Explaining contextual factors affecting e-commerce adoption progression in selected SMEs: evidence from Botswana

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Abstract: This paper provides an interpretive account of contextual factors that affect the progression of e-commerce in six Small and Medium Enterprises (SMEs) in a developing country context of Botswana. The methodology followed multiple in-depth case studies, using semi-structured face-to-face interviews, website analysis, observation and document analysis. Results show that contextual factors peculiar to each SME provide better explanations on how SMEs progress in e-commerce adoption. At the high level of adoption, managerial innovativeness and the nature of the external e-commerce market has contributed to success in two SMEs, whereas the local business environment in combination with some organisational factors can explain the low-level and non-adoption in the other four SMEs. Future implications indicate that managers need to pay particular detail to the unique and idiosyncratic nature of SMEs in guiding decisions for e-commerce adoption in their firms.

Keywords: SMEs; small and medium enterprises; e-commerce adoption progression; contextual factors; interpretive; multiple case studies.


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1 Introduction

Small and Medium Enterprises (SMEs) are a key component of any economy in the world because they contribute to creating employment and also help to diversifying the economy. The adoption and use of electronic commerce (e-commerce) in SMEs has been a tricky affair. SMEs are being blamed for either deliberately ignoring the ‘glory train’ of Information and Communication Technological (ICT) advancements, or perhaps their cause is not fully appreciated by academics, practitioners and researchers across the globe. E-commerce adoption in SMEs has been discussed in several studies although the representation from a developing country context is minimal (Molla and Licker, 2005). Understanding what happens in these organisations as the underlying ICTs get infused into the firm is crucial for decision making for SME managers. However, developing countries generally do not have a favourable environment for e-commerce developments as compared with developed countries (Scupola, 2009; Martinsons, 2008) due to several factors such as lack of ICT infrastructure, hostile environment, lack of macro policies to nurture local e-commerce structures, lack of perception of e-commerce benefits (Kshetri, 2007) among other things. These conditions will influence the definition of e-commerce in this study to accommodate developing country contexts. Drawing from Turban et al. (2008), e-commerce is defined as “the process of buying, selling, transferring or exchanging products, services and/or information via computer networks, including the internet”.

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 ten years. In recent years, the Government of Botswana (GOB) has been looking for strategies to diversify the economy, by encouraging SMEs from various industries and sectors. By African standards, Botswana has a good degree of e-readiness (Maitlamo, 2004), ranking amongst the top five countries in sub-Saharan Africa in terms of network readiness. Internet bandwidth penetration is high in government and big corporate firms whilst individual users and rural areas have had limited use. However, mobile telephone penetration has been very high in both rural and urban areas. Previous studies on information and ICTs in SMEs found that the Botswana business environment thrived on informal systems (Duncombe and Molla, 2009; Duncombe, 2004; Duncombe and Heeks, 1999). Most SME managers are not accustomed to using modern ICTs for business gain due to illiteracy and inability to perceive value from ICTs (Uzoka et al., 2007). The definition of SME in Botswana is as follows:
A.P. Shemi and C. Procter

- a small enterprise is that which employs less than 25 employees
- a medium enterprise is that which employs less than 100 employees (Ministry of Commerce and Industry, 1999).

Some exceptions may be found which incorporate more than 100 employees.

