

Barriers towards E-Commerce Institutionalization in South Africa

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Abstract

E-Commerce is perceived as an avenue for economic growth, especially for developing countries. Small and Medium Enterprises are strongly encouraged to adopt E-Commerce technologies but very few have done so in most developing countries. Although there have been factors identified that affect E-Commerce initial adoption, no contextual understanding of factors that affect institutionalization of E-commerce in SMEs. This study therefore investigates the persistent barriers to E-Commerce institutionalization in South African SMEs in the Western Cape Province, Cape Town. The findings show that institutional forces perceived to be significant include the low level of readiness among government institutions to promote E-Commerce, the lack of incentives to help firms get on the Internet, and the continuous changes in government policies which makes it difficult to plan strategically. Despite having the better telecommunication infrastructure on the African continent, SMEs perceived a low market readiness for E-Commerce, specifically from consumers. SMEs attributed this to the cultural and linguistic challenges, and to the low internet penetration.

Keywords: E-Commerce, Institutionalization, SMEs, developing countries.

1. Introduction

E-Commerce has changed the way business transactions are processed around the world and has been predicted to be the driver of economic growth for developing countries (Jahanshahi & Khaksar 2011, Lawrence & Tar 2010). Businesses in developing countries, particularly small to medium sized enterprises (SMEs) have the potential to reap the benefits of E-Commerce such as increasing the efficiency to both consumers and businesses (Turban, King, Lang, & Lai, 2009), providing them with the ability to compete in local and international markets, and streamlining of business processes (Jahanshahi & Khaksar, 2011). There have been many studies conducted on the relationship between E-Commerce and SMEs, however, few of these studies have concentrated on Africa because of political instability, poor collaboration of the private sector and tertiary institutions which influences the potential for research, and the lack of requisite human and technical resources to offer programs and do research into e-commerce (Boateng et al., 2008). The advantages of E-Commerce have the potential to address some of the challenges facing the African continent, specifically economic and social challenges (Esselaar & Miller 2001). In addition, the “uneven adoption of E-Commerce creates an unfair competitive advantage for multinational oligarchs against local SMEs (small and medium sized enterprises) and creates a digital divide between developed and developing countries. Countries that lag behind in E-Commerce will risk being bypassed by those using the new technologies” (Zhu & Thatcher, 2010). It is therefore of paramount importance to understand this relationship because SMEs in Africa, like in most developing countries form part of the global economic growth (Lin, Huang, & Stockdale, 2011), and play a pivotal role in boosting the economies throughout the world.

Molla and Licker (2005, 881) identified a six-phase E-Commerce status indicator, relevant to the E-Commerce realities of developing countries, namely no eCommerce, connected eCommerce, static

eCommerce, interactive eCommerce, transactive eCommerce, and integrated eCommerce. Organizations with no E-Commerce status are those that have not considered E-Commerce. Organizations that have connected or have a static E-Commerce have considered E-Commerce but only connected to the Internet with email but no web-site or have a static website that publishes basic company information on the web without any interactivity. These are classified as organization in their initial adoption phase or entry-level adoption. Organizations at the interactive, transactive, and integrated eCommerce are organizations whose extent of adoption accepts queries, e-mail and form entry from users; performs online selling and purchasing of products and services including customer service; and integrates organizational systems with suppliers, customers and other back office systems allowing most of the business transactions to be conducted electronically (Molla & Licker, 2005). These organizations are said to be at the institutionalisation maturity stage of E-Commerce. Although E-Commerce has increasingly been adopted by South African SMEs in the last few years (Daniel 2011), its benefits and challenges are still unclear because there have been very limited empirical research conducted (Kyobe 2011) and as a result, some SMEs have become resistant toward the adoption and use of E-Commerce despite the evident benefits. When SMEs do adopt E-Commerce, most generally have informative websites that lack interactive facilities for online transactions (Maswera et al., 2008, 187). SMEs in developing countries, Africa in particular, tend not to reach the institutionalization stage of E-Commerce where they are able perform online selling and purchasing of products and services, provide customer service, and integrate their organizational systems with suppliers, customers and other back office systems thereby allowing most of the business transactions to be conducted electronically (Molla & Licker 2005). SMEs' lack of institutionalization is perceived as a concern, firstly, because SMEs have been discovered to be a key driver for a country's economic growth (Schmiemann 2009) and hence they cannot be overlooked in the economic development of any country (Apulu & Ige 2011, 207); and secondly, institutionalization is regarded as the future of most E-Commerce activities, as it has the potential to facilitate the integration of these countries into the global economy. Institutionalization has mainly been associated with external factors such as competitors, trading partners, customers, and government (Oliveira & Martins, 2011, 116). This study therefore focuses on the external factors that affect organization in their quest to adopt and consequently institutionalize E-Commerce. The study adopts a quantitative approach to explain the E-Commerce phenomenon in South African SMEs.

