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External Factors Affecting TheAdoption of E-procurement in Saudi Arabian's SMEs

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Abstract

This paper investigates and discusses external factors for the adoption of e-procurement. The research has modified Gunasekaran and Ngai(2009) model to fit external factors and has been used as a theoretical foundation for the research. An extensive literature review has been conducted to evaluate external factors and Qualitative methodology (interview) has been adopted to get an insight into the external factors specific to Saudi Arabian perspectives. The study found nine external factors relevant to adoption of e-procurement in Saudi Arabian SMEs which are government Support, own postal addresses and delivery service, providing secure and trustworthy online payment options, low cost and high speed internet connection, IT-related educational programs, supplier's willingness and readiness to participate or exert pressure, competitor's pressure, policy and regulations and Business and national culture of the country.

1. Introduction

NFIB ("National Federation of independent businesses") in its 2005 report has suggested that there are many external factors or pressures that encourage or discourage an organisation into adopting ICT innovation such as e-procurement (Nguyen et al, 2015). Other suggested that these external factors are organisations objective of enhancing its survival, increase its growth or to remain highly competitive (Bruque and Moyano, 2007 and Burca et al, 2005). Andries et al (2006) and DiGrande et al (2013) have stated that external factors are forces in organisation's external environment such as business expansion or improved efficiency. Rogers (2003) stated that external factors are the factors that forces managers adopt ICT innovations to make quick and efficient decisions for the growth and survival of business. Innovative decision can be a very good motivator for SMEs because of their poor financial position (Lema and Durendez, 2007). Since these SMEs often have less financial resources they need to be highly convinced or motivated to indulge into the adoption of ICT related innovations such as e-procurement (Fuller-love, 2006). He

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further stated that since most of these SMEs mortgage their possessions or property in order to get such innovation into place they often require some real motivation or concrete benefits to do so. They will either be forced into the adoption or motivated into the adoption by showing enough potential future advantages to do so. The vision and belief of top management play an extremely important role in making such decisions (DiGrande et al, 2013).Crag and Mills(2011)and Nguyen (2009) understand that external factors can be viewed as catalyst, pre-requisites, reasons or triggers for the adoption of e-procurement in SMEs or other type of businesses. These external factors will have a big impact on the adoption of e-procurement or other ICT related innovations in SMEs.

1.1. Aim of Study

To evaluate and if appropriate, modify the Gunasekaran and Ngai (2009) theoretical model to conceptualise the benefits and barriers to adoption of e-procurement within selected SMEs in Saudi Arabia.

1.2. Theory and Research Background

E-procurement has the ability and potential to enable SMEs to adapt to the needs of modern-day business and is economically more productive and profitable for Businesses (Narayanasamy et al, 2008). Adoption of e-procurement is a challenging task for SMEs due to their small size and limited resources. Lack of awareness and its effects on organisation performance are the main reasons for SMEs' slow progress towards e-procurement adoption (Mohamed, 2010). A research study was conducted by Gunasekaran and Ngai (2008) in Hong Kong and in the South Coast of Massachusetts in the USA (2009). The model adopted shows factors that are of key importance for SMEs' owners and managers to consider while adopting e-procurement. This research will test the Gunasekra and Ngai (2009) model. Also the research intends to extend the Gunasekra and Ngai (2009) modelby adding the element of external factors in addition to the already five mentioned factors. The Gunasekra and Ngai (2009) model has mostly concentrated on internal factors but as is evident from Nguyen et al (2015) there are many external factors that can positively motivate or otherwise can exert pressure on an organization to adopt e-procurement in addition to many internal factors.
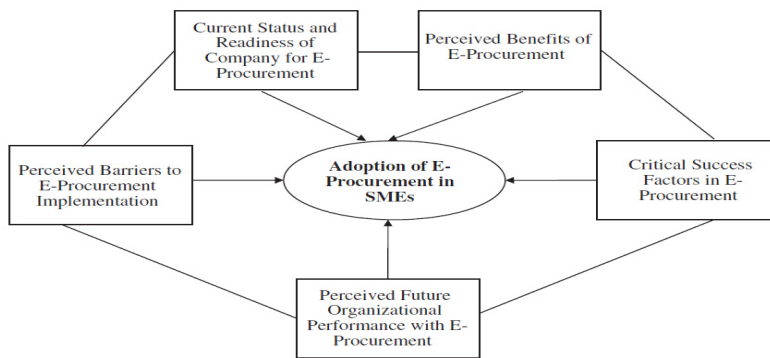

Figure 1.1: Work flow in adoption of e-procurement in SMEs. Source:Gunasekaran and Ngai 2009.