Previous studies have found that e-commerce progression in SMEs takes place in an ordered manner and that one stage or level has to be completed before another higher stage begins (Martin and Matlay, 2001; Daniel et al., 2002; Rao et al., 2003). Others have argued that the stage-model progression of ICT innovation is too simplistic and does not depict the complex issues that prevail in SME real-life situations (Parker and Castleman, 2009; Mendo and Fitzgerald, 2005). Most of the extant literature has either been conceptual or has employed exploratory surveys in mostly the developed countries. Previous studies on e-commerce adoption in SMEs have also treated SMEs as a homogenous entity (Parker and Castleman, 2009; Rao et al., 2003) by undertaking collective approaches to understand the factors affecting e-commerce development. In this paper, the intention is to move beyond these arguments by taking a contextual view of how SMEs adopt and use e-commerce in six selected firms in the developing country context of Botswana. This study aims to address this research gap by investigating SME e-commerce adoption factors in a specific context of a particular organisation. The main research question that is being addressed is the following: what factors affect e-commerce adoption in SMEs in developing countries? The second research question is stated as follows: how are the factors represented in the SMEs? The results of the study are significant because they would assist SME managers to understand peculiar factors that affect their organisations and also assist in making informed decisions on what strategies and magnitude of e-commerce adoption may be applied in their organisation. The results may not be generalisable (Walsham, 2006), but the approach would offer insight for researchers and practitioners in similar contexts in other parts of the world.

This paper proceeds as follows. Section 2 presents a review of related literature on SMEs and e-commerce adoption and models on progression. This is followed by research methodology in Section 3. The research findings are presented in Section 4, followed by a discussion of findings in Section 5. The conclusion, recommendations and managerial implications are discussed in the closing of the paper in Section 6.

2 Literature review

There is no doubt that ICT is a phenomenon that has changed organisations, both large and small, forever. Previous studies on ICT and e-commerce adoption report that SMEs in developing countries generally have not capitalised on the power of the internet to extend their business beyond traditional borders (Molla and Licker, 2005; Humphrey et al., 2003). Some of the reasons put forward from the past literature include cost of acquiring and operating ICTs, lack of IT and e-commerce knowledge, owner/manager low literacy levels, inability to perceive e-commerce benefits, unfriendly regulatory policy and requirements, cultural issues, dependence on customer or supplier preferences and many others. Appreciating how these factors impact on organisations such as SMEs has been difficult, as previous studies claim to have conducted exploratory surveys due to the relatively new area of e-commerce adoption research (Olatokun and Kebonye, 2010).
Furthermore, treating SMEs as a collective entity (Parker and Castleman, 2009) has meant that there is lack of depth in understanding and knowing how individual SMEs make decisions for or against e-commerce adoption. Avgerou (2000) emphasised the need for developing countries to consider the contextual environment in the deployment of ICTs and technology in general rather than to follow the developed country norms and standards. There are few studies that investigate the contextual issues affecting SMEs e-commerce adoption except those by Lefebvre et al. (2005), Chau (2003) and some others. The case to situate context in the study of e-commerce adoption in SMEs has been motivated by the work of Pettigrew (1990) who argues that many studies of change are aprocessual, ahistorical and acontexual in character. He further adds that few studies of organisational change actually allow the process of change to reveal itself or unfold in a natural manner. A contextualist approach is one that allows both multilevel or vertical analysis and processual or horizontal analysis (Pettigrew, 1990).

Early studies in e-commerce adoption in SMEs suggested that organisations undergo stages of growth in their adoption of ICT and e-commerce technology (Martin and Matlay, 2001; Daniel et al., 2002; Rao et al., 2003). One of the most popular models that were prominent in the UK government around the 1990s is the concept of the Department of Trade and Industry (DTI) adoption ladder (Daniel et al., 2002). It shows how small businesses progress in ICT adoption, in stages as follows:

- e-mail
- website
- e-commerce
- e-business
- transformed organisation.

The vision of DTI was that e-business in small firms would progress from one stage to a higher level, in a well-planned, sequential process (Martin and Matlay, 2001). This model faced criticism that it was too simplistic and its linear progression could not capture the complex nature of small firm activities.

Another stage model was introduced by Rao et al. (2003), which shows details of each stage, facilitators and barriers at each stage of development. “A stage is a set of descriptors that characterise the evolutionary nature of e-commerce” (Rao et al., 2003). Their model proposes that e-commerce development takes place in four stages, namely

- presence
- portals
- transaction integration
- enterprise integration.