The rest of this study is arranged as follows: Section 2 provide a literature review on E-Commerce and relate theories used to study adoption of technologies. Section 3 describes and discusses the research approach. The field research findings and an extrapolation of the field research findings in the context of the theoretical findings are documented in Section 4. Finally, Section 5 concludes and provides recommendations and future research work related to this study.

2. Related Work

E-Commerce maturity in developing countries, especially those in Africa, is still at its infancy. E-Commerce maturity refers to the "development and growth, from an initial E-Commerce state to an advanced E-Commerce state" (Zandi 2013, 67). Molla & Licker (2005)'s E-Commerce maturity model for developing countries shows that depending on technology complexity, organizations fall into two main categories: initial adoption stage and institutionalization stage. SMEs, then advance to each stage sequentially, as their application complexity increases. Organizations at the initial adoption stage, would have considered E-Commerce but are only connected to the Internet with email but no web-site or have a static website that publishes basic company information on the web. Organizations that have reached the institutionalization maturity stage would have a dynamic website where customers can place orders for products or services and order tracking be implemented; they would have capabilities required for online transactions.

Several authors had concluded that E-Commerce in developing countries is yet to reach institutionalization and this is because of contextual organizational and environmental factors. The latter has been perceived as key to institutionalization of E-Commerce. Environmental factors perceived to

affect E-Commerce include infrastructure, socio-economic and cultural conditions, and inadequate institutional support such as government policies that are adequate and support E-Commerce endeavors (Tar 2010; Molla and Licker 2005). Inadequate infrastructure to support Internet connections was perceived as a major barrier facing e-business globally because “issues such as access to Internet services, including the hardware and software, as well as the communications infrastructures are poorly developed” (Fleenor & Raven 2011, 40). Having the infrastructure to take advantage of E-Commerce, such as Internet Infrastructures, is crucial for e-business capability and SMEs successes (Solaymani et al, 2012) because “as an application of the Internet, E-Commerce depends on information infrastructures and telecommunications for its development” (Gilaninia et al., 2011). Lawrence and Tar’s (2010) emphasize the importance of having access to the technical infrastructure which “ensures that the underlying networks, hardware/software, and technical exist so that organizations can create the applications and web sites necessary for organizations to implement and sustain E-Commerce ventures” (Jennex et al, 2004, 281).

