

Challenges of E-Commerce Adoption in SMEs: An Interpretive Case Study of Botswana

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ABSTRACT

Although electronic commerce (e-commerce) has been a popular term in business and industry over the past decade, its application to developing country small and medium-sized enterprises (SMEs) has generally been scanty and lacking depth. This paper aims to respond to this paucity by investigating the challenges that confront SMEs in e-commerce adoption in the Botswana context. The study is grounded in a qualitative and interpretive approach to unearth social and contextual issues in six selected firms from the ICT and Tourism sectors. Multiple methods of data collection were conducted using unstructured and semi-structured face-to-face interviews, web-site analysis, observation and document analysis. The challenges discovered are characteristic of the managerial, technological and environmental issues that confront each firm. The paper concludes that various combinations of challenges describe e-commerce adoption in the six firms. Moreover, both B2B and B2C e-commerce are minimally developed. Implications of findings point to the need for improved e-commerce policy, and for the SMEs to engage in strategic collaboration that can enhance their ability to innovate.

Keywords: E-commerce adoption, SMEs, Challenges, Botswana, Interpretive.

INTRODUCTION

The adoption of electronic commerce (e-commerce) in small and medium enterprises (SMEs) remains a critical area of investigation in information systems research (Humphrey *et al.*, 2003). In both developed and developing countries, SMEs are a significant component of many economies (Mutula & Van Brakel, 2007). This is because of the contribution they make in creating employment, and facilitating regional development and innovation (Jones & Beynon-Davies, 2011). Whereas the developed countries such as the US, UK and other rich countries can record substantial development in SME e-commerce, developing countries especially in Southern Africa are yet to be serious with e-commerce. Kshetri (2007) noted some impediments to e-commerce developments in developing countries in general such as the lack of ICT infrastructure; hostile environments; lack of macro policies to nurture local e-commerce structures; lack of perception of e-commerce benefits by managers; among other issues.

The definition of e-commerce in this study seeks to accommodate varying conditions in developing countries. Thus e-commerce may be defined as the process of buying, selling, transferring, or exchanging products, services, and/or information based on the following prevailing conditions in developing countries: 1) that Internet and e-mail are easily available

in these contexts and will be used to communicate business transactions, and/or 2) the use of the World Wide Web (in short, the web) to enhance business activity (Turban, King, McKay, Marshall, Lee, & Viehland, 2008). Furthermore, common types of e-commerce activities are discussed in the current work; Business-to-Business (B2B) which occurs when business entities or organisations participate with other businesses or organisations and Business-to-Consumers (B2C), when a business or organisation entity provides products or services to individual customers. Turban et al., (2004) also call it e-tailing because it includes retail transactions of shoppers. Consumer-to-Business (C2B) is a type of e-commerce in which individuals use the Internet to sell products or services to organisations, as well as, individuals who seek sellers to bid on products or services they need.

Botswana is the largest exporter of gemstone diamonds in the world as well as a large beef exporter to the European Economic Community. The mining sector contributed in the range of 30-35% of Gross Domestic Product over the past 10 years. The exploitation of minerals also influences population settlements and calls for transportation of water, power and communications, and generates a growing demand for food stuffs and other activities (Central Statistics Office, 2005). In recent years, the government of Botswana has been looking for strategies to diversify the economy by encouraging small and medium enterprises from various industries and sectors to participate in development. By African standards, Botswana has a good degree of e-readiness (NICT Policy, 2007), although the country's networked readiness rankings have stagnated over the past four years as can be observed from the Global Information Technology Report (GITR) of 2012.

Previous studies in e-commerce adoption in developing countries have treated SMEs as a homogenous entity (Parker & Castleman, 2009), thus representing their problems in a collective manner. One of the reasons for this could emanate from the positivist approach adopted in previous studies (see for example Olatokun & Kebonye, 2010; Molla & Licker, 2005b; Tan *et al.*, 2007; Uzoka *et al.*, 2007; Thong, 1999) that generally use survey instruments. Such studies align with the assumption that there is an objective reality that can be methodically modeled, quantified and statistically measured and tested. Further, the deterministic nature inherent in positivist studies in e-commerce adoption does not allow investigations that are of depth and thereby lacking particular focus on individual SMEs even though theoretically, SMEs have been acknowledged as unique and idiosyncratic in nature (Parker & Castleman, 2009).