Furthermore, at each of these stages, the authors add that there are facilitators and barriers that are unique to each of the stages (Rao et al., 2003). The authors note that although development stages are displayed in a sequential fashion, the model does not propose that a company should complete one stage before reaching for another stage. The model has been useful to provide a classification for organisations and also assist in determining the barriers and facilitators for e-commerce development (Rao et al., 2003). The described
model may be contested in that it takes the development of e-commerce as easily discernible by managers and may not account for the diversity in nature that is exhibited by SMEs (Parker and Castleman, 2009).

Lefebvre et al. (2005) studied Canadian manufacturing SMEs aiming to capture the gradual unfolding of B2B e-commerce adoption. Their findings suggest logical evolutionary paths to the penetration of B-to-B e-commerce in SMEs. Furthermore, the heterogeneous and idiosyncratic nature of SMEs (Parker and Castleman, 2009) may not result in a logical evolutionary path, especially in developing country contexts that are still grappling with the issue of ICT access and lack or perception of e-commerce adoption by managers. The authors do not take into account the natural phenomenon of SMEs relating to failure or discontinuity (Avgerou, 2000) that could also apply to e-commerce developments.

Based on the discussions above, this paper aims to uncover the factors that affect e-commerce development in SMEs from the contextual perspective.

3 The research methodology

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 and Myers (1999) guided the process of inquiry which explains that to understand SMEs uptake of e-commerce, there is a need 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 organisation with key managers representing the decision-making body of the SME.

A purposeful method of sampling (Huberman and 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 breath, which were also willing to participate. To begin with, a list of SME organisations was obtained from the Botswana Confederation of Commerce, Industry and Manpower (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 and 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 (Maitlamo, 2004; Sentsho et al., 2009) as 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 was not to generalise the findings (Mehrtens et al., 2001), but to provide an explanatory and plausible approach that can answer questions relating to e-commerce adoption in the SMEs.
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. Telephone conversations were also conducted to provide clarification on issues raised in the face-to-face interviews (Sturges and Hanrahan, 2004). Thus, the 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 used to discuss the findings.

Data collection and data analysis were overlapping, to allow early analysis (Huberman and Miles, 2002). This took a period of seven months, from September 2010 to March 2011. Secondary data were also obtained from relevant extant literature on developed and developing countries, some policy documents in Southern Africa and Botswana.

In-depth analysis was conducted using the researcher’s insight following Miles and Huberman (1994). Cases were analysed individually as well as in comparison with each other on the factors and how they are represented in each organisation. Patterns and themes were later generated for analysis.

4 Results and interpretation of findings

This section provides a brief description and the factors affecting e-commerce adoption for each of the SMEs in the study.

4.1 C1Alpha

C1Alpha is a small tourism firm that started as a shop in 1970 to sell locally made arts and crafts 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 e-mail conversations to obtain some trust. Once satisfied, clients supply credit card details to the firm’s manager through e-mail. The business generally relies on word of mouth but is also complemented by use of telephone, fax, e-mail and mobile phone devices. Only the general manager is able to use e-mail for business communication.

Factors: Organisational traits such as managerial innovativeness have assisted to propel e-commerce adoption at C1Alpha even though there is no full integration of business processes as suggested by some literature (Rao et al., 2003). The social interactions with the business environment are largely informal, and C1Alpha has learned to create a niche through cultural performances and the restaurant patrons who visit the centre from time to time. C1Alpha has a desire to further develop its e-commerce offerings, but at the moment the lack of skilled ICT personnel is a barrier for further improvement of e-commerce services. Financial ability is a challenge if 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.

4.2 C2Beta

C2Beta is a medium sized firm in the ICT sector that has been in operation since 1940 and currently employs 110 employees. 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 GOB, and also assists 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 the GOB. An IT unit manages internal business processes such as accounting and financial systems, and the organisation’s website profile.