1.3. Significance of Study and Research Contribution

This study gets an insight into external factors affecting e-procurement adoption in Saudi Arabian SMEs. The study is one of its kinds and will serve as guidance for the managers and owners of SMEs as well as government and trade ministry about the external factors that affects e-procurement adoption in Saudi Arabian SMEs. This study is very significant because there is no previous study on the subject in Saudi Arabia and Arab gulf. The study extends Gunasekaran and Ngai (2009) model adding external factor as the 6th element to the model. The study justifies the

element through literature and data obtained via interview. The study also helps in understanding the relationship of external factors with other elements of the model.

2. Literature Review

2.1. Key external stakeholders (customer & supplier) of E-procurement

The two key external stakeholders that affect the adoption of e-procurement are customers and suppliers. In the following paragraphs, the research highlights various customer- and supplier-related processes and applications related to e-procurement adoption that positively influence an SME.

2.1.1 Customer-related processes

This refers to the processing and execution of information from both customers and suppliers and other information-related tasks. Since most of the information received from customers is either complaints or requests, a quick response is always required (Sila, 2013).   Customers today look for quality, variety and more importantly faster and reliable delivery of their products. E-procurement has the potential to offer such advantages, as it is a close and reliable link between customers and suppliers and feedback, complaints and responses can be directly seen and dealt with. Further, e-procurement allows businesses to have a wider range of suppliers and hence more variety in products to fulfil customer demands in the best possible manner (El-rassi et al., 2014).

2.1.2 Supplier related processes

The internet has increased the opportunities for firms to get information from and develop a strong relationship with suppliers. The process requires the development of a strong, mutually beneficial and viable relationship with suppliers, such as giving firms an opportunity to find and select the best supplier using statistical data and matrices (Kothari et al., 2005). E-procurement enhances transaction efficiency and improves supplier performance and is able to deliver products of the right quality, quantity and price at the right time, thereby increasing its overall efficiency and potentially its customer base. It allows SMEs to choose the right supplier for the business who can offer the products the way their customer demands within the desired parameters of price and quality. E-procurement increases potential buyers and ultimately the number of customer the product reaches increases: thus, suppliers can sell maximum inventory and can gather market intelligence, which further increases their chances of increased sales in the future (Kim et al., 2014).

2.1.3 IT applications for Customers

An effective and efficient e-procurement operation has a website that provides all the necessary and detailed information required by customers (Kim et al., 2014). There must be a feedback and FAQ (frequently asked questions) section where customers can find answers to their questions and leave feedback about their experiences with the products. It must allow customers and suppliers to carry out different types of transactions. Suppliers and customers must be able to customise, submit, track and modify their orders. It must give them automatic notifications about the status of different orders. Similarly, the e-procurement application must be aligned with other e-business models and must be fully integrated into the supply chain of the business (Sila et al., 2015). Further technological innovations in e-procurement have increased visibility and have brought customers and suppliers closer together, such that the customer can send complaints and feedback that will be seen directly by the suppliers in addition to the business, so that they can be quickly addressed and resolved (Rehman et al., 2012).

2.1.4 IT application of Supplier

Successful e-procurement relies on the strength of electronic links between different partners and the market supply chain (Chang, 2010). It must also have all the aforementioned features of customer applications (Chow, 2008). Since suppliers can get feedback directly from customers, they have the opportunity to work on and improve their products. Market intelligence gathered in this way can be very valuable for the future sale of the supplier's products (Sahayand Ranjan, 2008).

2.1.5 Customers' and Suppliers' readiness for e-procurement

Successful e-procurement adoption requires the supplier, customers and the company to be ready for it in terms of skills, cost and other factors. A company that is not fully prepared cannot achieve a position of strength in the value chain (Zunk et al., 2014). According to Chang (2010), firms' decisions about e-procurement adoption are greatly affected by supply chain partners, i.e. customer and suppliers. Aman and Kasimin (2011) have stated that early research on e-procurement adoption has found that customers are very slow at e-procurement adoption and this acts as a critical hurdle for SMEs' adoption of e-procurement in a country where there is less of a trend in this regard.

2.2. The American perspective of e-procurement external factors

According to a study conducted by Forrester (2001-2003) for the US Institute of Supply Management, in which he interviewed 700 people who were involved in the procurement process in one way or the other, there are a number of external factors that map the progress of e-procurement adoption in that country. Another study on e-procurement external factors in the USA, conducted by Minahan and Degan (2001), is also of key importance in this regard. Based on both these studies, the following list of external factors was finalised by Eadie et al. (2007):
- Standardised procedures and enhanced "skills test".
- Enhanced competitors and market data research.
- Government support.
- Transaction and payment cost.
- Visibility and trust on the supply chain.
- Number of suppliers.