This paper aims to address some aspects of the limitations of the positivist tradition by taking an interpretive approach to unearth challenges affecting SMEs in developing countries. Studies in this context particularly in Southern Africa have been inadequately represented in scholarly journal publications. There is need to understand the contextual perspective of the challenges of e-commerce adoption in SMEs in Botswana that can take cognisance of the peculiar nature of the Botswana environment. Avgerou (2000) argues that policymakers in developing countries need to combine the adoption of new technologies with a process of organisational innovation appropriate to their local socio-economic context. Thus this study takes focus on Botswana SMEs in their quest to harness e-commerce opportunities, and thus the challenges they face will be highlighted. The paper further makes recommendations to SMEs and policy makers on key areas of improvement in view of the prevailing challenges in e-commerce adoption.

The definition of SMEs varies considerably in the extant literature and in contemporary practice. In the context of this study, the definition of SME in Botswana is borrowed from the Ministry of Commerce and Industry (1999). It states that a small enterprise is that which employs less than 25 employees and has an annual turnover of between P60 000 and P1 500 000, and a medium enterprise being a firm that employs less than 100 employees and has an annual turnover of between P1, 500,000 and P5,000,000, with an international rate of

conversion of 1P (One Pula) being approximately equivalent to \$9 (US dollar). The other category of micro enterprise that employs one person is not part of discussion in this paper.

This paper proceeds as follows: a review of related literature is presented after this section of Introduction. This is followed by research methodology that explains the research approach, details of the areas where data was collected, and preferences for the SMEs chosen. The results and interpretation of the findings are discussed, followed by a discussion of findings. The last section presents the conclusions and recommendations, and further implications of the research.

REVIEW OF RELATED LITERATURE

Challenges for SME e-commerce adoption in developing countries have been discovered to be similar to those of their counterparts in developed countries except that the magnitude of their difference weighs more negatively for developing country SMEs (Molla & Licker, 2005a). The Technology-Organisation-Environment Framework (Tornatzky & Fleischer, 1990) has been retained to discuss the challenges in terms of three categories; 1) technological challenges, 2) organizational challenges, and 3) environmental challenges. The fourth category, which is the Owner/Manager challenge, has been added with insight from Thong (1999). These are discussed in the following:

Technological Challenges

Technological challenges are those that are obtained from the nature and characteristic of the ICT that the SME employs or intends to use for e-commerce adoption (Scupola, 2009). In most developing countries, the lack of Internet and slow speed of telecommunication networks has greatly contributed to delays in adopting e-commerce (Oreku, Li, Kimeli & Mtenzi, 2009; Mutula & Van Brakel, 2007; Uzoka et al, 2007; Molla and Licker, 2005a; Magembe and Shemi, 2002). Even when Internet is available, its continued use in SMEs is hampered by lack of electricity especially in rural areas (Oreku *et al.*, 2009; Uzoka *et al.*, 2007; Mutula & Van Brakel, 2007) and the general fear among managers that ICTs and e-commerce are complex phenomenon (Magembe and Shemi, 2002).

Organisational Challenges

Within the confines of an organization, challenges to e-commerce adoption in most SMEs relate to the following issues:

Lack of Skilled ICT Personnel: The lack of skilled ICT personnel has been cited as a common problem that prevents SMEs from developing e-commerce in their firms (Mutula & Van Brakel, 2007; Cloete et al., 2002; Shemi & Magembe, 2002). This challenge has been observed in SMEs from other geographical regions of the world as well such as in the UK (Wilson et al. 2008). It may be noted that the dynamic development of ICT in developed countries such as the US, UK, Japan, and other rich countries often leaves SMEs operating in developing countries lagging behind. This puts pressure on SME managers who have to understand the ICT and the e-commerce opportunities that comes with it. Thus in many cases, the ICT personnel are usually in short supply or perhaps unavailable (Shemi & Magembe, 2002). Wilson et al (2008) also stressed that the challenge of lack of skilled ICT personnel is more important in SMEs than the lack of finance.

