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SMEs in Developing Countries Need Support to Address the Challenges of Adopting e-commerce Technologies

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Abstract

Although research indicates e-commerce offers viable and practical solutions for organizations to meet challenges of a predominantly changing environment, the few available studies related to SMEs in developing countries reveal a delay or failure of SMEs in adopting ICT and e-commerce technologies. The various factors identified as causes for the reticence can be broadly classified as Internal Barriers and External Barriers. This paper presents a model for barriers to adoption of ICT and e-commerce based on the results of an exploratory pilot study and survey. It identifies support for SMEs in Sri Lanka at different distinct levels of sophistication in SMEs with regard to ICT and e-commerce. It also determines a strong need for necessary support and discusses the availability of the support. Finally it proposes an initial framework to eTransform SMEs.

Keywords: e-commerce, SMEs, adoption, developing countries, barriers, support

1 Introduction

Developing countries have the potential to achieve rapid and sustainable economic and social development by building an economy based on an ICT-enabled and networked SME (small and medium-sized enterprise) sector, capable of applying affordable yet effective ICT solutions (UNDP, 2004). It is accepted that e-commerce contributes to the advancement of SME business in developing countries (UNCTAD, 2001). With the development of ICT and the shift to a knowledge-based economy, e-transformation and the introduction of ICT is becoming an increasingly important tool for SMEs both to reinvigorate corporate management and promote growth of the national economy (UNDP, 2004). E-commerce technologies facilitate organizations to improve their business

processes and communications, both within the organization and with external trading partners (Chong et al., 2007).

However, the adoption of ICT and e-commerce in developing countries has fallen below expectations (UNCTAD, 2001), as they face unique and significant challenges in adopting ICT and e-commerce (Marshall et.al, 2000). Nevertheless, it is imperative for SMEs to adopt e-commerce technologies to survive in intense competitive national and global markets.

The SME sector plays a significant role in its contribution to the national economy in terms of the wealth created and the number of people employed (Rashid et al., 2001). Forging ahead SMEs need to accept the challenges, including the barriers as they move towards successful adoption of available technologies while raising awareness of relevant support activities and preserving limited available resources to avoid severe repercussions from costly mistakes.

This paper contributes to the ability to understand factors that inhibit ICT and e-commerce adoption in SMEs in Sri Lanka, a developing country on its way to an e-society. Believing that research findings from Sri Lanka will prove to be useful for other developing countries it explores how best the barriers could be overcome by way of support activities. The paper first outlines current research into adoption in developing countries, discussing models for adoption by previous research and presents a framework established for use with this research. The research methodology and the results are subsequently discussed.

2 Theoretical Framework

2.1 SMEs in Sri Lanka

SMEs everywhere play a critical role in economic development, and Sri Lanka is no exception. Many countries use different parameters to define SMEs by referring to: number of employees, amount of capital invested or amount of turnover (Cooray, 2003). In Sri Lanka a clear definition of a SME is absent with government agencies using different criteria to define SMEs (Cooray, 2003; SLBDC,2002). The National Development Bank (NDB), the Export Development Board (EDB), and Industrial Development Board (IDB) use value of fixed assets as the criterion, whereas the Department of Census and Statistics (DCS), Small and Medium Enterprise Development (SMED), and the Federation of Chambers of Commerce and Industry (FDCCI) use numbers of employees as criteria (White Paper, 2002). Following the World Bank definition, for this study we consider enterprises with 10-250 employees as SMEs (Cooray, 2003). The 2004 mission statement of the International Labour Organization (ILO) reported that 75% of Sri Lanka's labour force was employed in the SME sector depicting SMEs' contribution towards employment and income generation.

The domestic market is the main outlet for SMEs. SMEs are also sub-contracted to large exporters with larger entrepreneurs coordinating direct exports as is seen with coir-based products, wood, handicrafts, plants and foliage. The Sri Lankan wishes to ride high on the electronic highway and should provide Sri Lankan SMEs 'a ramp to the digital highway' and stimulate e-commerce. This is supported by the government's e-Sri Lanka vision, championed by the

Information and Communication Technology Agency of Sri Lanka (ICTA), aiming to harness ICT as a lever for economic and social advancement.

