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Electronic Commerce Benefits and Adoption Barriers in Small and Medium Enterprises in Gweru, Zimbabwe

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Abstract

This paper reports on the findings of an exploratory survey research whose main purpose was to explore electronic commerce benefits and adoption barriers in small and medium enterprises (SMEs) in Gweru, Zimbabwe. Using an exploratory research design, a structured survey instrument was developed and administered to thirty SMEs conveniently selected from a database of SMEs in Gweru. The study found that though SMEs in Gweru appear to have adopted electronic commerce related technologies, the usage level of these technologies is still in its infancy, while the predominant use of electronic commerce applications was for communication/informative purposes.

Perceptions and attitudes of SMEs towards electronic commerce and its related technologies were strongly favourable. The most significant benefits derived from electronic commerce adoption and usage were improved quality of information and communicating with suppliers and customers. Regarding barriers, the technology was deemed too expensive and incompatible with the way SMEs/customers do business. The study concludes that in order to reap significant benefits from electronic commerce, survey SMEs need to adopt sophisticated e-commerce technologies.

Keywords: **Electronic commerce, Small and Medium Enterprises**

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INTRODUCTION

The rate of electronic (e)-commerce adoption in the small business sector has remained relatively slower than anticipated (Van Akkeren and Cavaye, 1999; Walczuch, Van Braven and Lundgren, 2000; Stockdale and Standing, 2006; Lowry, Singh and Scollary, 1999 and Pease and Rowe, 2003a). This is despite the fact that small and medium enterprises (SMEs) were the first companies to embrace web-based e-commerce (Turban, King, Viehland and Lee, 2006) and have been noted for their ability to respond to new opportunities and innovations more quickly than larger enterprises (Lomerson, McGrath and Schwager, nd). In addition the sluggish adoption rate is despite the significant benefits and opportunities, which can be realised by SMEs, which adopt and use e-commerce (MacGregor and Vrazalic, 2004 and Bolongkikit, Obit, Asing and Tanakinjal, 2006). However, the ability of SMEs to successfully adopt and utilize e-commerce is fundamental in ensuring their stability and success (Ramsey, Ibbotson, Bell and Gray, 2003 and Stansfield and Grant, 2003a). Growing evidence suggests that e-commerce adoption is not optional for growing SMEs but a prerequisite for competing well in markets (MacGregor and Vrazalic, 2005a and Payne, nd). Henceforth, SMEs must quickly embrace e-commerce technologies or they will succumb to their competitors (Pease and Rowe, 2003b) while in the long run the Internet might affect their productivity, market access and competitiveness (Walczuch et al, 2000).

While much of the research regarding the diffusion and assimilation of e-commerce in SMEs has been conducted in developed countries, little or no research has been carried out in developing countries. This study therefore endeavours to fill this apparent gap by investigating electronic commerce benefits and adoption barriers in SMEs within the context of a developing country like Zimbabwe. In view of this background the following research aims/objectives were formulated to:

- explore the awareness and usage level of e-commerce applications among SMEs.
- assess the attitudes of SMEs towards e-commerce.
- examine the importance of perceived benefits in the adoption and usage of e-commerce.
- identify the important barriers/inhibitors of electronic commerce adoption in SMEs.

THEORETICAL BACKGROUND

Small and medium enterprises defined

There are as many definitions as there are views on the characteristics of SMEs (MacGregor and Vrazalic, 2004; Gamage, 2003; Ihlstrum, Magnusson, Scupola and Tuunainen, 2003; Gilmore, Gallagher and Henry, 2007 and Cloete, Courtney and Fintz, 2002). This lack of universal agreement on how SMEs are defined has seen many countries apply different definitions to identify SMEs (Lane, Delpachitra and Howard, 2004; Gamage, 2003 and McAuley, 2001). Gamage (2003), MacGregor and Vrazalic (2004), Cloete et al (2002) and Ihlstrum et al (2003) identified qualitative and quantitative measures such as number of employees, turn over, size/amount of capital invested and the nature of the business as the basis upon which SMEs are defined. The European Parliament (2000) divides SMEs into different sub groups based on the number of employees: micro enterprises (fewer than ten employees), small enterprises (between ten and forty nine employees) and medium sized enterprises (between fifty and two hundred and fifty employees). However, for the purpose of clarity this research defines an SME as a business, which employs not more than fifty permanent employees and is not a subsidiary of a large corporation (RBZ, 2007).