Lack of Finance: The issue of finance has also been cited to inhibit e-commerce adoption in SMEs as it relates to the amount of financial resource that a firm can utilize for setting-up, buying necessary ICT for e-commerce implementation, paying consultancy fees

and training personnel and maintenance of website and other infrastructure (Mutula & Van Brakel, 2007). In most developing countries, SMEs have little or no financial resources to acquire ICT infrastructure or to venture into e-commerce initiatives (Magembe and Shemi, 2002; Cloete et al, 2002).

Security Concerns: Literature highlights security issues concerning the adoption and use of e-commerce in SMEs (Oreku *et al*, 2009; Humphrey et al, 2003). This is especially critical as most SMEs and their clients have no regulatory framework to fall back on should security be breached during e-commerce transactions. Most developing countries are yet to enact laws for e-commerce governance and any delays on this aspect means that e-commerce initiatives in SMEs are curtailed.

Organization Culture: Drawback to e-commerce adoption in SMEs also relates to organization culture that inhibits e-commerce activities. In their study in South African SMEs, Humphrey *et al.*, (2003) found that SME managers were more interested in establishing face-to-face business meetings than the web-enabled business discussions. This corroborates earlier studies by Duncombe & Heeks (1999, 2002) who found that SMEs and rural micro-entrepreneurs in Botswana relied on informal, social and local information systems.

Environmental Challenges

The development of e-commerce in SMEs may also be impacted by environmental challenges. These are discussed in the following sub-sections:

Unfriendly Business Environment: In general, developing countries are consumers of ICT and Internet technologies that provide a backbone for e-commerce systems. Thus, all ICTs must originate from a developed market in the US, Western Europe, Japan and other rich economies. Access to these ICTs has not been easy for most SMEs due to lack of financial resource (Magembe & Shemi, 2002) and even where ICTs have been provided through whatever means, there is usually an unfriendly business environment (Kshetri, 2007) that is unable to nurture e-commerce development. Some SME business environments in developing countries such as in Southern Africa still lack electricity or required energy that can operate ICT and e-commerce systems (Magembe & Shemi, 2002).

Lack of Credit Cards and Payment Systems: In transactions between consumers and SMEs (also known as C2B), the lack of ownership of credit cards in Southern Africa has prevented many people from participating in e-commerce activities (Shemi and Magembe, 2002). Some organisations have also been prevented from advancing to e-payment operations due to lack of appropriate e-commerce payment systems.

Lack of Macro-Economic and Regulatory Policies: Previous studies (Martinsons, 2008; Molla and Licker, 2005a) have also noted that the lack of macro-economic policies and other forms of regulatory policies in developing countries have delayed many organisations, in particular SMEs from participating in e-commerce activities. Whilst the preoccupation of developed country governments has been on providing regulatory policy for SMEs to operate (Scupola, 2009), developing country leadership have found themselves working on policies for poverty alleviation, health, education, hunger and other humanitarian causes. Thus, governments in developing countries find themselves unable to keep pace with ICT developments that frequently change. As such there are usually outdated laws to guide e-commerce development and more often, processes to formulate appropriate policies take too long to enact and subsequently are unable to meet the needs of the majority of their citizens.

Business Partner Preferences: Adoption of e-commerce in SMEs is also inhibited by business partners (Parker & Castleman, 2009) who may be suppliers or customers. Divergent

views among SME suppliers and customers may stifle creativity and advances in strategic e-commerce innovations.

Peculiar Nature of Certain Industries: Previous studies have also shown that SMEs may not adopt e-commerce due to the peculiar nature and characteristics of certain industries such as the horticultural (Humphrey *et al.*, 2003) and garment industries (Moodley & Morris, 2004) in South Africa. The closed nature of such industries does not necessitate any need to undertake business on the open Internet as all stakeholders are within a closed market system (Humphrey *et al.*, 2003).

Economic and Political Instability: Economic and political instability in some regions of the world prevent SMEs from trading freely due to many uncertainties (Kshetri, 2007). The political situation in war-torn areas of the world poses serious challenges for SMEs that want to embark on e-commerce.

Occurrence of Natural Disasters: The occurrence of natural disasters such as floods, earthquakes and tsunami in 2009 and 2010, in countries such as Brazil, Haiti and Japan respectively, are just reminders of the serious challenges that may confront SMEs in their efforts to develop e-commerce.