2.2 Barriers to ICT and e-commerce Adoption by SMEs

Developing countries face insurmountable barriers getting on to the electronic highway. Yet, it is encouraging to note existing research to identify barriers in a variety of factors grouped into several categories. A number of authors (Chau et al., 2001, Mehrtens et al., 2001) group such factors into three major categories: owner/manager characteristics, firm characteristics, costs and return on investment. Support for SMEs to adopt e-commerce technologies, demand consideration for each of these categories.

Diversity among owner/managers, the decision makers for SMEs, reflects on a number of factors towards adoption of e-commerce technologies concluding that factors affecting adoption relate to owner/manager characteristics. A significant factor here is little or no knowledge, firstly of the technologies, and secondly of the benefits from such technologies. This is a major barrier to the take up of e-commerce (Iacovou et al., 1995), while lack of knowledge on how to use the technology and low computer literacy, mistrust of the IT industry and lack of time also hinders the adoption. SME owners, concerned about a return on their investments, are reluctant to make substantial investments particularly since short-term returns are not guaranteed (Akkeren and Cavaye, 1999).

Other factors, such as the current level of technology usage within the organization related to the characteristics of the organization, also affect adoption of e-commerce (Iacovou et al., 1995). The OECD (1998) has identified that: lack of awareness; uncertainty about the benefits of electronic commerce; concerns about lack of human resources and skills; set-up costs and pricing issues; and, concerns about security as the most significant barriers to e-commerce for SMEs in OECD countries. Low use of e-commerce by customers and suppliers, concerns about security, concerns about legal and liability aspects, high costs of development, limited knowledge of e-commerce models and methodologies, and unconvincing benefits to the company are among other factors (Courtney and Fintz, 2002). SMEs definitely have limited resources (financial, time, personnel). This “resource poverty” has an effect on adoption, as they cannot afford to experiment with technologies and make expensive mistakes (EBPG, 2002).

2.3 Barriers to e-commerce in Developing Countries

If governments believe that e-commerce can foster economic development it is necessary to identify inherent differences in developing countries with diverse economic, political, and cultural backgrounds to understand the process of technology adoption (Mehrtens et al., 2001). SME studies of e-commerce issues in developed countries (Corbitt et al., 1997; Huff and Yoong, 2000; OECD 1998) indicate issues faced by SMEs in developed countries can be totally different. Organizations adopting ICT and e-commerce in developing countries face problems like: lack of telecommunications infrastructure, lack of qualified staff to develop and support e-commerce sites, lack of skills among consumers needed in order to use the Internet, lack of timely and reliable systems for the delivery of physical goods, low bank account and credit card penetration, low income, and low computer and Internet penetration (Anigan, 1999; Bingi et al, 2000; Marshall

et.al., 2000). Lack of telecommunications infrastructure includes poor Internet connectivity, lack of fixed telephone lines for end user dial-up access, and the underdeveloped state of Internet Service Providers.

Disregard for e-commerce is not surprising where shopping, a social activity in Sri Lanka, recognizes face-to-face contacts as important. Distrust of what businesses do with personal and credit card information in countries where there may be good justification for such distrust, could become a serious obstacle to e-commerce growth (Anigan, 1999; Elkin, 2001).

Absence of legal and regulatory systems inhibits development of e-commerce in developing countries. A study of SME adoption of e-commerce in South Africa found that adoption is heavily influenced by factors within the organization (Courtney and Fintz, 2002). Lack of access to computers, software/hardware, affordable telecommunications, low e-commerce use by supply chain partners; concerns with security and legal issues; low knowledge level of management and employees; and unclear benefits from e-commerce were found to be major factors that inhibit adoption. Similar study in China found that limited diffusion of computers, high cost of Internet and lack of online payment processes directly inhibit e-commerce. Inadequate transportation and delivery networks, limited availability of banking services, and uncertain taxation rules indirectly inhibit e-commerce adoption.