Another factor affecting E-commerce has been the availability of a conducive financial supporting institution that can promote E-Commerce endeavors. The absence of a conducive banking system that allows for the conduct of electronic payment systems has deterred many businesses from E-Commerce (Mukti 2000). This is because most commercial and financial institutions in developing countries are not mature enough to handle secure and reliable electronic transactions (Zhai 2011) as they still partly rely on cash as the most dominant medium of exchange (Worku 2010). Same findings are reported in Nigeria (Apulu et al., 2011). To address these challenges, it has been recommended that institutional mechanism be put in place to address them because “the adoption and development of E-Commerce also depends on the degree of involvement of the public authorities in developing a legal framework and a set of policies that favor its development” (Gilaninia et al., 2011,14). According to Lin et al. (2011), companies cannot succeed without government creating a supportive environment for E-Commerce adoption that focuses on policies, legal environment, and socio-cultural infrastructure. Shemi and Procter (2013) found that for E-Commerce in SMEs to flourish in a developing country like Botswana, there needs to be improved E-Commerce policy formulation. Government policies have been reported as an important determinant of IT adoption, especially those relating to improving telecommunications infrastructure, cost and service, a fair tax policy for online transactions, financial incentives, a national E-Commerce strategy, enhancement of government E-Commerce use, and the provision of E-Commerce training (Zhu & Thatcher 2010).

In addition to the development of a conducive legal environment for E-Commerce, social factors which act as barriers need to be considered. For example national cultural factors such as societal norms, values, etc that guide people’s behaviour and beliefs’ are known to influence E-Commerce adoption decisions (Teo & Lie, 2007, 22). In China, cultural issues such as “ ‘socializing effect of commerce’, ‘transactional and institutional trust’, and ‘attitudes toward debt’ ” were determined to be the major impediments (Efendioglu & Yip, 2004). In Vietnam, websites are perceived as being “merely places for promotion; not for purchase” because “Vietnamese consumers are used to the practice of seeing and touching before buying” (Van Huy et al., 2012). Uncertainty avoidance as one of the dimension of culture had the most direct bearing on E-Commerce adoption intentions in Chile. This is because E-Commerce brings structural changes and requires the redesign of organisations which most collectivist societies may not be as comfortable with as may individualistic societies (Grandón et al., 2011). Similar findings reported by Singh et al. (2008) reflect that uncertainty avoidance is one of the cultural values that affect U.S. Hispanic web content preferences. According to DeMooji & Hofstede (2002, 64), “longterm oriented cultures are particularly found in East Asia and value acceptance of change, perseverance, thrift, and pursuit of peace of mind. Short-term orientation is found in the Western world”. SMEs operated by Chinese-born owners in New Zealand were found to exhibit high power distance, and their attitude toward E-Commerce technology directly influenced their firms’ E-Commerce growth process (Chen & McQueen 2010).

Finally, E-Commerce is affected by the ability of consumer demand to buy online (Al Ghamdi al., 2011).

Consumer purchasing power and the country at large in terms of its GDP are a key determinant of E-Commerce diffusion rates across countries. Consumer size and the ability of an organization to convert habitual users of the Internet to customers is particularly important since size positively influences the development of E-Commerce (Rodriguez-Ardura et al., 2008). Competitive pressure is also one of the determinants for E-Commerce (Ghobakhloo et al., 2011). For example, Abdulghader et al. (2011) and Yang (2012) report that E-Commerce technologies provide competitive advantages that are vital in enhancing imperfect markets across firms. Thus understanding one's competitors and the means of obtaining competitive advantage, has become one of the determinant of Information System strategies in commercial organizations. A summary of these factors are highlighted in Table 1 and form the underlying theoretical framework for this study. This theoretical framework in Table 1, adds value to Molla and Lickers (2005) study by incorporating the socio-cultural construct, which is crucial in providing contextual understanding.

| Barrier | Explanation |
|-------------------------------------|---|
| Institutional support | government and its various institutions to promote, support, facilitate and regulate E-Commerce |
| Socio-culture | Cultural practices, both formal and informal, that negatively affects E-Commerce. |
| Supporting Industries | support-giving institutions whose activities might affect E-Commerce initiatives |
| Market forces | business partners such as customers and suppliers who are ready for electronic conduct of business either |
| Table 1: E-Commerce Barriers | |