Local Business Culture in the SME Environment: The prevailing business culture in the SME environment has been cited as crucial for the development of e-commerce (Shemi & Procter, 2013; Thong, 1999). This has been found to be different from country to country even amongst developed countries (Scupola, 2009). For example, most SME managers in Southern Africa and Botswana in particular, can be said to have lower uncertainty avoidance and lower individualism (Hofstede, 1984), meaning that people can easily interact and share ideas with friends, relatives without much consideration of losing individual identity. This inhibits e-commerce adoption to an extent as people are more prone to interact with ICT than in the traditional ways.

Owner/Manager Challenges

Developments in e-commerce adoption in SMEs have faced stagnation due to several issues that surround the owner or manager (Olatokun & Kebonye, 2010; Thong, 1999) who is considered the full driver of all business undertakings in the organisation (Riemenschneider *et al.*, 2003).

The lack of visionary leadership and entrepreneurial ability in the owner and/or manager prevents an SME from experimenting on viable e-commerce approaches. In most developing countries, a low-literacy level amongst SME managers has been observed (Mollar and Licker, 2005a). The inability to appreciate e-commerce benefits by key managers has limited SME advancement in e-commerce adoption (Cloete *et al.*, 2002). The inability and lack of access to information related to ICT and general management skills was cited as one of the challenges facing SMEs in Botswana (Duncombe & Molla, 2009; Duncombe & Heeks, 1999; 2002).

The revelations from extant literature indicate that challenges of e-commerce adoption appear to be similar in developed and developing country SMEs. Molla & Licker (2005a; 2005b) noted that the distinction lies in the magnitude of lack that weighs more negatively on developing country SMEs. To an extent, extant literature has paid more attention to studying the challenges of e-commerce adoption mostly in homogeneous fashion than to holistically finding ways of understanding the nature of these organisations before finding solutions to overcoming such challenges. As a result, SMEs in developing countries have lacked in-depth knowledge of how their counterparts in other regions of the world operate. This study therefore aims to address some of these research gaps.

METHODOLOGY

The Research Philosophy and Approach

This study followed a case study approach in the interpretive paradigm with the aim of unearthing social and historical issues peculiar to SMEs in Botswana's environment. Multiple case studies were conducted to provide a description of what SMEs are facing in e-commerce adoption. The fundamental principle of hermeneutic circle as given by Klein & Myers (1999) guided the process of inquiry which has been interpreted in the adoption of e-commerce. This explains that to understand the challenges of an SME e-commerce adoption, it is necessary to understand the meanings and parts of the whole process and their interrelationships. The multiple case study strategy followed replication logic whereby a case inquiry, with the same set of questions was replicated over several other case sites in their natural setting (Yin, 2003). The unit of analysis was the whole organisation with key managers representing the decision-making body of the SME.

A purposeful method of sampling (Huberman & Miles, 2002) was employed to come up with the required number of SMEs. The rationale for this approach was to obtain a cohort of SMEs that would provide adequate information in terms of depth and breadth, and were also willing to participate. To begin with, a list of SME organisations was obtained from Botswana Chamber of Commerce and Industries (BOCCIM) and Botswana Telephone directory. The list of companies had to be validated to verify their existence by making telephone calls as well as to establish their willingness to participate. Prior visits and contacts were made to familiarise the researcher with the interviewee and also to buy-in trust as is the nature of interpretive studies (Klein & Myers, 1999).

Two industries were chosen; ICT industry and Tourism (including Hospitality). The two industries were chosen because they have a significant social-economic contribution to Botswana. These industries have been cited in the country's national ICT policy (NICT Policy) as among the key areas that are earmarked for economic development particularly in the diversification of the economy from the dominant mining activities. Six organisations participated in the study (which is within the range from four to ten cases for in-depth analysis recommended by Eisenhardt (1989)). The objective of these analyses were not to generalize the findings as is commonly the practice in positivist tradition (Walsham, 2006) but to provide an explanatory and plausible approach that can give insights relating to the challenges facing SME managers/owners in the Botswana context.