A study in Egypt (El-Nawawy and Ismail, 1999) found main contributory factors to non-adoption include: awareness and education, market size, e-commerce infrastructure, telecommunications infrastructure, financial infrastructure, the legal system, the government's role, pricing structures, and social and psychological factors. A comparison of two studies in Argentina and Egypt suggests key factors affecting e-commerce adoption in developing countries are: awareness, telecommunication infrastructure, and cost. The Internet and e-commerce issues of SMEs in Samoa are consistent with the studies conducted in other developing countries (Schmid et al., 2001). Studies in Sri Lanka revealed inhibiting factors as: lack of knowledge and awareness about benefits of e-commerce, current un-preparedness of SMEs to adopt e-commerce as a serious business concept, insufficient exposure to IT products and services, language barriers and lack of staff with IT capability (SLBDC, 2002). Web-based selling was not seen as practical as there is limited use of Internet banking and Web portals, as well as inadequate telecommunications infrastructure (SLBDC, 2002).

Thus, available literature reveals significant factors dealing with internal and external barriers that can be grouped to develop a framework for investigations affecting adoption of e-commerce technologies.

Internal Barriers: SMEs can control internal factors categorising them into: Individual (owner/manager), Organizational and barriers related to cost or return on investments.

External Barriers: Those that cannot be resolved by the SME organization and are compelled work within the constraints. Inadequate telecommunication infrastructure and legal and regulatory framework are examples of external barriers. These could be further subdivided into : infrastructure related, political,

social and cultural and legal. Some external barriers could be addressed by clustering sharing expenses, resources and facilities.

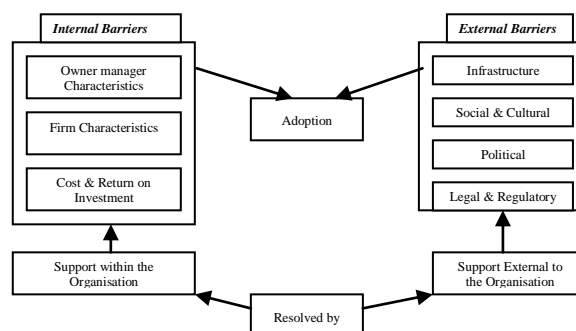


Figure 1: Conceptual Model - Barriers to Adoption

3 Research Methodology

This study investigates barriers to SME adoption of ICT and e-commerce with objectives to: understand and determine the importance of 1) internal and external barriers and 2) internal and external support required to overcome them.

3.1 Research Approach

Empirical research in this area being limited, an exploratory investigation utilizing qualitative and quantitative evidence was considered most suitable. The research centred round SMEs in Colombo District with the highest density of companies using ICT. Colombo district was the base for investigations with SME selection necessitating employee strength of 10–250 employees; not totally immature but somewhat versatile in the use of ICT and e-commerce.

The study was conducted in two stages: preliminary pilot interviews, a survey and interviews with SME intermediary support organizations. According to Mingers (2000), the use of such multiple methods is widely accepted as providing increased richness and validity to research results, and better reflects the multidimensional nature of complex real-world problems. Besides, a multi-method approach allows for the combination of benefits of both qualitative and quantitative methods, and permits empirical observations to guide and improve the survey stage of the research (Gable 1994; Gallivan 1997).

The preliminary pilot interviews brought in barriers imperative to SMEs with the model (Figure 1) and the survey instrument, forming outcome from interviews and observations supported by an extensive literature review. The survey and interviews with intermediary support organizations followed. Face-to-face interviews were semi-structured to gather qualitative empirical data and provide flexibility (Sekaran, 2000) as they allow researchers to explore issues raised by respondents, generally not possible through questionnaires or telephone interviews.