Factors: C2Beta’s strategic position to offer services to the GOB gives it an edge in the local industry as well as limiting its full use of e-commerce development. The firm’s website suits a description of presence, in line with Rao et al.’s model, as there is only one-way communication from the firm’s view to any visitor to its website. 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. Outside its website use, C2Beta uses the internet to search for business solutions. Social networking facilities such as Skype and Facebook have been incorporated informally to market C2Beta’s services. A major challenge to the use of B2C e-commerce was the slow speed of the internet and customer preference for feel and touch features of products.

4.3 C3Gamma

C3Gamma is a medium sized firm in the ICT sector that began its operations in the year 2000. The firm has 68 permanent employees, with more than 50% working as ICT technicians. Like C2Beta, C3Gamma engages in business relationships with the GOB in providing various ICT services, repair and maintenance of ICT applications. Although the GOB had dominated its business with over 80% of 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. The internet is used for research by 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 are used in most administrative tasks such as payroll and financial accounting, and when making payments to suppliers.
Factors: A key manager explained that information is the key to C3Gamma’s strategy of providing what the client wants. Although the organisation has ample resources for higher levels of e-commerce development, the type of e-commerce it follows would not suit further development in 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 the GOB. The ICT expertise that is mostly obtained from foreign personnel cannot be depended upon for a long time due to the short-term contract practice stipulated in the immigration policy of Botswana.

4.4 C4Teq

C4Teq is a small firm in the ICT sector that began in late 2001. There are 23 employees who assist in providing ICT solutions mostly to the 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 the GOB largely dictates how business is conducted.

Factors: According to a key manager, the cost of maintaining the website in early years was not sustainable because the benefits that C4Teq was obtaining were very low. Since business was mainly locally based, C4Teq decided to deactivate its website so that it could concentrate on other local business activities. The e-commerce laws were prohibitive and most banks were not ready to offer credit cards to consumers. Another challenge has been the procurement process in the country which does not promote e-commerce, as most businesses depend on the use of telephone, fax and sometimes e-mail. The slow speed of the internet is a drawback for searching on the internet and the World Wide Web.

4.5 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 50% in revenue. Furthermore, the appointed (third-party) agents assisted in recruiting international clients for C5Home. This is a usual trend in the tourism industry (Salwani et al., 2009; Ray and Ray, 2006). 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 allowed interaction and transaction of information between the two parties. Social networking capabilities have been exploited for marketing purposes. This fits with the category of transaction integration as suggested by Rao et al. (2003).

Factors: 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 the 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.
4.6 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 is 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 3 to 4 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 phones to market the business locally and in the South African market has a positive impact on the business.

Factors: The factors that motivate or 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 of C6Lodge to purchase 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 who can provide technical assistance for website improvement.

5 Discussion of findings

Several factors have been uncovered that affect SMEs in the six cases although they affect each case differently. The factors and their representation in the SMEs are discussed in the following sections.

5.1 Managerial characteristics and perception of e-commerce adoption

Previous studies have emphasised the owner-manager role in enhancing e-commerce innovation in their firms (Jeyaraj et al., 2006; Chatterjee et al., 2002). In fact, SME managers determine not only the business vision and objectives, but also what type of markets and tools their firms should employ. The cases of C1Alpha and C5Home highlight the positive role that proactive and innovative managers have, despite the many set-backs in trying out various e-commerce initiatives in their organisations. Conversely, the case of C6Lodge attests to the fact that lingering on organisational barriers for a long time, without making positive steps towards using internal or external resources, may not in the long run provide e-commerce business value to the organisation.