Role of SMEs in the national economy

Published literature confirms the vital role-played by SMEs in most economies (Stansfield and Grant, 2003a and Lomerson et al, nd). SMEs have been identified as the prime drivers of economic growth/development and significant contributors to the prosperity of national economies (Poon and Swatman, 1997; Ihlstrum et al, 2003; MacGregor and Vrazalic, 2005a; Mensah, Bahta and Mhlanga, 2005; Al-Qirim and Corbitt; 2001, Kaynak, Tatoglu and Kula, 2005; McAuley, 2001; Andam, 2003 and Pease and Rowe, 2003a) and are fundamental in providing society with new products, promote new innovations, generate employment, engendering competition and creating economic wealth (Walczuch et al, 2000 and Looi, 2003). In Zimbabwe SMEs contribute more than 50% of the gross domestic product and are responsible for the livelihood of 80% of the country's population (RBZ, 2006 and 2007).

Electronic commerce defined

Definitions of e-commerce are many and varied (MacGregor and Vrazalic, 2004 and 2005b; Lowry et al, 1999 and Kaynak et al, 2005). Much confusion surrounds the definition of e-commerce (Ihlstrum et al, 2003) and there is no a commonly agreed definition (Kaynak et al, 2005 and Bolongikit et al, 2006). Ihlstrum et al (2003) reports that the confusion stems from whether to define e-commerce as Internet based activities only or as any kind of business exchange on any type of network. This study adopts a broad perspective with regard to e-commerce and defines e-commerce as performing any business process electronically (Stansfield and Grant, 2003a and b). This broad definition of e-commerce is supported by Payne (nd) while Simpson and Docherty (2004) reports that the U.K Government incorporates a broad view of e-commerce in their promotional literature. Congruent with this broad view of e-commerce, Quayle

(2002), Stansfield and Grant (2003b), Mensah et al (2005) and Ihlstrum et al (2003) identified diverse e-commerce activities which include electronic data interchange (EDI), e-mail, the Internet, intranets, extranets, electronic catalogues, direct link up with suppliers, electronic funds transfer (EFT) and electronic trading of goods and services among others.

SMEs and E-Commerce

Mensah et al (2005) suggested that e-commerce could be particularly important for the development of SMEs while Andam (2003) espouses that e-commerce promises better business for SMEs. Poon and Swatman (1997) identified SMEs as the key users of Internet commerce, while Rao et al (2003) considered SMEs the fastest changing sector of electronic commerce and Scupola (2003) posit that SMEs could substantially benefit from e-commerce. The Internet is becoming an essential tool for SMEs in overcoming their technological, organizational, managerial and environmental deficiencies (Bili and Raymond, 1993 cited in Al-Qirim and Corbitt, 2001). The seemingly good fit between SMEs and e-commerce has largely been attributed to inherent characteristics of most small business. Bodorick et al (2002, cited in Simpson and Docherty, 2004) identify size and flatter organizational structures as inherent SMEs qualities, which make them more predisposed to facilitating innovation. Pracy and Cooper (2000), Rao et al (2003) and Payne (nd) suggest that these characteristics make SMEs flexible, adaptive and innovative which appear to make a good fit for e-commerce. Various Government initiatives across the globe have been put in place to promote e-commerce adoption and diffusion in SMEs (McAuley, 2001). Simpson and Docherty (2004) report that the U.K Government stresses the importance of e-commerce technologies to the economy as a whole and to SMEs in particular. Therefore, the engagement of e-commerce by SMEs is seen as the path to sustainable economic growth (Taylor and Murphy, 2004).