Another study was conducted by Fernandes and Vieira (2015), who also ranked the external factors in order of their priority. They maintain that Government support has the highest priority, followed by transaction and payment cost, organisational culture, number of suppliers, visibility and trust of supply chain and finally enhanced competitors' and market data. The effects of these external factors may differ in Saudi Arabia due to the variation in national and organisational culture and also the way SMEs operate in the country and will need to be tested through qualitative research.

3. Extending the Gunasekaran and Ngai (2009) model

This study extends Gunasekaran and Ngai (2009) model to incorporate external cultural factors affecting the adoption of e-procurement in Saudi Arabian SMEs. Original Gunasekaran and Ngai (2009) model mostly concentrated on internal factors that are within the jurisdiction of SMEs and their owners, however there are other factors that are out of the control of SMEs and their owners that affects the adoption of e-procurement, which is particularly the case with that are relevant and affects the adoption of e-procurement (Nguyen et al, 2015). The affects of perceived cultural and external factors are highly pronounced in the adoption of innovative technology in Saudi Arabian perspectives (Bruque and Moyano, 2007). These external factors are very important in predicting the future adoption of e-procurement in Saudi Arabian SMEs. The study investigates seven key external factors across four selected SMEs to get an insight into the efficacy and validity of those factors. The analysis will be of key benefit for the adoption of e-procurement in Saudi Arabian SMEs and elsewhere in the world.
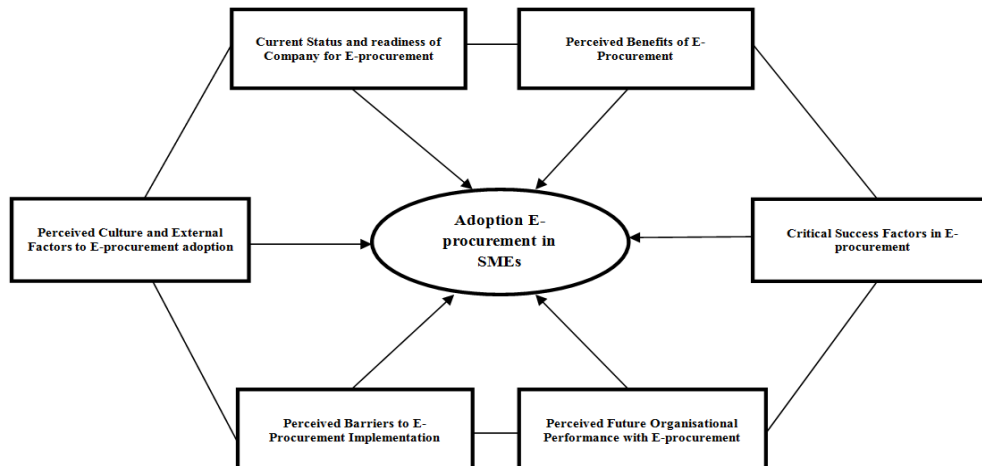
Figure 3.1 Extended Gunasekaran and Ngai (2009) model

4. Perceived External Factors of Adoption of E-procurement in Saudi Arabian SMEs

The Gunasekaran and Ngai (2009) model has mostly concentrated on internal factors, but as is evident from Nguyen et al. (2015), there are many external factors that can positively motivate or otherwise can exert pressure on an organisation to adopt e-procurement in addition to many internal factors. This is particularly important for Saudi Arabia, whose culture is not highly supportive of technological innovation (Brdesee, 2013). It is also evident from Bruque and Moyano (2007) and Tran et al. (2014) that competitors' pressure is a key external force for e-procurement adoption. Chan et al. (2012) argue that there are some other factors that have a positive impact on the adoption of technological innovation in business. These external factors will make the prediction of e-procurement adoption easier for the research in selected Saudi Arabian SMEs. External factors of e-procurement are wider in scope and cover social, political and other infrastructural factors that will positively impact a firm's adoption of e-procurement. The validity of external factors was tested via interview questions. Responses to these questions are explained in detail in data analysis and discussion.