The cases of C2Beta and C3Gamma highlight another dimension of the managerial role played by top managers in the decision to adopt e-commerce. SME managers have to drive their organisations to competitively realise strategic e-commerce benefits in their firms (Chau, 2003). One of the managers of C2Beta had commented that “e-commerce would have ‘to fit’ into the business strategy defined by their organisation in such a way as to bring maximum benefit to the business”. This understanding aligns with previous studies that aim to seek the strategic objectives for pursuing e-commerce adoption in organisations rather than seeking technological interests alone (Chau, 2003; Luftman et al., 1993).
5.2 Availability of internet and ICT infrastructure

The availability of internet and ICT infrastructure has been observed in the literature (Duncombe and Molla, 2009; Kshetri, 2007) as one of the requirements for e-commerce adoption in developing country SMEs. In this study, access has been met to an extent, although the quality of such provision had been observed to be below satisfaction in cases such as C1Alpha, C2Beta, C3Gamma, C4Teq and C5Home as a barrier to e-commerce adoption.

5.3 Slow speed of the internet

The slow speed of the internet was cited by managers in five SMEs: C1Alpha, C2Beta, C3Gamma, C4Teq and C5Home, and thus a barrier to e-commerce adoption. This is a well-acknowledged problem in Botswana (Duncombe and Molla, 2009; Maitlamo, 2004). However, the meaning of this barrier in each of the SMEs varies somewhat depending on the magnitude of the challenge and the significance of e-commerce in each firm.

5.4 Cost of setting-up and maintaining internet applications

Three small enterprises (C1Alpha, C5Home and C4Teq) expressed limitations in financial ability to set-up ICT infrastructure and to maintain an active website, a concern noted in previous literature (Jeyaraj et al., 2006), but their management responded differently to this challenge. In the case of C1Alpha, the general manager explained that the costs of maintaining a website and its applications were too high and they could not afford to hire ICT personnel even though they needed one very much. They, therefore, resorted to outsourcing the services of a web support manager on a part-time basis. C5Home explained that a lot of planning is required for the firm to absorb the cost of internet and e-commerce applications. C4Teq was seriously affected by high-maintenance costs such that they could no longer maintain their website which was hosted in South Africa. C6Lodge did not have direct challenges related to cost as they had managed to acquire hotel management software. Other managerial issues were serious barriers to e-commerce adoption.

The medium-sized firms C2Beta and C3Gamma did not have any complaints with regard to cost, possibly due to the diversified nature of their business. Despite the barriers as described above, we still find that some of the most hard-hit organisations (small firms) are managing to withstand their business challenges and operate e-commerce with payment facilities.

5.5 Skilled ICT personnel

The lack of skilled ICT personnel had been cited by C1Alpha, C5Home and C6Lodge as a key challenge to e-commerce development, corroborating previous findings in developed and developing countries (Kapurubandara, 2009; Ray and Ray, 2006). However, the impact of this factor has been offset by outsourcing some of the ICT tasks to ICT companies.
5.6 Organisational culture

Some organisations exhibited a culture that allowed e-commerce to be interpreted specific to the organisation. An example of this relates to the social aspects of completing business transactions at C1Alpha. Managers at C5Home stated that they made it a point that at least one of the managers attended industry seminars and workshops to keep abreast with latest issues related to running the business. C3Gamma believes their contribution to e-commerce is in terms of providing e-retailing services to local companies. These interpretations are akin to the relationship-based e-commerce that can be found in the Chinese culture as noted by Martinsons (2008).

5.7 Supplier and customer preferences

The supplier and customer preferences (also known as business partner preferences) have tremendous impact on e-commerce adoption in the selected SMEs. For example, ICT SMEs (C2Beta, C3Gamma and C4Teq) have relied on their main customer, the GOB, for most of their business activities. The GOB accounts for more than 80% of business activity in each of these organisations. Thus, the type and scope of e-commerce adoption pursued in these SMEs had to suit the GOB’s interests, which, according to managers, does not support e-commerce. Amongst the tourism SMEs, the influence of the GOB has been noted in C5Home and C1Alpha, but the impact of the business relationship does not necessarily shift the SMEs’ objectives of pursuing e-commerce activities. On the other hand, most suppliers to the ICT and tourism industry are largely within the southern African region, Asia and Europe and the USA, and are not dominated by one large player. Thus, they do not impact extreme pressure on SMEs’ e-commerce adoption decisions.