3. Research methodology

This study follows a quantitative approach and therefore rejects the notion that all scientific interpretation (the derivation of all scientific meanings) is subjective. In other words, the researcher is independent from the phenomenon (Kort & Gharbi 2011) and does not believe that our knowledge of reality is “gained only through social constructions such a language, consciousness, shared meanings, documents, tools, and other artifacts” (Klein & Myers 1999, 69). Data was collected from July to September 2013 in Cape Town, South Africa. A snowball sampling technique was applied to identify potential respondents in Cape Town who have adopted E-Commerce in their organization. The study therefore does not represent the full South African population. All respondents were either SME owners or managers as they were in the best position to answer questions related to management issues and challenges facing the organization. Data was collected using a questionnaire derived from literature review, specifically from constructs depicted in Table 1. The questionnaire consisted of two parts: the first obtained the demographics of the SME, and the second gathered information relating to the E-Commerce maturity level of each SME and the barriers that hinder them. Qualtrics was used to create an online questionnaire for the respondents. It should be noted that Qualtrics was used because the research assumption is that all SMEs have already adopted E-Commerce. They however, have not institutionalized E-Commerce – the focus of this research. SMEs that had not adopted E-Commerce were not considered. The researcher emailed the link of the online questionnaire to a total of 743 SME owners or managers of SMEs in Cape Town. Each questionnaire was in the form of closed-ended questions and took the form of 5 point Likert-scale questions that ranges from “strongly disagree” to “disagree” or “agree” to “strongly agree” Some SMEs were phoned to request the possibility of filling in the online questionnaire. Participation in the questionnaires was on a voluntary basis and all the details of the respondents were kept strictly confidential. The owners or managers that failed to respond were emailed again the link which helped to increase to amount of respondents. 75 questionnaire responses were received and 11 of the responses could not be used because they were incomplete. A total of 64 questionnaire responses were used for data

analysis. Data analysis was done using SPSS (Statistical Package for the Social Sciences). The analysis was mainly on the detailed descriptive statistics. Cronbach's Alpha was used to measure the reliability of the constructs within the questionnaire and assessed if identical results would be provided if the same questions were rearranged and given back to the same respondents. The findings in Table 2, show the research instrument internal validity since all constructs had a Cronbach's Alpha greater than 0.6.

| E-Commerce barrier | Value |
|----------------------------------|-------|
| Supporting Industries | 0.734 |
| Institutional support | 0.708 |
| Socio-culture | 0.713 |
| Market forces | 0.630 |
| Table 2: Cronbach's Alpha | |

Further, a Pearson correlation analysis was conducted to determine the relationship between each constructs. The findings are depicted in Table 3. There was a medium correlation value between socio cultural issues and market forces (0.4); between Institutional support and Supporting Industries (0.34); as well as between Supporting Industries and market forces (0.35). The implication is that a favorable market force breeds a better social and culture environment for E-commerce; the presence of government support can result in supportive industry partners for E-Commerce; and consequently the active participation of industrial partner's yields active E-Commerce participation of consumers and organization.

There was a weak correlation between supporting industries and socio cultural issues (0.1); institutional support and socio cultural issues (0.26); and between institutional support and market forces (0.28). The implication is that the existence of strong supporting industries and government intervention weakly implies a culture and social cues that support E-commerce; and that a favorable government support can to some extent yield active E-Commerce participation of consumers and organization

| | | Supporting Industries | Institutional support | Socio-culture | Market forces |
|--|---------------------|-----------------------|-----------------------|---------------|---------------|
| Supporting Industries | Pearson Correlation | 1 | .341** | .102 | .352** |
| | Sig. (2-tailed) | | .006 | .425 | .005 |
| | N | 63 | 63 | 63 | 63 |
| Institutional support | Pearson Correlation | .341** | 1 | .264* | .279* |
| | Sig. (2-tailed) | .006 | | .037 | .027 |
| | N | 63 | 63 | 63 | 63 |
| Socio-culture | Pearson Correlation | .102 | .264* | 1 | .409** |
| | Sig. (2-tailed) | .425 | .037 | | .001 |
| | N | 63 | 63 | 63 | 63 |
| Market forces | Pearson Correlation | .352** | .279* | .409** | 1 |
| | Sig. (2-tailed) | .005 | .027 | .001 | |
| | N | 63 | 63 | 63 | 63 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | | | |
| Table 3: Pearson's Correlation | | | | | |