Perceived benefits derived from the adoption and use of electronic commerce by SMEs

Significant benefits are achieved by those SMEs that adopt and use e-commerce (Van Akkeren and Cavaye, 1999 and MacGregor and Vrazalic, 2004). Hutt and Speh (1998) espouse that not all SMEs would benefit from electronic commerce arguing that service industry SMEs would benefit far more than other areas in the SMEs community. Payne (nd) notes that e-commerce will not benefit all economic sectors in the same industry in the same way, suggesting that it is most likely to benefit sectors that have information-intensive activities and products that can be used or delivered electronically. Notwithstanding the contrasting view points alluded to above, it is plausible at this stage to explore some of the benefits of e-commerce reported in literature. Poon and Swatman (1997) espouse that the adoption of the Internet by small businesses and its ongoing usage is driven by the perceived benefits and potential business opportunities that are offered to the business. In addition, the technology acceptance model (TAM) (developed by Davis, 1986 cited by Bolongkikit et al, 2006) postulates that the potential user of e-commerce must not only be convinced of the relevant usefulness/advantages of e-commerce but also have a positive attitude towards it. Accordingly, we formulated and sought to test the following hypotheses:

H₁: SMEs perceive the potential e-commerce benefits important/appropriate to their businesses.

H₂: SMEs have a positive/favorable attitude towards e-commerce.

Several studies have sought to categorize these perceived benefits. Curie (1998, cited in Owens and Beynon-Davies, 2001) divided e-commerce benefits into three main areas of: cost savings, time- savings, and quality improvements. On the other hand, Poon and Swatman (1997) and Poon and Strom (1997) classified e-commerce benefits as either direct or indirect. Direct benefits are readily quantifiable, while indirect benefits are not easily quantifiable and often might not be predictable. Both direct and indirect benefits can be further classified into short term and long-term benefits. Short-term benefits are realized within months whereas long-term benefits may take longer to be achieved and are unpredictable. Lastly, Abell and Lim (1996) classified e-commerce benefits into tangible and intangible benefits. From the various categories/classifications identified above, it is plausible to note that these benefits fall into the general group of e-commerce benefits that appear in literature. E-commerce benefits that are of relevance to SMEs are summarized in table 1 below.

Table 1: Electronic commerce benefits derived by SMEs

E-commerce benefits	Referencing papers
Ability to compete with larger organizations	MacGregor and Vrazalic (2004) Cloete et al (2002) Ramsey et al (2003) Lomerson et al (nd) Bolongkikit et al (2006)
Improved communication/quality of information	Cloete et al (2002) Lawson et al (2003) Stockdale and Standing (2006) Quayle (2002)
Provide cost effective ways to market themselves	Cloete et al (2002) Bolongkikit et al (2006)
Improved marketing	Quayle (2002) Turban et al (2006) Walczuch et al (2000)
Reduced stock and lead time	Quayle (2002)
Cost savings	Payne (nd) Stockdale and Standing (2006) Poon and Swatman (1997)
Find new suppliers	Payne (nd) Cloete et al (2002)
Improve operational efficiency	Payne (nd), MacGregor and Vrazalic (2004) Andam (2003) Lawson et al (2003)
Improved competitiveness	Payne (nd) Stockdale and Standing (2006)
Offer entirely new products and services	Payne (nd) Cloete et al (2002)
Reach new and/or global markets	Simpson and Docherty (2004) MacGregor and Vrazalic (2005a) Stockdale and Standing (2006) Andam (2003) Ramsey et al (2003) Quayle (2002) Payne (nd) Lawson et al (2003) Bolongkikit et al (2006)
Reduced information search and transaction costs	MacGregor and Vrazalic (2005) Andam (2003)
Inexpensive advertising medium	Walczuch et al (2000) Turban et al (2006)

Barriers to the adoption and usage of electronic commerce in SMEs

The sluggish pace of e-commerce diffusion into small businesses has been attributed to various barriers/inhibitors that are faced by these organizations (MacGregor and Vrazalic, 2005a). Many Governments have attempted to dismantle some of the barriers faced by SMEs in adopting and using e-commerce (Stansfield and Grant, 2003a). Overcoming these barriers is a major challenge for policy makers and SMEs alike (Taylor and Murphy, 2004).