3.1.1 Stage 1- Pilot Exploratory Study with SMEs

Focusing on perceptions of the drivers and inhibitors of adoption of e-commerce technologies face-to-face semi-structured interviews with 17 SME owner/managers were conducted. Inhibiting factors, supporting activities and the general experience the organization faced during or prior to the adoption were discussed. Respondents, while providing descriptions of their ICT and e-commerce activities, contributed opinions regarding reasons for current usage levels along with perceptions of issues or factors acting as barriers to extend use.

A random sample from an Export Development Board (EDB) list, representing SMEs of varying size, type and market segments in various industry sectors was chosen. All respondents received the same set of open-ended questions a week before the interview for maximum autonomy in expressing views and to prepare for the interview. One hour long interviews were audio recorded and transcribed for analysis. Cross-case analysis was undertaken by organizing the data in a spreadsheet, with rows representing each SME and columns containing the data. Arranging the data into categories within a matrix-like structure is accepted as a useful technique for facilitating pattern matching of qualitative data (Yin ,1994).

Of 17 organizations, service companies made up 87% percent of the participants. The remaining 23% were manufacturing companies. Of these, 35 % had a static website mainly used for advertising though not updated regularly, none used it for buying or selling. 76% had Internet and e-mail facilities. 52% use the Internet for browsing and searching. E-mail was the preferred for overseas communication, with 62% on ADSL connections and 25% dial-up connections. Only 43% allow everyone to access the Internet. All owner/managers were male. 80% had tertiary or professional qualifications.

3.1.2 Stage 2 - Survey of SMEs using Questionnaire

A survey instrument with questions using a 5 point likert scale was developed, pilot tested by 3 SME owner /managers in Sri Lanka and our research group which helped in refining the instrument. It covered: information about barriers internal to the organization (related to owner/manager, firm, return on investment) for not using or extending the use of ICT and e-commerce; barriers external to the organization (related to infrastructure, cultural, political, legal and regulatory) for not adopting or extending the use of ICT and e-commerce; internal and external support required by the organizations; usage of ICT and company demographics.

The questionnaire was administered in Colombo. Overall, 625 questionnaires were personally addressed to the owner/managing director. The Department of Census and Statistics in Sri Lanka helped select recipients using a random sampling technique from a database of 3000 SME organizations in the Colombo District and from the list of SMEs from Tradenet. Follow-up efforts to non-respondents were made through phone calls and post, three weeks after the mail-out. Out of 168 total responses received 139 usable responses provided a response rate of 23.8%, considered adequate for the analysis and comparable to response rates in IS literature (Pinsonneault et.al, 1993). Comparison of the analysis between the first and second round of respondents did not show any statistically significant difference. Therefore it can be safely assumed that non response error

is not present and the data obtained from the respondents are representative of the sample chosen.

3.1.3 Stage 2 - Interviews with SME Intermediary organizations

Investigating intermediaries' perceptions of "barriers" and "support" helps identify whether facilities provided address SME requirements. Of the seven interviewed, five were government sponsored one government sector and one non-governmental organization (NGO). Their views on existing SME barriers to ICT and e-commerce adoption, the services provided and the success rate of the schemes were discussed. Range of services included: assisting SMEs with strategic implementation of ICT and e-commerce, technology transfer, conducting seminars and workshops to raise awareness, training, forming linkages with buyers and suppliers locally and overseas. Senior managers of intermediary organizations responsible for helping SMEs with ICT and e-commerce technologies faced exploratory face-to-face semi-structured interviews.

4 Results Discussion

This section discusses findings of the interviews and the survey.