4. Findings and Discussion

4.1 Background information

The findings indicate that a typical SME had an average of 9 employees. Most SMEs were in the service sector (42%) and the retail sector (22%). A few (16%) of the respondents were from the industrial sector

and a few (14%) from an unclassified sector. The financial sector had the least number of SMEs (6%). The majority of respondents (63%) was computer literate and had general computer skills. This is understandable given that the majority (76%) had a tertiary degree (41% had an undergraduate degree and 35% had a postgraduate degree or a diploma certificate) which exposes them to the use of a computer. 9% considered themselves as having the technical know-how but were not experts. 17% considered themselves as experts in technology. SMEs at the initial adoption phase reported as having the highest number of experts in ICTs, followed by SMEs at the enterprise integration maturity stage of institutionalization

Only 3% of the SMEs did not have internet access. 5% had a dedicated dial up services, 55% have access to Internet Service Provider, 16% have access to dedicated high speed internet while 14% has access to a dedicated server LAN (Local Area Network). Most SMEs at the enterprise integration maturity stage of institutionalization had a dedicated high speed internet service. Although the majority of SMEs had internet access, few had reached the integration stage of E-Commerce institutionalization. For example, most (40%) had access to email and established their presence online, having a simple static website that promotes their business. Few (19%) of SMEs had reached the interactive stage of institutionalization where they would have a dynamic website where customers can place orders for products or services and order tracking be implemented. 22% of SMEs were at the transactive stage of institutionalization and 19% at the integrated stage of institutionalization.

4.2 Barriers to E-Commerce adoption

The findings show that the majority of South African SMEs have surpassed the initial adoption and are embarking on institutionalization. However, the majority remain at the initial stage of institutionalization stage of having a dynamic website where customers can place orders for products or services and order tracking be implemented. The underlying reasons for the lack of progression to the transactive and integration stages of E-Commerce are discussed in the following subsections.

4.2.1 *Institutional support*

SMEs indicated that there is low level of readiness among government institutions for E-Commerce and that the constant change in regulations with each government makes it difficult to adopt E-Commerce. This is a barrier to E-Commerce because at “the initial stage of E-Commerce, supportive government policies and effective legal environment were powerful facilitators of E-Commerce adoption”(Zhu & Thatcher, 2010). SMEs indicated that there remains an absence of a stable conducive environment, such as legal and regulatory systems that could propagate E-Commerce adoption. SMEs were specifically worried about the lack of effective Internet security and privacy measures. The lack of Internet security and privacy measures has been a recurring problem in South Africa. Although the South African Government has put in place enabling policies, and regulatory frameworks, Mutula and Mostert (2009) believe they have not been effectively leveraged to enhance service delivery. Kyobe (2011, 255) concurs with these findings and adds that ‘the effect of state policies was surprisingly not significant’ because “most information security practitioners are not familiar with the legal and policy aspects that they are supposed to integrate in the implementation of information security and thus most organizations in the country are not complying with the law” (Dagada & Eloff 2013). It is therefore recommended that the government should not only rest on creating policies for E-Commerce; but should actively engage in creating awareness of these policies, giving incentives and creating a conducive environment to help firms get on the Internet because according to (Kyobe 2011) policy implementation and adoption of such policies are not necessarily the key determinants of adoption. The adoption of E-Commerce and related technologies arise when business that are organizational ready find themselves operating in a stable business environment (Mpofu & Watkins-Mathys 2011).