Several studies have tried to categorize e-commerce barriers identified in literature. Stockdale and Standing (2004) came up with four categories of: lack of resources and knowledge, skills levels of employees, security concerns and e-readiness of the small businesses. On the other hand, Lawson, Alock, Cooper and Burges (2003) grouped e-commerce barriers into technical and social barriers. Similarly, Cragg and King (1993 cited in MacGregor and Vrazalic, 2005a) grouped barriers into four categories: education, management time, economic concerns and technical know how. In another study, Lawrence (1997 cited in MacGregor and Vrazalic, 2004) identified three categories of company, personal and industry barriers. MacGregor and Vrazalic (2005a) grouped the barriers into two groups of: too difficult and unsuitable. Lastly, Ihlstrum et al (2003) classified the barriers into two generic types: internal and external to the organisation. External issues are outside the sphere of influence of SMEs while internal barriers are pertinent to the organisation and can be further subdivided into resources and systems barriers. Similarly, the external barriers can be subdivided into supply, demand and environmental barriers. Despite the multiplicity of e-commerce barriers as well as the various categories reported in literature, it is plausible to note that these barriers have mostly remained the same (Ihlstrum et al, 2003). Notwithstanding the aforementioned arguments, these barriers are summarized in table 2 below.

Table 2: Barriers to e-commerce adoption by SMEs

E-commerce adoption barriers	Referencing papers
High costs of e-commerce implementation	Walczuch et al (2000) Quayle (2002) Van Akkeren and Cavaye (1999) MacGregor and Vrazalic (2005a) Andam (2003) Lawson et al (2003)
E-commerce is too complex to implement	Quayle (2002)
Organizational resistance to change	Akkeren and Cavaye (1999)
Lack of technical skills and IT knowledge among employees	Quayle (2002) Van Akkeren and Cavaye (1999) Walczuch et al (2000) Ramsey et al (2003) Andam (2003) Stockdale and Standing (2006)
Lack of time to implement e-commerce	Van Akkeren and Cavaye (1999) Walczuch et al (2000) Stockdale and Standing (2006)
Lack of suitability of EC for products/services offered by small businesses	Walczuch et al (2000) Ramsey et al (2003)

Lack of awareness of e-commerce benefits	Quayle (2002) Lawson et al (2003) Andam (2003) Ramsey et al (2003) Stockdale and Standing (2006) Walczuch et al (2000)
Security concerns/lack of trust	Quayle (2002) Walczuch et al (2000) Van Akkeren and Cavaye (1999) Lawson et al (2003) Andam (2003) Stockdale and Standing (2006)
Lack of financial resources	Andam (2003) Stockdale and Standing (2006) Ramsey et al (2003)
Lack of senior management support/enthusiasm	Ramsey et al (2003)

RESEARCH METHODOLOGY

Research design

In view of the lack of sufficient research in this area of study, particularly in the context of a developing country like Zimbabwe, an exploratory research design was considered the most suitable approach. In addition this research design was adopted given the exploratory nature of the research question. Furthermore the exploratory survey research approach adopted in this study provided a non-threatening environment whereby survey SMEs could discuss issues openly.

Data collection

Prospective survey SME organizations were selected from databases provided by the Ministry of Small and Medium Enterprise Development and its financing arm, Small Enterprises Development Corporation (SEDCO). Our target population was SMEs located in Gweru irrespective of whether they had adopted e-commerce or not. Resultantly, thirty SMEs selected from the sampling frames were surveyed. The SME organizations were selected using a convenience sampling technique, while the interview involved talking to key decision makers (SME owner/managers and or/employees who had a role in the adoption and implementation of e-commerce). Due to commercial confidentiality, the names of the respondent SME organizations are kept undisclosed.