5. Validity and reliability of factors for the Gunasekaran and Ngai (2009) model

Analysis of qualitative data revealed that there some external factors that are very vital for the adoption of e-procurement in Saudi Arabian context. The key external factors revealed are as follows
- Government Support
- Owning postal addresses and delivery services
- Providing secure and trustworthy online payment options
- Low cost and high speed internet connection
- Educational programs
- Supplier's willingness and readiness to participate or exert pressure
- Competitor's pressure
- Policy and regulations
- Business environment and culture of the country

These external factors can be justified by previous studies such as li et al. (2015),who have argued that an effective e-procurement adoption requires an environment or culturethat is conducive for online buying and selling of goods and also must hail innovation and technology. Similarly from the works of Forrester (2001-2003) and Minahan and Degan(2001) in the USA, Hawkin et al. (2004) in Australia, Westcott and Mayer (2002) in the UK and Eadie et al. (2007) in Northern Ireland,it can be deduced that external factors are vital for the adoption of e-procurement in Saudi Arabian SMEs.

5.1. Justification for placing perceived culture and external factors adjacent to current status and barriers

Culture and external factors are intrinsically linked due to the fact that e-procurement in itself is a western product developed on the norms of western culture and will impact the work culture of SMEs in Saudi Arabia as can be deuced from Straub et al (2009) and Slyke et al (2010). Similarly the researcher has placed "perceived external factors" adjacent to barriers and current status because external factors such as "Government support", "own postal address" and "payment options" will lead to barriers if there is any weakness or deficiency in them as per Janssen et al. (2012), Zaied (2012) and Irefin et al. (2012). Similarly, factors like internet speed and availability, payment system options and educational programs determine the current status of knowledge and understanding in the organisation and its people, as pointed out by Nurmandi (2013), Apulu et al. (2011) and Ghobakhloo (2012).

6. Methodology

The study used qualitative research methodology (interview) which is widely practiced in these kinds of researches (Rogers and Bouey, 1996). Research used a range of structured, semi-structured and unstructured interview questions. The key aim of interview questions was to get an insight into the external factors affecting the adoption of e-procurement in Saudi Arabian SMEs extending Gunasekaran and Ngai (2009) model. Interview is a robust data collection technique that leads into highlighting new factors and areas that affects a specific phenomenon (Yin, 2009). Data collected was subjected to analysis using within case and cross case study analysis.

7. Data analysis

The key objective of this within-case analysis is to build on the output of Gunasekaran and Ngai (2009)model, and broader e-procurement literature research to determine factors that affect the adoption of e-procurement in selected Saudi Arabian SMEs. As discussed by Gilovich(1991), often when something is random, illusory and chaotic, explanations that attempt to assign logical meaning miss the mark, and to avoid this, within-case and cross-case analysis has been undertaken.

7.1. Within-Case Studies

Case 1

Ahmed Bamarouf automotive (Saudi Suzuki) was established by Ahmed Bamarouf in 1945 in Jeddah. The company started selling Suzuki products in 1968 in the kingdom of Saudi Arabia. Unlike Gunasekaran and Ngai (2009), the present study found that it is not only internal factors that can potentially impact the adoption of e-procurement in the SME,asthere are some key external factors that have great impact on the adoption of e-procurement. Key external factors found by the study were Government support, having one's own postal addresses and delivery services, providing secure and trustworthy online payment options, low cost and high speed internet connection, related educational programs, supplier's willingness and readiness to participate or exert pressure, competitors' pressure, policy and regulations and business and national environment of the country. Study participants' interview statements revealed that the external factors are more important for the adoption of e-procurement in the SME than the company's own shortcomings or weaknesses. One of the most important external factors the company referred to was government support. The head of Saudi Suzuki, elaborated on this factor,andalsothe head of IT in Saudi Suzuki also believed that Government is a key external factor that can have a positive or negative impact on SMEs adoption of e-procurement. It was also revealed that owning a postal address is a very important external factor for the wider adoption of e-procurement, as mentioned by the head of the company's IT department. Another important external factor that is perceived to affect the adoption of e-procurement is the business culture of a country. Many study participants mentioned this in their interviews and understood that it has a vital impact on the SMEs' adoption of e-procurement. This can be confirmed by the interview statement of the head of the procurement department in Saudi Suzuki, who believed that it is a key external factor that acts as an important inhibitor or enabler for e-procurement adoption in Saudi Arabian SMEs. Another very important point mentioned by the head of the IT department in Saudi Suzuki regarding the national environment and demographics of Saudi was regarding the population living in cities, which he considered to be a good enabler of ICT. Other interview participants also identified this as an important external factor and described its positive and negative aspects for the adoption of e-procurement in Saudi Arabian SMEs.