4.1 Barriers: Pilot Interviews

A majority (88%) of respondents ranked lack of awareness the highest barrier, considered significant as the majority of owner/managers, described themselves as basically computer literate. Knowledge of available technologies or suitability for effective use towards improved productivity for benefits was negligible. They appear confused with choices in software/hardware. Computers, were underutilized with adhoc purchases and isolated implementation shadowing ICT strategy; a major concern, being decision makers. Next, was cost of Internet, equipment and e-commerce implementation. Inadequate telecom infrastructure chosen by 83% was the third most frequently cited barrier chosen by the more advanced in usage of ICT using e-mail and Internet, more likely to have experienced problems. Unstable economy, political uncertainty, lack of time, channel conflict, lack of information about e-commerce and lack of access to expert help, was cited as barriers by 70% of respondents.

4.2 Preliminary Analysis of Survey Data

More than 75% of the respondents (96% males and 4% females) were either professionally qualified or graduates. T-test analysis showed no significant difference based on gender and level of education. There was consensus for support in various forms and directions to address the barriers faced in adopting ICT and e-commerce technologies.

4.2.1 Barriers and Support for SMEs

Of the Tables produced below, Table 2 identifies the top 6 internal barriers of 9 listed. Table 3 shows external barriers, divided into Cultural, Infrastructure, Political, Social, and Legal and Regulatory. Tables 4 and 5 illustrate internal and external support needed.

Internal Barriers	Mean	Std	N	%
Staff lack required skills	3.88	1.35	120	66.6
Security concerns with payments over the internet	3.64	1.28	118	66.9
e-commerce cannot give a financial gain	3.64	1.24	108	62.0%

N= number of organisations

Table 2: Internal Barriers to using or extending use ICT & e-commerce

External Barriers	Mean	Std	N	%
Cultural Barriers				
Lack of popularity for online marketing and sales	3.56	1.28	120	62.5
Infrastructure Barriers				
Low internet penetration in the country	3.78	1.09	125	71.2
Inadequate quality and speed of lines	3.63	1.06	130	70.8
Inadequate infrastructure in the country	3.52	1.22	125	62.4
Political Barriers				
Unstable economic climate in the country	3.73	.971	135	73.3
Changing regulations with each government change	3.72	1.12	135	71.9
Social Barriers				
Lack of information on e-commerce	3.59	1.04	133	69.1
No one-shop facility	3.50	1.19	127	54.3
No access to reliable expert help	3.25	1.10	130	52.8
Senior management in other sector lack ICT knowledge	3.24	1.05	123	52.8
Legal & Regulatory Barriers				
Little support for SMEs from government and industry associations	3.7	.96	128	64.0
Inadequate legal framework for business using e-commerce	3.68	.98	121	64.5
No simple procedures and guidelines	3.67	1.10	128	65.6
Lack of suitable software standards	3.51	1.10	128	53.9

N= number of organisations

Table 3: External Barriers to using or extending use of ICT & e-commerce

Internal Support	Mean	Std	N	%
Awareness and education	3.91	.87	132	79.9
Guidance in overcoming risks associated with implementation	3.86	.92	129	78.0
Guidelines for appropriate hardware and software	3.78	.88	134	72.4
Advice and direction for ICT and e-commerce	3.70	.91	135	70.4

N= number of organisations

Table 4: Internal Support for SMEs to use or extend use of ICT & e-commerce

External Support	Mean	Std	N	%
Improve national infrastructure	4.04	.76	130	84.6
Provide financial assistance	3.97	.81	135	78.5
Provide tax incentives	3.97	.92	132	80.3
Improve ICT diffusion	3.95	.83	130	80.8
Government & industry sector to take leadership/promotion role	3.91	.91	134	75.4
Improve collaboration among SMEs	3.86	1.04	133	69.1
Improve low bank account and credit card penetration	3.83	.81	123	72.4
Enforce suitable software standards	3.8	.97	132	74.3

N= number of organisations

Table 5: External support for SMEs to use or extend use of ICT & e-commerce

Analysis of survey results reveal that lack of skills, lack of awareness of benefits and return on investments prevent SMEs from adopting ICT and e-commerce technologies, reinforced by “awareness and education” ranking top for support by nearly 90% of the respondents, not surprising for a developing country like Sri Lanka trying to implement technologies. It reflects on other internal barriers too and awareness and education can, to a great extent, counter this barrier. Since use of ICT in Sri Lanka is low, e-commerce faces inhibition and does not suit business transactions.