Data Collection Procedures and Analysis

Semi-structured and unstructured face-to-face interviews were the first means of obtaining data from the SMEs. Two to three persons, usually an SME owner or manager and other key informants who were knowledgeable about ICT and business objectives participated. A total of 32 interviews were undertaken at the organisation's locations, with digital recording and transcription for further analysis. Furthermore, twenty-one telephone conversations were also conducted to provide clarification on issues raised in the face-to-face interviews (Sturges & Hanrahan, 2004). Thus, informal discussions thereafter helped to complement and provide further details and clarification about the organisations. A written summary was sent back to the interviewee to validate the results of the study and a final interview was followed-up to discuss the findings.

Data collection and data analysis were overlapping, to allow early analysis (Huberman & Miles, 2002). Semi-structured face-to-face interviews, telephone conversations, website and document analysis were employed. This took a period of seven months, from September 2010 to March 2011. Secondary data was also obtained from relevant extant literature on developed and developing countries, some policy documents in Southern Africa and Botswana. Manual as well as electronic coding was done using qualitative software Nvivo 8 but in-depth analysis were done using researcher's own insight drawn from Miles & Huberman (1994). Cases were analysed individually as well as in comparison with each other on the challenges affecting e-commerce adoption and how they were represented in each organisation. Patterns and themes were later generated for analysis.

RESULTS AND INTERPRETATION

This section provides brief descriptive characteristics of the SMEs and certain pointers of e-commerce features that describe the challenges affecting their e-commerce adoption process. Six SMEs pseudo-named C1Alpha, C2Beta, C3Gamma, C4Teq, C5Home and C6Lodge are presented as follows:

C1Alpha: C1Alpha is a small tourism firm that started as a shop in 1970 to sell locally-made art and craft products to the public. There are 35 fulltime employees. Most of the buyers of its products are tourists who visit Botswana from outside the country. Before the global recession, Internet sales had risen to 30% of the annual sales, but afterwards the sales have fluctuated between 5% and 10% of the total annual sales. Most customers who access C1Alpha's website do not complete the order immediately but rather opt to interact with the manager through email conversations to obtain some trust. Once satisfied, clients supply credit card details to the firm's manager through email. There is no interactivity between C1Alpha's website and external visitors beyond the use of website. The business generally relies on word of mouth but is also complemented by use of telephone, fax, email and mobile phone devices. Only the general manager is able to use email for business communication.

Challenges at C1Alpha: C1Alpha has a desire to further develop its e-commerce offerings but at the moment the *lack of skilled ICT personnel* is a barrier to further improvement of e-commerce services. *Financial ability* is a challenge when the firm has to consider acquiring such specialised skill on a short or long-term basis. Another barrier is the *cost of maintaining Internet* which was cited as being too high. The firm does not belong to any industry association that could benefit its e-commerce development efforts. The lack of payment facility on C1Alpha's website is also a limitation to full realisation of e-commerce benefits. The *lack of full integration of business processes* as suggested in some literature (Rao *et al.*, 2003) was observed.

C2Beta: C2Beta is a medium firm in the ICT sector that has been in operation since 1940 and currently employs 110 staff. It began by selling business office tools such as stationery, printers and computers. Over the years, C2Beta has diversified into offering Information Technology solutions such as repairing and maintaining computer and network systems. The use of ICT at C2Beta is mainly focused on its key business partner, the government of Botswana (GOB) and also assisting to connect with its ICT personnel who are out attending to its clients. Over 80% of business activity takes place between the two organisations. A contract management department manages contractual work between C2Beta and GOB. An IT unit exists that manages internal business processes such as accounting and financial systems, and the organisation's website profile.

Challenges at C2Beta: Despite having relatively better ICT resources, e-commerce adoption as perceived through its website presence is not aggressive. The website has been activated for purposes of marketing C2Beta's products and services, and not directly to generate financial transactions through order placement. The *dependence on the business relationship* with GOB shields e-commerce developments that the firm can embark on. Very little is known about other avenues of obtaining e-commerce value. The *slow speed of the Internet* and customer preference for '*feel and touch*' features of products are also some of the challenges. The prevailing *e-commerce laws* in the country were also not favourable for e-commerce to thrive.

