It can be applied to licensing processes, public loan applications, collections, record keeping, decision-making, and information dissemination. At its best, e-governance can improve public service considerably, making that service faster, more flexible, more convenient with more choices (Mathur, 2006). It can offer transactional capabilities electronically, driving down transaction time and increasing transaction accuracy. It can standardize, save expenses, prevent overlaps and, perhaps sadly, decrease public sector labor costs.

E-governance can help the micro-entrepreneurial community in a variety of ways. Most governments promote their businesses and business communities. Developing country governments should promote for their smallest businesses, using websites and e-advertising. Governments can partner with micro-enterprise associations to provide and share the risks associated with technology (Iyer, Baqir and Vollmer, 2006). This partnership should include training plus either the setting up of internet cafés for the public at large, which micro-enterprises can access, or the sharing of the costs of computer technology for MEs to acquire. Governments can set up employment exchanges, programs which micro-entrepreneurs can access if they need employees or if they need to send family members into the workforce for added income. As governments develop constituency wide services and communication processes, they will likely by default standardize such services across their areas of governance. Finally governments can set up e-technology and infrastructure for customers, suppliers, service providers, distributors, exporters, producers, and investors to communicate and enhance relationships.

4. Concluding Remarks

Sophisticated, user-friendly e-technology is a competitive advantage for businesses of any size. While gaining computer skills is difficult for poorly educated micro-entrepreneurs, having such skills will help these entrepreneurs gain information, expertise, services, and contacts that will prevent them from falling behind the tide of business people that that are becoming computer sophisticated. Governments can support the e-technology development in their countries, but many developing world governments are not doing so to a sufficient degree. Micro-enterprise communities given technological infrastructure, promotional, informational, and service support by their governments will have a clear competitive advantage over communities that lack such support.

References

1. Arunachalam, J. and Asha, R. (2006). A comparative status of weavers both in Varanasi and Kanchipuram. Chennai India: Working Women's Forum.
2. Berma, M. (2001). Constraints to rural community involvement and "success" in non-agricultural activities: some evidence from Sarawak, Malasia. Humanomics, 17, (1), 99-113.
3. Bornstein, D. (2005). The Price of a Dream, The Story of the Grameen Bank. Oxford University Press.
4. Cohen, J. B. (1998). Craft production and the challenge of the global market: An artisans' cooperative in Oaxaca, Mexico. Human Organization, 57, (1), 74-82.
5. Copestake, J., Bhalotra, S., and Johnson, S. (2001). Assessing the impact of Micro-credit: A Zambian case study. The Journal of Developmental Studies, 37, 81-100.
6. Dawar, N and Frost, T. (1999). Competing with giants. Harvard Business Review, 77, (2), 199-129.
7. Deichmann, U., Fay, M., Koo, J., and Lall, S. V. (2004). Economic structure, productivity, and infrastructure quality in southern Mexico. Annals of Regional Science, 38, 361-385.
8. Dunn, E. (2001). Micro-credit and micro-enterprise performance: Impact evidence from Peru. Small Enterprise Development Journal, 12, 22-33.
9. Easterly, W., (2006). The white man's burden. The Penguin Press, New York.
10. Ger, G. (1999). Local firms competing in global markets. California Management Review, 41, (4), 64-83.
11. Hoque, M. Z. (2004). Stagnated growth of microenterprise and flawed role of credit NGOs: Evidence from Bangladesh. Humanomics. Patrington, *20(1/2)*, 32.

12. Iyer, L., Baqir, M. N., and Vollmer, T. (2006). A comparative analysis of E-government strategies. In R. K. Mitra (Ed.), E-Governance: Macro Issues (pp. 141-152). New Deli: GIFT Publishing
13. Jones, R. M., Kashlak, R., and Jones, A. M. (2004). Knowledge flows and economic development through microenterprise collaboration in third-sector communities. New England Journal of Entrepreneurship, 7, (1), 39.
14. Kahn, J. H. and Ghani, J. A. (2004). Clusters and entrepreneurship: Implications for innovation in a developing economy.Journal of Developmental Entrepreneurship, 9 (3), 221-238.
15. Larson, P. D., Carr, P., and Dhariwal, K. S. (2005). SCM involving small vs. large suppiers: Relational exchange and electronic communication media. Journal of Supply Chain Management, 41, (1), 18-30.
16. Mathur, S. (2006). "Ontario government approach towards E-government." In R. K. Mitra (Ed.), E-Governance: Macro Issues (pp. 203-212). New Deli: GIFT Publishing
17. McElwee, G. (2006). Farmers as entrepreneurs: Developing competitive skills. Journal of Developmental Entrepreneurship, 11 (3), 187-206.
18. Nevin, T. (2004). The economic impact of the 'Happy Hawker'. African Business, #301, 42-43.
19. Pisani, M. J. and Patrick, J. M. (2002). A conceptual model and propositions for bolstering entrepreneurship in the informal sector: The case of Central America. Journal of Developmental Entrepreneurship, 7, (1), 95-111.
20. Prasad, S.and Tata, J. (2006). Micro-enterprise operations. Under review: Journal of Operations Management.
21. Prasad, S., Tata, J., and Madan, M., (2005). Build to order supply chains in developed and developing countries. Journal of Operations Management, 23, pg. 551.
22. Singh, R. K., Garg, S. K., and Deshmukh, S. G. (2006). Strategy Development by Indain SMEs in the plastics sector. Singapore Management Review, 28, (2) 65-83.
23. Walusimbi-Mpanga, G. (2006). Uganda's service coalition finds strength in numbers. International Trade Forum, Issue 1, 10-11.
24. Woller, G and Parsons, R. (2002). Assessing the community economic impact of microfinance institutions. Journal of Developmental Entrepreneurship, 7, 133-150.

About the Author

Jerry Gosen is a Professor of General Management at the University of Wisconsin-Whitewater, USA. He teaches Organizational Behavior, Organizational Design, Strategic Management, and Business Ethics at both the undergraduate and MBA levels. Previously, his scholarly accomplishments have been primarily in the area of experiential learning. More recently he has turned his interests towards using his strategic management expertise in helping developing world micro-entrepreneurs adapt to changing global business environment. More information on this effort can be attained at http://uww.edu/cobe/micro.htm