“Lack of popularity in online marketing” and “low Internet penetration” rate high in the list of external barriers. Improving ICT diffusion in Sri Lanka can address this problem. ‘Inadequate infrastructure’ impedes SMEs as reinforced by their request for “improvement of national infrastructure” ranking very high on the support needed. SMEs in Sri Lanka are adversely affected by the high cost and unreliable service of infrastructure services such as electricity and telecommunications. The steps taken by the government to improve telecommunication facilities breaking telecom monopoly is noteworthy. Policy inertia and the lack of legal and regulatory framework also rank high and enforce constraints on SMEs. Policy reforms introduced by governments support the large export-oriented foreign direct investments leaving SMEs with ad-hoc policy prescriptions and weak institutional support (White paper, 2002). The government’s role in an overly bureaucratic regulatory system results in delays in its deliberations and is extremely costly (White paper, 2002). Appropriate legal and regulatory framework would ensure that SMES operate on a level playing field.

Social barriers come next. A one-stop shop facility helps SMEs access information, technology, markets and the much needed credit facilities. This concept, implemented for export-oriented foreign direct investments (EOFDI) by the Board of Investments (BOI) found it to be successful. Being policy makers working towards progress of SMEs, senior management lacking in ICT knowledge is identified as an important constraint directly impacting operational efficiency of SMEs. Awareness building and education with regard to ICT and technologies would help alleviate this problem. Government, academia and industry sectors can take leadership roles in promotion of ICT conducting awareness and training programmes, technical and non-technical catering to the needs of SMEs at grass-roots level. SMEs place a very heavy reliance on external advice and support. Such support and advice seem unavailable.

4.2.2 SMEs Level of Sophistication

IT sophistication is defined as how a piece of information technology is used with appropriate process in an organization by looking at how people, processes and technology interact (Ginige et.al.,2001). Taking a cue, data was analysed to recognize level of IT sophistication with internal and external business processes of SMEs and determine their position on the e-transformation road map.

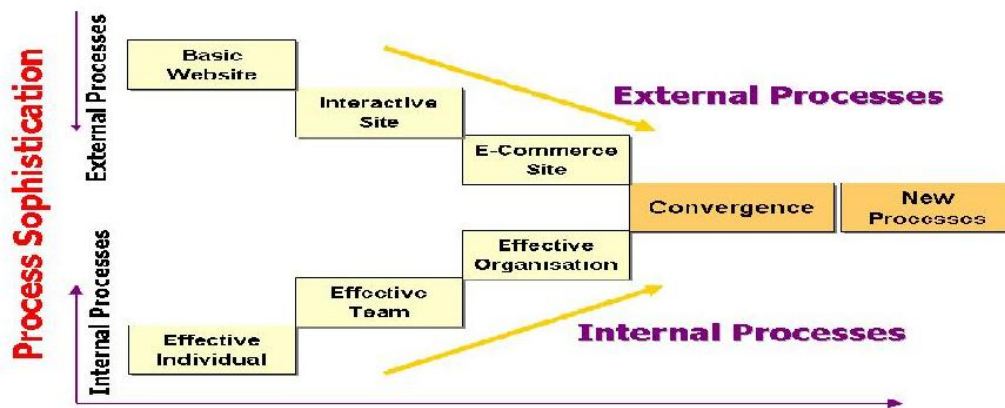


Figure 2: e-transformation Road Map for SMEs (Ginige et al.,2001)

Two distinct new stages “No Computer” on external processes and “Manual” on internal processes resulted from the analysis. In Sri Lanka many organizations are yet to adopt computers in their business and small organizations fear hiring computer literate employees on high wages or losing trusted old hands to computers.