Research instrument

A structured questionnaire adapted and modified from previous questionnaires used by McGregor and Vrazalic (2004), Stansfield and Grant (2003a) and Ramsey et al (2003) in similar researches of e-commerce adoption by SMEs was used as the main data-gathering instrument. In addition the use of previous survey instruments meant that the majority of the instrument was already validated (Hornby, Goulding and Poon, 2002). The instrument was pre-tested with a sample of five SMEs and modified to increase its clarity while peer evaluation was also undertaken to shape the final questionnaire design. The questionnaire was divided into four sections. Section A captured basic demographic information regarding the SME in question such as business size, age and sector. Section B focused on determining the position of the company in terms of its use

of e-commerce including the adoption/non adoption of e-commerce, usage of e-commerce applications as well as its attitude towards e-commerce. Section C sought to determine benefits of e-commerce usage while section D captured electronic commerce adoption barriers.

Empirical Results

After completing fieldwork, the data collected was coded and analyzed using SPSS (Version 14.0) statistical software package. In this section, demographic data will be presented first followed by details of e-commerce adoption and usage. This is followed by descriptive statistics for some key questions as well as cross tabulations which examine patterns distinguishing e-commerce adopters and non adopters as well as attitudes towards e-commerce.

Basic demographics for respondent SME organizations

As evidenced in table 3 below, the respondents were from a diverse group of SMEs in terms of business size, age and sector.

Table 3: Profile of respondents

Survey Question	Response	Code	Frequency (N)	%	Cum %
Business size	1-10 employees	1	17	57	57
	11-25 employees	2	9	30	87
	26-35 employees	3	3	10	97
	36-50 employees	4	1	3	100
Total			30	100	
Business age	Less than 1 year	1	1	3	3
	1-2 years	2	8	27	30
	3-5 years	3	11	37	67
	<input type="checkbox"/> 5 years	4	10	33	100
Total			30	100	
Business sector	Industrial/manufacturing	1	7	23	23
	Retail /wholesale	2	11	37	60
	Financial	3	3	10	70
	Other services	4	9	30	100
Total			30	100	

Most (57%) of the respondents had between one and ten employees while 37% indicated that they had been in business for a period ranging from three to five years. The largest business sector represented was the retail/wholesale sector (37%) followed by other services (30%) like transport, tourism and leisure.

Awareness and usage of e-commerce applications

The focus of our study was among other issues to explore e-commerce benefits derived by SMEs. Key to this question was the awareness and adoption of electronic commerce, hence respondents were asked to indicate the e-commerce related technology (e-CRT), which they use. Of the 30 respondent SME organizations, 21 (70%) had adopted e-commerce as evidenced by their usage of at least one form of e-CRT. Survey findings reveal that all e-commerce adopters use personal computers (PCs) and e-mail, while 76% use the Internet. The use of intranets (24%) and other e-CRTs (5%) like EDI, extranet and local area networks (LAN) was much lower. Central to the focus of the study was establishing the usage level of e-commerce applications among SMEs. Electronic commerce adopters were asked what they currently use e-commerce applications for. Table 4 presents a summary of the respondent’s activities.

Table 4: Current use of EC applications

E-commerce application/activity	N	Freq (N)	%
Provide information about your company	21	12	57
Provide information about products and/or services	21	14	67
Allow customers to interact electronically with your company	21	12	57
Allow suppliers to interact electronically with your company	21	8	38
Allow customers to place or request orders on line	21	12	57
Other	21	1	5

Predominantly, a high percentage (67%) of the respondents use e-commerce applications to provide information about products and/ or services while 57% of the respondents use them to provide information about their company, interact electronically with customers and allow customers to place or request orders on line.