C3Gamma: C3Gamma is a medium firm in the ICT sector that began its operations in the year 2000. The firm has 68 permanent staff, with more than 50% working as ICT technicians. Like C2Beta, C3Gamma engages in business relationships with the government of Botswana (GOB) in providing various ICT services that include repair and maintenance of ICT applications. Although the GOB had dominated its business with over 80% business activity, C3Gamma has begun to reduce this dependency in recent years. The organisation's website is mainly used for marketing C3Gamma's products and services. About 20% of C3Gamma's business is generated from the private sector, within and outside the country. Internet is used for research in C3Gamma whereby solutions to challenging faults are sought and shared amongst other colleagues. E-mail is mostly used for communication within and outside the organisation. C3Gamma sees itself as participating in e-commerce as an 'e-retailer', when they provide internet services to other organisations. Electronic banking services such as Electronic Funds Transfer (EFT) are used in most administrative tasks such as payroll and financial accounting, and when making payments to suppliers.

Challenges at C3Gamma: A key manager explained that information is the key to C3Gamma's strategy of providing what the client wants. Although the organisation has adequate resources to extend e-commerce development, the type of e-commerce it follows would not suit further development using the website services. The *traditional method of doing business* through 'Tendering' is the main pre-occupation in the business and determines how far C3Gamma can go with e-commerce adoption. The *slow-speed of the Internet* is a key challenge for e-commerce initiatives which mainly revolve around GOB. The ICT expertise that is mostly obtained from non-citizen resident personnel cannot be dependent upon for a long time due to a short-term contract practice stipulated in the immigration policy of Botswana. There was *no regulatory policy on e-commerce issues* as yet.

C4Teq: C4Teq is a small firm in the ICT sector that began in late 2001. There are 23 members of staff that assist in providing ICT solutions mostly to the government of Botswana's (GOB) (over 80%) and other private organisations. C4Teq's focus at the beginning was to sell hardware and software but in recent years has diversified to provide maintenance and support services. C4Teq does not maintain a website currently although in previous years it had an active website. The market dominance by GOB largely dictates how business is conducted.

Challenges at C4Teq: According to a key manager, the *cost of maintaining the website* in early years was not sustainable in comparison to the benefits that C4Teq was obtaining from it. There being *no regulatory policy to guide e-commerce activities* in early years forced C4Teq to host their website in neighbouring South Africa. As their *business focus* was mainly *locally-based*, C4Teq faced challenges because most of the *local consumers did not have credit cards*. The *banking fraternity was also not ready* to issue internationally-recognized credit card brands. There were also *prohibitive laws* that could not guide SMEs to develop e-commerce and most banks were not ready to offer credit cards. Another challenge had been the *procurement process* in the country which did *not promote e-*

commerce due to the use of telephones and fax. The slow speed of the Internet was a hindrance to searching on the World Wide Web.

C5Home: C5Home is a small-sized tourism firm that has existed since 2001. Its rural location and desire to keep abreast with useful ICT for tourism business provides a learning point for e-commerce in the tourism sector. C5Home uses basic ICT applications, and a website to manage room reservations and financial information. Most of the guests are from the local public sector, comprising about fifty per cent in revenue. Further, the use of appointed (third-party) agents assists in recruiting international clients for C5Home. International clients pay through credit cards and local business clients use conventional methods of payment through the bank. This is the most advanced form of e-commerce in the sample. It is followed to allow some amount of interaction and transaction of information between two parties. Some features of social networking capabilities have been exploited in this category for marketing purposes. This contrasts with the description of advanced e-commerce adoption features suggested by Rao *et al.*, (2003).

Challenges at C5Home: A key informant narrated that there were no serious challenges in terms of the use of e-commerce except the *intermittent breakdown of communication* and *slow speed of Internet*. The need to reduce *dependency on the local market* by increasing the market share from international guests was mentioned as key to business growth.

C6Lodge: C6Lodge is a small-sized tourism hotel that has existed since 2001. With its near location to Gaborone, C6Lodge was expected to lead in e-commerce development but unexpected managerial challenges have curtailed its ICT application. ICT are used for processing accounting and finance data. The payroll is processed manually and some employees are paid through Internet banking. Most of C6Lodge's clients are local guests from the public sector and some individual clients. C6Lodge had an active website three to four years ago but due to lack of technical support for further improvement, it is no longer active. E-commerce adoption may be described as failed or discontinued. The use of mobile phone to market the business locally and in the South African market has a positive impact on the business.