Extending the road map accommodated new stages. Some stages consisted of multiple stages within. Majority fell into two middle stages, a few into the least and most sophisticated stages. Figure 3 shows the modified road map for a Sri Lankan SME. Figure 4 depicts multiple sub stages within a level.

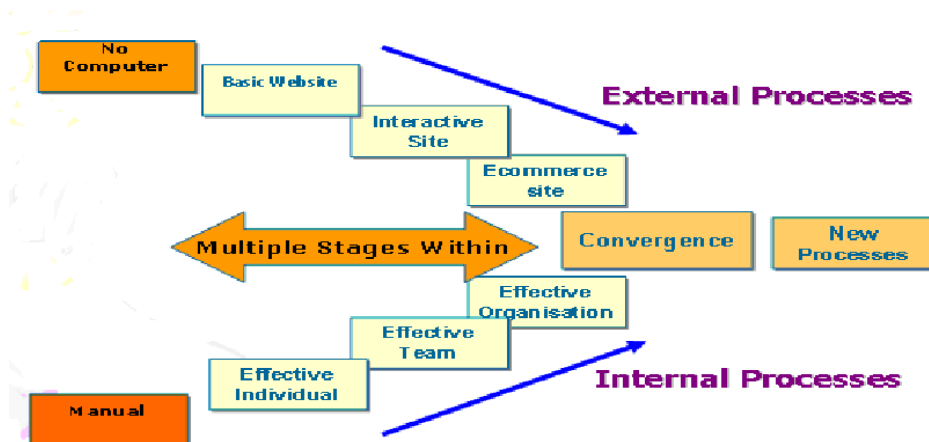


Figure 3: Modified e-transformation Road Map for SMEs in Developing Countries

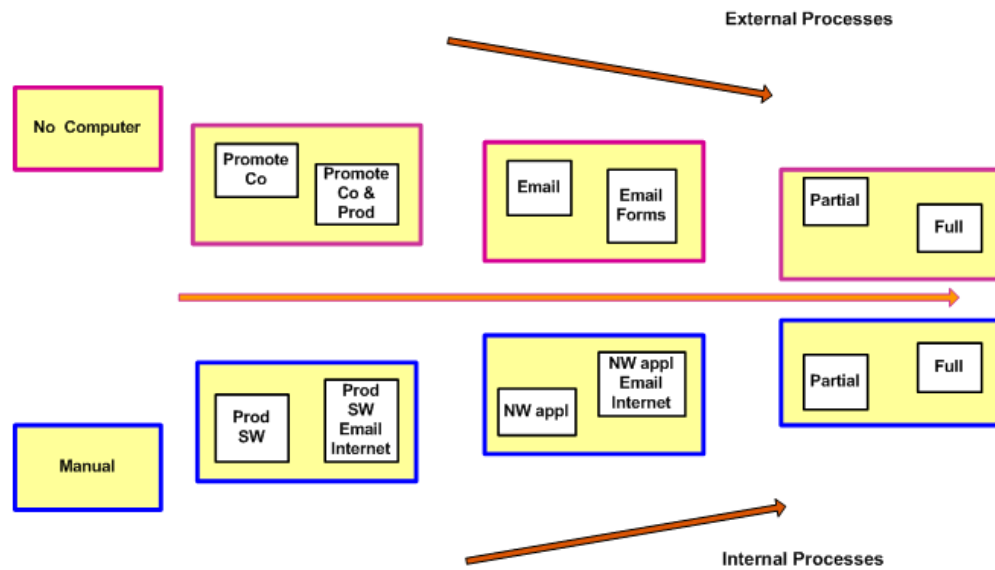


Figure 4: Detailed e-transformation Road Map with multiple stages within

External Stages	Stages within
No Computer	
Basic Web Site	Promote company
	Promote company and products
Interactive Website	Has email link to contact company (one way)
	Has 2 way communication, email and facility for structured queries
E-commerce Site	Some e-commerce excluding financial transactions
	Full fledged e-commerce site
Internal Stages	Stages within
Manual	
Effective Individual	Use of Productivity Software
	Use of Productivity Software and email /Internet
Effective Team	Use of Networked applications, share databases
	Use of Networked applications, share databases, use email / Internet
Effective Enterprise	Some enterprise wide integrated applications
	Full use of enterprise wide integrated applications

Table 6: Stages of the e-transformation roadmap

Table 1 above, describes main stages of the roadmap and sub-stages within stages.