Attitude towards e-commerce

Users of e-commerce must also have a positive outlook towards the technology. Respondents were asked several questions relating to their attitudes and perceptions towards e-commerce and e-CRTs on a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Table 5 below shows the number of responses for each rating and the corresponding percentages.

Table 5: Attitudes and perceptions towards e-commerce

Attitude Statement	Strongly Disagree		Disagree		Neither		Agree		Strongly Agree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Using e-commerce is important to	2	6	0	0	3	10	8	27	17	57

our business										
Having E-Mail is important to our business	1	3	1	3	2	6	6	20	20	67
Having a website is important to our business	1	3	1	3	1	3	12	40	15	50
The internet is a viable business tool	1	3	0	0	4	13	5	17	20	67

Overall the perceptions and attitudes towards e-commerce are favourable as evidenced by the fact that in all four-attitude statements (in table 5) the total ratings at the agree/strongly agree level were very high (84%; 87%; 90% and 84% respectively). A further analysis of perceptions and attitudes towards e-commerce between adopters and non adopters is presented in Table 6 below.

Table 6: Descriptive statistics of adopters and non adopters

Attitude Statement	Adopters		Non Adopters		Overall Mean
	N	Mean	N	Mean	
Using e-commerce is important to our business	21	4.5	9	3.8	4.3
Having E-Mail is important to our business	21	4.7	9	3.8	4.4
Having a website is important to our business	21	4.5	9	3.9	4.3
The internet is a viable business tool	21	4.7	9	3.9	4.4

These findings support our earlier assertion as shown by the overall mean ratings, which are significantly larger than three. Non-adopters of EC also have favorable attitudes towards the technology as evidenced by their mean ratings which are greater than three.

Benefits of electronic commerce adoption

E-commerce adopters were asked to rate the importance of perceived benefits in influencing their decision to adopt the technology on a five point Likert scale ranging from 1 (not important) to 5 (very important). Their responses are summarized in table 7.

Table 7: Rank order of perceived e-commerce benefits

Rank	Electronic commerce benefit	N	% ¹	Mean	SD	Var
1	To communicate with existing customers	21	81	4.4	0.79	0.62
2	Improved quality of information	21	86	4.4	0.95	0.90
3	Improved marketing	21	76	4.3	0.82	0.67
4	To communicate with suppliers	21	81	4.3	1.25	1.56
5	To gain an edge over my competitors	21	81	4.2	0.87	0.76
6	To attract new customers	21	76	4.2	0.92	0.85
7	To exploit new markets	21	72	3.9	1.27	1.61
8	To streamline internal operations	21	57	3.8	1.14	1.30
9	To search for new suppliers	21	62	3.8	1.51	2.28
10	To improve internal communications	21	66	3.7	1.30	1.69

¹ % Respondents who considered benefit important/very important

To establish the rank order for perceived e-commerce benefits, the mean rating of each statement was computed. A variable with a mean larger than three was regarded as important. Consequently, all the benefits are considered important since they have means significantly larger than three. On the basis of % respondents who considered the benefit important/very important, the strongest benefit to emerge was improved quality of information (86%) and jointly followed by the need to communicate with existing customers and suppliers and to gain an edge over competitors.

Hypothesis Testing

Table 8 below outlines the hypothesis which our study sought to test. Regarding H_1 , from a possible 210 responses (21 respondents x 10 e-commerce benefits), 74% (155) responses fell in the important/very important category while 9% (19) responses were classified as not important/of marginal importance. It is clear that these SMEs perceive potential EC benefits as important to their business. Concerning H_2 , 103 (86%) responses fell in the agree/strongly agree section, 10 (8%) in the neither category and 7 (6%) in the disagree/strongly disagree category. It is clear that SMEs have a positive attitude towards e-commerce.