Table 1: Challenges affecting e-commerce adoption in selected SMEs

Challenges cited	C1Alpha	C2Beta	C3Gamma	C4Teq	C5Home	C6Lodge
1. Time to devote to website improvement	x					
2. Lack of interactivity in some websites	x	x	x	x	x	x
3. Recession has affected the buying power of clients	x				x	
4. Lack of skilled manpower	x				x	x
5. Cost of hiring and acquiring skilled IT personnel	x					
6. Cost of maintaining operating Internet, ADSL	x				x	x
7. Slow speed of the Internet	x	x	x		x	
8. Customers preference for traditional way of doing business		x	x	x	x	x
9. No regulatory framework for e-commerce policy			x	x		
10. Preference for personal contacts to forge business relationships (B2B)		x			x	
11. Customer preference for 'feel and touch' features of products (B2C)		x				
12. Lack of funding	x			x		x
13. Difficulty in accessing potential business offerings.		x				

Challenges at C6Lodge: The challenges that inhibit e-commerce at C6Lodge concern organisational issues relating to ICT infrastructure. The avenues for income generating business activities are still manually based despite the ability for C6Lodge to have purchased hotel management software. The lack of an active corporate website is a drawback to

attracting international visitors as well as linking up with global third-party websites in the Tourism industry. Another organisational challenge is the lack of ICT personnel that can provide technical assistance for website improvement. There is lack of visionary leadership that can see beyond the current obstacles to improve e-commerce activities.

In summary, several issues were cited by managers that inhibit e-commerce adoption. Table 1 shows the challenges and the SMEs that cited them using an 'x'. The most common challenge is the '*Suppliers and Customers preference for traditional way of doing business using fax, telephone/mobile and email.*' With the exception of C1Alpha, all SMEs mentioned that their suppliers and customers were satisfied with business arrangement and there were no suggestions to shift to e-commerce systems. Supplier or customer preferences and the slow speed of the Internet posed great challenges to e-commerce development.

In addition to the above, there are other challenges that were drawn from discussions with managers at the SME conferences organized by the Local Enterprise Authority in 2008, 2009 and 2010. In all the three years since its inception, SME managers at the conference were concerned with administrative issues such as accounting and finance management; issues that were observed to be critical for local SMEs at the time. Issues that touched on ICT and e-commerce were not part of the formal discussions. The researcher drew one manager into a discussion on what role e-commerce played in their organization. Their reply was that:

'E-commerce activities are not a primary concern for our business now. We still are grappling with how to boost our production.'

DISCUSSION OF FINDINGS

To be able to undertake competitive e-commerce, organizational websites need to be actively engaged in generating income either directly or indirectly. The lack of interactivity between the SMEs and the prospective clients can be found in the features of all SMEs except for C1Alpha and C5Home. These are foundations of B2B e-commerce. Furthermore, it was found that ICT SMEs (C2Beta, C3Gamma, and C4Teq) largely served the government of Botswana (GOB) with over 80% of business activity. The SMEs therefore had to depend on the dictates of the 'bigger' client that maintained traditional methods of doing business; using one or a combination of telephone, fax and email. The remaining 20% of customers were from the parastatal and individual clients from the local and external environment. A drawback to full e-commerce utilisation was the *regulatory reform* that has yet to be completed and passed into law. This was mentioned by C3Gamma and C4Teq. Payments to international suppliers and partners were done mainly through electronic funds transfer (EFT) and by credit card within the country. The delay in providing appropriate e-commerce regulation has also been revealed from the stagnation in the networked readiness rankings (GITR, 2012) that indicate that Botswana has been surpassed by countries such as Rwanda.

Another key challenge is the slow *Speed of Internet* that four managers of C1Alpha, C2Beta, C3Gamma, and C5Home cited as inhibiting the development of e-commerce in their organization. The C5Home manager narrated that the slow speed of Internet made it to be so unreliable for business. C1Alpha mentioned the '*cost of running Internet*' was prohibiting further e-commerce developments in the firm although C2Beta mentioned that they were managing to contain the cost.