5.8 Security concerns

The managers of C2Beta, C3Gamma and C1Alpha explained that security issues are still a major concern with the proliferation of ICT in business. The results are similar to Olatokun and Kebonye’s (2010) findings in a previous study aimed at investigating e-commerce adoption challenges faced by SMEs in Botswana. As financial institutions continue to deploy credit cards for use in B2B and B2C transactions, it becomes imperative that SMEs are abreast with secure ways of guarding confidential information. Seymour and Harris (2010) noted that with the high diffusion of mobile phones, African communities may not be well prepared in resolving security hurdles in business transactions.

5.9 The nature and characteristic of e-commerce markets

The nature and characteristic of e-commerce markets targeted by an organisation determines the extent of adoption as revealed in this study. The only SMEs that have progressed well are C1Alpha and C5Home; both firms have targeted external markets such as the US and European markets as the source of their e-commerce activities. These markets have been described to be favourable environments for e-commerce opportunities (Martinsons, 2008), whereas developing countries such as in
Explaining contextual factors affecting e-commerce adoption progression

southern Africa have yet to reach a critical mass of e-commerce readiness (Duncombe and Molla, 2009; Humphrey et al., 2003).

5.10 Active websites with payment options

The status of the organisational website does dictate the e-commerce strategy that an SME intends to follow. For C1Alpha and C5Home, the web is the gateway (Uzoka et al., 2007) for profit generation although its use varies to an extent in the two firms. Active websites that feature ‘presence’ (as defined in Rao et al., 2003) such as C2Beta and C3Gamma are merely marketing tools.

5.11 Financial ability

Another constraint for small firms in the study is the issue of funding, which directly impacts on the finance availability, as evidenced by C1Alpha, C5Home, C6Lodge and C4Teq. C1Alpha management opted not to seek financial assistance to improve their website appearance. Financial constraint was cited as a key challenge by SMEs at the entry-level in e-commerce adoption and also during subsequent levels of adoption (Aguila-Obra and Padilla-Melendez, 2006). Nonetheless, this factor alone does not account for why SMEs have challenges in adopting e-commerce because even in such circumstances, SMEs have managed to implement e-commerce activities in their organisations such as in C5Home and C1Alpha.

5.12 The role of the local business environment

Although a number of institutions exist in Botswana to coordinate SME development such as the Hotel and Tourism Association of Botswana (HATAB), the Local Enterprise Authority (LEA), the Botswana Confederation of Commerce Industry and Manpower (BOCCIM) and others, few SMEs actually take advantage of these institutions to enhance collaboration aimed at business development in their organisations. This corroborates earlier findings by Sentsho et al. (2009) and Duncombe (2004) who found that the potential for personal and social networks was weak among Botswana SMEs. C1Alpha relies on informal methods of interaction in the business environment such as “word of mouth” and collaborations generated from restaurant patrons. C5Home is an active member of BOCCIM, HATAB and LEA. That said, it also matters that business associations promote the professionalism that is at par with international business standards (Rolland and Monteiro, 2002), so that Botswana SMEs do not lag further behind in terms of technological development.

The findings in the tourism sector do align with the concept of strategic alliance that claims that e-commerce disadvantages in organisations can often be cushioned-off by the presence of other institutions in the business community (MacGregor and Vrazalic, 2005). Industry-wise, the tourism firms may be more active in this area than the ICT firms. Sentsho et al. (2009) noted the lack of coordination amongst several institutions in Botswana that are meant to assist in the development of SMEs.
5.13 The role of government in e-commerce adoption