4.2.2 Supporting Industries

The findings of this study show that all SMEs perceived the infrastructure to be the least barrier to E-Commerce although they did indicate the quality of service and the protection level could be improved because “for E-Commerce to grow there must be very advanced physical, secure, always-on encrypted e-infrastructure” (Thakur & Singh 2013,45). Further findings show that although there was a perception that commercial and financial institutions were mature to handle E-Commerce transaction, there was a belief that their maturity was affected by the institutional policies that fail to address issues of security and privacy concerns. SMEs therefore perceive South African financial institutions as matured for E-Commerce conduct. There is however a strong belief that the industry needs to provide support and create measures for improving the internet penetration rate, which could consequently improve E-Commerce activities

4.2.3 Market force barriers

SMEs found that there was a lack of popularity for online marketing and sales in South Africa. This was partly due to consumer’s lack of awareness of E-Commerce benefits and partly due to the lack of external pressure from suppliers and customers. The findings are consistent with Zafar et al (2014) who report that one of the critical barriers in South Africa is the lack of awareness about the benefits of ICT. Mlitwa and Raqa (2012)’s findings suggest that E-Commerce offerings by retail supermarkets are not well known by most South African customers and therefore usage is limited. Another problem reported in this study was the low internet penetration rate which consequently meant that few consumers could access and use E-Commerce. Low internet penetration has been a consistent problem in Africa, and more so in South Africa where social and economic exclusion are the biggest challenges which impact digital inequalities (Oyedemi 2012). According to Oyedemi (2012), digital inequalities are a sign of social inequalities in the country and is a barrier towards E-Commerce because “access is considered as a prerequisite to IT adoption in developing countries” (Datta 2011). Although South Africa shows a 25% increase in internet penetration in 2011, the country “still lags behind the biggest Internet user bases in Africa: Nigeria with 45-million users and 29% penetration, Egypt’s 21.6-million users and 26% penetration, Morocco’s 15.6-million users and 49% penetration, and Kenya’s 10.4-million users and 25% penetration” (Goldstuck 2012,38).

4.2.4 Socio-culture barriers

There was a perception that South African culture and linguistic barriers impedes the E-Commerce adoption process. For example, SMEs indicated that the majority of South African consumers are unable to transact online due to language barrier. Although there have been measures to provide local content online and provide customization of search engines to operate in other languages, Omojola (2009) believes that it is up to Africans themselves to Africanize ICT content for their countries. Nevertheless, technology literacy and the production of online content in African languages still need to be emphasized as part of policy transfer initiatives (Eko 2013).

5. Conclusion

This purpose of this study was to identify barriers to E-Commerce institutionalization in South African SMEs. The findings show that SMEs are faced with environmental barriers relating to institutional forces, market readiness, support from the industry, and sociocultural forces. Institutional forces perceived to be significant include the low level of readiness among government institutions to promote E-Commerce, the lack of incentives to help firms get on the Internet, and the continuous changes in government policies

which makes it difficult to plan strategically. SMEs indicated that there was a low market readiness for E-Commerce, specifically from consumers and this was perceived as a challenge as it did not motivate institutionalization. SMEs attributed this to the cultural and linguistic challenges, and to the low internet penetration. Although South Africa has more than 10 official languages, the language on the internet tends to be English which excludes the majority of potential consumers. There was a strong perception that there was a lack of effective Internet security measures which deterred many consumers from E-Commerce.

These findings point to the need for collaboration between government and industrial so as to address institutional policies that affect E-Commerce and work on how to improve the technological environment that is suitable for E-Commerce institutionalization. The focus should be on strengthening the security and privacy policies relating to the conduct of electronic transactions; making consumer and business aware of these policies and on how to protect themselves; and ensuring that these policies remain fairly constant with each change of government to avoid uncertainties and mistrust amongst businesses. In so doing, SMEs become trustful of the regulatory and economic environment and consequently embrace the intentions to institutionalize E-Commerce. Further, there needs to be measures of instilling awareness of and the benefit of E-Commerce and related technologies in the public whilst consequently considering socio cultural hurdles which hinder adoption. The study contributes the discussion of E-Commerce research, and reaffirms that institutionalization of E-Commerce is strongly influenced by external factors of the organization.

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