4.3 Perceptions of SME Intermediaries

The intermediaries, with a consensus for awareness building programs at national level agree lack of awareness and lack of skills are major barriers for SMEs to adopt technologies. Training programs; workshops and seminars conducted in the local language need to be especially designed for SMEs at grass roots level.

Absence of a “one-stop shop” for advice and support is de-motivating and affects SMEs. It is fundamental to educate senior management of government organizations prior to providing support for SMEs with ICT and e-commerce. SMEs need not only ICT technologies but also quality control and standards.

Inter-institutional coordination, developing staff and institutional capacity are also vital. Much effort seems replicated and wasted with public sector, private and non-governmental SME intermediary organizations working in isolation. The government is best equipped to reach rural SMEs at grass roots level. Tapping and utilizing all available strengths in a more coordinated manner would prove much more productive.

4.4 Challenges facing SMEs

The objectives of this study were to understand and determine the importance of internal and external barriers; and support required to overcome them. The importance of barriers shows that SMEs are extremely hindered by external barriers. The internal and external support required reveals that there is a strong request for it.

The difference between adoption patterns in developing and developed countries focuses on support activities needed in the developing. Support is available in developed countries and it is a matter of finding the appropriate support for a SME encountering barriers, whereas in developing countries this support is almost non-existent. Another difference centres on the external barriers identified, such as the need to improve the national telecommunications infrastructure.

This research contributes by identifying the absence of a government and industry coordinated approach to providing support for SMEs, and not addressing problems at a grass-root level. In addition an initial framework for eTransformation of SMEs in a developing country is proposed for trial towards validation.

4.5 Next on the Agenda

Next, further statistical analysis of survey data attempts to validate initial outcomes, test construct validity and assumption testing. Barriers and support that predominate at various levels of sophistication need determination for unique perspectives in examining issues and understanding. Problems need to be prioritised at different levels to enable SMEs better equip themselves progress through e-Transformation. Finally the initial framework will be trialled with case study organisations.

5 Conclusion and Future Research

This study provides an understanding of the challenges faced by SMEs in the adoption of ICT and e-commerce in developing countries. Assessing and determining current levels of ICT and e-commerce sophistication of SMEs it examines barriers impeding SMEs, while identifying support required for eTransformation. The developed conceptual model identifies internal and external limitations while assessing necessary support to overcome obstacles.

The outcomes of the research should prove of interest and value to SME owner/managers, government and industry seeking to implement strategies for adoption to enable rational, informed decisions regarding uptake of ICT and e-commerce. Findings from this study should be broadly applicable to most SMEs. Re-enforcement of identified barriers with the selection of support activities

confirms that SMEs, though aware of necessary support, find it unavailable. This message needs conveyance to the government and intermediaries and they need to take a coordinated approach to address some External Barriers engaging more directly with SMEs.

Promoting mutual cooperation and trust among SMEs with clustering and collaboration provide specific support to SMEs to overcome some Internal Barriers and improve operating environment for more competition, transfer skills and technology and access wider markets. This concept is not popular in Sri Lanka, is ad-hoc and limited. Suitable policy interventions from government and active support from the private sector and the donor community are needed to address this issue (White paper, 2002). The government needs to take leadership to facilitate a regulatory environment, improve national infrastructure and continue to help with ICT education.

As the research program unfolds, geographic and generic distinctions will be addressed, providing a clearer picture of electronic commerce activity in different areas and within identified business sectors of Sri Lanka.

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