Three SMEs (C1Alpha, C5Home, and C6Lodge) also mentioned that *lack of skilled manpower* was a challenge that inhibited e-commerce development in their firms, whereas the impact of the *global recession* was cited by C1Alpha and C2Beta to inhibit e-commerce in

SMEs. Since its tasks is to sells art and crafts products to tourist, C1Alpha received fewer customers from the US, who at one time contributed over 90% of C1Alpha's annual revenue. The slow speed of the Internet has been cited in extant literature on Botswana (Olatokun & Kebonye, 2010; Shemi & Procter, 2013) and does have an impact on the decision to embark on B2B e-commerce. However, it appears like this challenge interacts with the other factors in the external environment such as lack of Internet to influence a slow-paced kind of adoption (Uzoka *et al.*, 2007). The effect of the South African market impacts on the e-commerce adoption style of Botswana SMEs. The lack of e-commerce policy has been a drawback for the ICT SMEs (C2Beta, C3Gamma & C4Teq) that have a tendency of operating in line with their largest customer, the GOB. This implies that local B2B e-commerce activities are still limited. These findings are consistent with Thatcher *et al.*, (2006) who also found that Taiwanese entrepreneurs were customer-driven and that they would naturally respond to their largest customer's needs to improve B2B e-commerce. The tourism SMEs (C1Alpha, C5Home & C6Lodge) usually complain of the slow speed of the Internet, and the breakdown in communication.

Substantial effort is required to improve e-commerce from the low level of dormancy in most SMEs. Senior managers could exploit this area through forums that discuss new and innovative ideas related to e-commerce adoption issues. The LEA SME conference in Botswana is one such forum that can assist SMEs to share e-commerce strategies and overcome certain obstacles. Hoffman & Klepper (2000) cited in Tarafdar & Vaidya (2006) float the idea of 'sociable cultures' where ideas and innovations with respect to ICT and e-commerce can be freely shared. This would allow some interaction of SMEs in the regional and global world.

CONCLUSIONS AND RECOMMENDATIONS

This study has investigated the challenges that confront SMEs in the adoption of e-commerce in six cases in Botswana, by employing the interpretive paradigm approach. The research approach favoured the socio-technical context that prevailed in the organisations at the time of the study. The SMEs had various levels of entry and appreciation of ICT. This implied a natural setting ensued and no variables were fixed or manipulated. However, it was necessary that key managers and/or owners of the firms were knowledgeable about ICT and e-commerce and how it could deliver business value to their organisations.

Results show that contextual issues existing in the organisations define the challenges in e-commerce adoption in the SMEs. The most common challenge facing six SMEs is the 'suppliers and customers preference for traditional way of doing business using fax, telephone/mobile and email.' This was followed by the problem of the slow speed of Internet which was mentioned by four SMEs. Other problems were: the preference for personal contacts; lack of skilled manpower; the cost of hiring and acquiring skilled IT personnel; cost of operating Internet; the recession in US/Worldwide; lack of regulatory framework; customer preference for 'feel and touch' features of products; lack of ICT and e-commerce knowledge; lack of strategy and perception by owner manager, and lack of time to devote to website improvement. The results show that both B2B and B2C are minimally developed among the SMEs selected, and challenges of e-commerce adoption are generally spread across the Technology, Organisational and Environment areas, which corroborates the TOE framework (Tornatzky & Fleischer, 1990). The stagnated networked readiness status of Botswana (GITR, 2012) can be seen to be reflected in the challenges affecting e-commerce adoption in the SMEs.

Based on the findings discussed in the paper, this study recommends a speedy prioritization of e-commerce challenges in the country in order to resolve and provide solutions for the business environment, especially SMEs. The role of the GOB has become necessarily crucial in determining the extent of e-commerce capitalization in the country. This is because the GOB is a key customer to most SMEs in the sample and as well as a policy formulator and regulator for e-commerce activities. E-commerce reforms need to be expedited and the Internet provision needs to be enhanced. The results also point to the need for SME managers to engage in more strategic collaboration with business partners in the global, regional, and local environment to seek areas of mutual learning and growth. More conferences, seminars, or workshops are also recommended to provide learning and exchange of e-commerce ideas.

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