Table 8: Hypothesis testing results

Hypothesis Number	Hypothesis	Result
H_1	SMEs perceive the potential e-commerce benefits important/appropriate to their business.	Accepted
H_2	SMEs have a positive/favourable attitude towards e-commerce	Accepted

E-commerce adoption barriers

Electronic commerce (EC) non-adopters were asked to rate the applicability of e-commerce adoption barriers in influencing their decisions not to adopt the technology on a five point Likert scale ranging from 1 (not important) to 5 (very important). The feedback from respondents is presented in table 8 and Appendix B.

Table 9: Rank order of e-commerce adoption barriers

Rank	Electronic commerce adoption barrier	N	% ²	Mean	SD	Var
1	EC is too costly	9	67	3.9	1.45	2.10
2	EC is too complicated to implement	9	44	3.2	1.13	1.28
3	EC does not fit with the way our customers do business	9	56	3.2	1.47	2.16
4	EC does not offer any advantages to our business	9	44	3.1	1.29	1.66
5	EC does not fit with the way we do business	9	56	3.0	1.63	2.66
6	EC does not fit with our products/services	9	33	2.9	1.52	2.31
7	Lack of know how about electronic commerce	9	22	2.4	1.42	2.02
8	Lack of time to implement electronic commerce	9	11	2.3	1.25	1.56

² % Respondents who considered adoption barrier important/very important in decision not to adopt e-commerce

Similarly, the procedure used to rank benefits was followed on barriers. The first five barriers have means \leq three, hence were considered strong inhibitors to e-commerce adoption and usage. A closer look at these barriers shows that, the results are rather inconclusive. Only three results are conclusive namely: e-commerce being too costly (67%), EC not fitting with the way customers do business (56%) and EC not fitting with the way we do business (56%). Based on these findings it would seem therefore that non-adopters have little motivation to adopt and use the technology. However, other relatively significant adoption barriers include EC is too complicated to implement (44%), EC does not offer any advantages to our organization (44%) and that EC does not fit with our products/services (33%).

DISCUSSION

Congruent to our broad definition of e-commerce, a larger proportion of SMEs in Gweru have embraced various e-CRTs in their operations. This is in support of research findings by Stansfield and Grant (2003a), where 70% of the respondent SME organizations indicated they currently use the Internet, while 73% use e-mail. SMEs in our study predominantly use EC applications for informative (communication) purposes and to interact electronically with suppliers and customers. Similarly, studies by Lomerson et al (nd), Bolongkikit et al (2006), Stansfield and Grant (2003a) and Walczuch et al (2000) found a prominent use of electronic commerce applications for communication purposes. On the other hand, findings by Stansfield and Grant (2003a) found marketing research popular chiefly to find information about competitors and finding alternative sources of supply. Interestingly, studies by Bolongkikit et al (2006) apart from acknowledging the informative importance of electronic commerce applications also found the use of e-commerce for competitive research activity important.

E-commerce applications currently used by study respondent organizations are entry-level technologies/activities according to adoption ladders promulgated by Akkeren and Cavaye (1999). Therefore, the use of e-commerce by study SMEs can be described as in its infancy. This finding is congruent to findings by Cloete et al (2002) and Bolongkikit et al (2006). Entry-level activities/technologies provide the infrastructure upon which sophisticated e-commerce activities can be developed (Akkeren and Cavaye, 1999). In relation to this study, respondent SMEs therefore have the necessary technological capabilities to adopt sophisticated e-commerce technology. This is in support of findings from Cloete et al (2002).

Davis (1986) in his TAM model propounds that a potential user of e-commerce must have a positive attitude towards the technology. Survey respondents as earlier stated have a positive attitude towards EC. This supports findings by Cloete et al (2002), Stansfield and Grant (2003a), Scupola (2003), Poon and Strom (1997), Turban et al (2006) and Ramsey et al (2003). However, findings by Lomerson et al (nd) reveal a contrasting view in that, 54.39% of his respondents rated EC as being unimportant to their business despite 61.54% of the SMEs having earlier acknowledged their business operations benefit between 1-20% from the technology. Additionally, the surveys findings, point to the fact that non-adopters also hold positive attitudes towards EC. Studies by Ramsey et al (2003) and Walczuch et al (2000) support this finding.