Previous studies have usually depicted the role of government in policy formulation and regulation (Kshetri, 2007; Martinsons, 2008). In addition, the case of ICT SMEs in this study has depicted a dual role that the government plays in the Botswana business environment, a business partner or customer on one hand and a policy regulator on the other. Negotiating with government as a customer and at the same time a provider of ICT and telecommunications infrastructure does not usually breed positive growth for some SMEs such as C4Teq. As long as the GOB is a key player in most SME business activities, e-commerce adoption decisions in the present and foreseeable future will highly depend on it. The results contrast with findings from Scupola (2009) in a comparative study between Danish and Australian SMEs. The author found that the government role was non-significant amongst Danish SMEs, whereas it was indirectly significant in Australian companies. It must be mentioned that Scupola’s (2009) study defines the scope of government role in SMEs in terms of knowledge deployment, subsidies and mobilisation. This is particularly so in developed economies where the private sector is well diversified with various industries (Martinsons, 2008), and the government is mainly concerned with issues of regulation and policy guidance. In terms of small economies such as Botswana where there are few organisations in the private sector that can act to stimulate the economy, the government also participates as a business partner to many SMEs.

5.14 The global recession and e-commerce adoption

The global recession was cited by C1Alpha, C4Teq and C2Beta as inhibiting e-commerce in SMEs. Since its task was to sell art and crafts products to tourists particularly in the USA, there was little influx of consumers who at one time contributed up to 30% of C1Alpha’s annual sales revenue. In general, the global recession that has negatively impacted on other organisations worldwide has had a similar effect on the Botswana business environment.

6 Conclusion and recommendations

The discourse that investigates the factors affecting e-commerce adoption in the selected SMEs shows that the factors emerge differently depending on the context of the SME. Results show that contextual factors peculiar to each organisation provide better explanations on how SMEs progress in e-commerce adoption. The nature of e-commerce markets dictates the success that two SMEs have (C1Alpha and C5Home), thus indicating that global markets for tourism SMEs are more ready than the local Botswana market. The interaction of factors in the local business environment and the managerial issues has explanatory power for firms at the low level or at the non-adoption state of e-commerce (C2Beta, C3Gamma, C6Lodge and C4Teq).

The following factors were identified: managerial characteristics and perception of e-commerce adoption, availability of internet and ICT infrastructure, slow speed of the internet, cost of setting-up and maintaining internet applications, skilled ICT personnel organisational culture, supplier and customer preferences, security concerns, the nature
and characteristic of e-commerce markets, financial ability, the role of the local business environment, the role of government in e-commerce adoption and the global recession.

In general, organisational factors impact more than environmental factors and technological factors. In addition, the understanding of each case provides some revelation of how e-commerce progression in the SMEs occurred. There is an interplay of factors at all the three levels: organisational, environmental and technological, but the crucial factors that drove the SMEs to higher benefits are those in the organisational realm, touching on the leadership and innovative abilities of owner/managers and the necessary ICT infrastructure.

The recommendation of this study is that managers need to be fully aware of the local and global markets that they operate in. Furthermore, they need to clearly analyse and understand the internal resources and what opportunities are available in the external environment. This is because different organisations have peculiar needs in relation to e-commerce (Stockdale and Standing, 2006), and various prevailing circumstances will interact differently with the industry and national factors. SME managers need to be abreast with e-commerce developments and should not resist exploring new technological innovations for global business.

7 Implications for research and management practice

This study aimed to explain e-commerce adoption in SMEs to understand the factors that influence adoption and non-adoption. It departed from previous positivist research on e-commerce adoption. There are some areas that are worthy of thought and analysis. In the first place, the study applies a social-contextual approach to understanding the ‘inside’ issues of an organisation from an investigative background. The methodological process can be very long and requires patience from the researcher and the organisation’s participants to be able to follow through the stories of e-commerce adoption. The benefit of this is to allow the reader to appreciate the process of e-commerce adoption which varies somewhat in each of the SMEs depending on their context.

Findings in this study also challenge the general idea that SMEs worldwide are unable to embark on e-commerce because of their limited resource. Small firms can be better positioned to adopt e-commerce than medium or large organisations. Further research may thus be applied in other contexts to shed more insight into the contextual e-commerce adoption process in SMEs.

References


Explaining contextual factors affecting e-commerce adoption progression