Our study respondents perceive the potential e-commerce benefits important/appropriate to their businesses. This is in support of previous research findings by Cloete et al (2002). The importance of improved competitiveness and marketing as perceived benefits support previous findings by MacGregor and Vrazalic (2004). Also supported by previous findings is the importance of e-commerce in exploiting new markets. Walczuch et al (2000), Lowry et al (1999), Keynak et al (2005) and Pracy and Cooper (2000) all point to the fact that with EC, SME can access global customers. This study rates the costly nature of e-commerce as the most significant barrier to the adoption and usage of this technology. Various studies notably Owens and Beynon-Davies (2001), Ramsey et al (2003), Looi (2003) and Bolongkikit et al (2006) attest to this fact. However this conflicts with findings from Walczuch et al (2000) and Simpson and Docherty (2004) who found costs as not being a barrier to the adoption of electronic commerce usage.

Other significant e-commerce barriers from our study concerned the incompatibility between EC and the way SMEs/their customers do business. Findings from Bolongkikit et al (2006), Ramsey et al (2003) and Pracy and Cooper (2000) highlight this lack of suitability of EC for business purposes. Some survey respondents (44% of non adopters) rated "EC does not offer any advantages to their organizations" important/very important. Findings by Looi (2003) and Ramsey et al (2003) allude to this lack of perceived/awareness of e-commerce benefits. This result inevitably raises two important issues: firstly, Poon and Swatman (1999) advance the notion that perceived benefits drive/influence the adoption of Internet in SMEs. The implication is that if survey SMEs do not perceive e-commerce benefits then they will not adopt the technology.

Secondly, Davis (1986) postulates that potential e-commerce users must not only be convinced of the usefulness (advantage) of e-commerce but must also have a positive attitude towards the technology. Survey results conflict with this assertion in the sense that 44% of non adopters contend that e-commerce does not offer any advantages to their organization despite having earlier expressed/showed a positive attitude towards the technology³. This conflicting result is buttressed by similar findings by Lomerson et al (nd). Despite 61.54% of SMEs rating their business operations to have benefited (advantage) between 1-20% from EC, 54.39% of the respondents rated EC not important to their overall business operations (negative attitude). Certainly this calls for further investigation. Lastly, EC non-adopters rate "lack of know how about EC" important in their decision not to adopt the technology. In support of this result are findings by Looi (2003), Cloete et al (2002), Stansfield and Grant (2003a), Lawson et al (2003) and Ramsey et al (2003).

CONCLUSION

This study was four fold: 1) to explore the awareness and usage level of e-commerce applications among SMEs; 2) to assess the attitudes of SMEs towards e-commerce; 3) to examine the importance of perceived benefits in the adoption and usage e-commerce and 4) to identify the important barriers/inhibitors of e-commerce adoption in SMEs.

³ As measured by the mean of 3.8 and 78% of non adopters agreeing/strongly agreeing to the statement that "using e-commerce is important to their business".

With regards to the first objective, SMEs are aware of various e-CRTs though the level of usage of these applications is still in its infancy. This is despite the Government of Zimbabwe's policy position on SMEs which among other issues seeks to infuse information and communication technology (ICTs) into the operations of SMEs as well as cultivating a culture of e-commerce which makes business easy, quick and cost effective among SMEs⁴. The main use of e-CRTs is for communication/informative purposes.

As for the second objective, SMEs (both adopters and non adopters) have a positive attitude/outlook towards EC and its related technologies such as the Internet, websites and e-mail. Regarding the third research question, SMEs consider perceived e-commerce benefits important in influencing their decision to adopt and use the technology and its applications. Concerning the last objective, the three most important barriers/inhibitors of EC adoption in SMEs are: e-commerce being too costly, EC not fitting with the way the organization does its business as well as the way in which customers do their business.

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⁴ Zimbabwe National ICT Policy Framework, 2005 (www.ict.org)

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