Case 2

The second case examined in this research is a company called Khatib and Alami(KA). It deals in urban regional planning, engineering and architectural projects, and is famous for reliable project delivery, offering an integrated approach towards its clients. It started its services in the kingdom of Saudi Arabia in 1984 .The analysis of qualitative data obtained via interview fromKA also revealed that the company is financially very sound and has the staff to adopt and carry out e-procurement activities: i.e. the SME is internally quite strong but it is the external factors that have a greater impact on the adoption of innovative technology (e.g. e-procurement). Quite a few external factors were revealed from the interview statements of the participants from the company.As inCase 1 , most of the external factors

mentioned by the interview participants were related to Government, infrastructure, perception of the use of technology etc. These are evident from the interview statements of the participants: for example, the head of KA, the head of the procurement departmentand the head of the IT departmentalso termed government support a vital external factor for the adoption of e-procurement. The head of KA and head of IT, stated with regard to the relationship between external factors and culture.However, majority of the population are living in cities where they enjoy most of the facilities needed for e-business activities, so the country can proceed to the adoption of e-procurement in its SMEs, which are obviously situated in cities.The Deputy Head of KAmentioned a very important point about the business culture.

Case 3

Durrat Al-Maram was established in 1995 , for the purpose of importing perfumes and cosmetics from different Europe and American brands and distributing the packages around the middle region of Saudi Arabia. The office is based in Riyadh and there are twelve people working in this enterprise. C3 is a relatively smaller company and is not financially very sound. It has only one qualified IT person and the rest of the staff are not IT skilled and trained, which means that it has internal weaknesses; however, like the other SMEs, it is affected by the external factors to a greater extent. Even the financial weaknesses can be related to government and other financial institutions' lack of interest in providing loans to these SMEs to extend and grow their business. Referring to the external factors, the interview participants mentioned quite a few factors which affect their progress in adopting innovative technologies such as e-procurement. As in other companies, the external factors mentioned were related to issues such as infrastructure, legislation, lack of payment options and trust in them and lack of own postal addresses. Some of these factors are mentioned in the participants' interview statements: for example, head of Durrat Al-Maram, referred to the company's financial weaknesses and government and other institute lack of interest. Similarly, referring to the lack of IT-skilled people, the head of the company stated that there is a general scarcity of such personnel in the country and that those with skills demand higher salaries, which small businesses cannot afford.

Case 4

Raw Al-Mazon was established in 2000 , for purpose of importing perfumes and other beauty goods from abroad. Al-Mazon has two shops based in Riyadh and employsnine people. Raw Al-Mazon is the smallest of all the companies and is not financially very sound. It has only one qualified IT person and the rest of the staff are not IT skilled and trained, which means that it has internal weaknesses; however, like the other SMEs, it is greatly affected by external factors. Even the financial weaknesses can be related to government and other financial institutes' lack of interest in providing loans to these SMEs to enable them to extend and grow their business. The interview participants mentioned quite a few external factors; for example, the head of Raw Al-Mazon, while referring to the cost of the internet.He also stated that the business and the national culture of the country are quite challenging for SMEs. Thus, it is evident that Al-Mazon's future adoption of e-procurement is affected by internal as well as external factors.

7.2. Cross case analysis

The analysis of qualitative data obtained from the selected Saudi Arabian SMEs found that external factors were more influential in the adoption of e-procurement than the internal factors within each of these selected SMEs. The key external factors found across all four selected SMEs are shown in the table below.

Perceived External Factors	Case 1	Case 2	Case 3	Case 4
Government Support	√	√	√	√
Own postal addresses and delivery service	√	√	X	X
Providing secure and trustworthy online payment options	√	√	√	√
Low cost and high speed internet connection	√	√	√	√
IT-related educational programs	√	√	√	√
Supplier's willingness and readiness to participate or exert pressure	√	√	√	√
Competitor's pressure	X	X	√	√
Policy and regulations	√	√	√	√
Business and national culture of the country	√	√	√	√

Table 4.1: Perceived external factors

As is evident from the above findings, competitive pressure was not a critical factor for companies case 1 and case 2 because they are quite big, financially sound and there is no other company in the country to compete with them or exert pressure on them. One of the key elements, as is evident from the table, is that the business and national culture of the country is a very important external factor that can affect the adoption of e-procurement and other innovative ICT in the country. From the findings of Straub et al. (2002), Khalil (2011) and Cheung et al. (2013), it is evident that the business and national culture of the country can be very detrimental to SMEs' and other organisations' adoption of technological innovations such as e-procurement, and this is particularly the case in Saudi Arabia, where people follow the traditional ways of business and adhere to their norms and beliefs more strongly compared to other countries of the world.

8. Discussion

Analysis of qualitative data revealed that there are quite a few external factors that has a great impact on adoption of e-procurement in Saudi Arabian SMEs, which lead us to the extension of GN(2009) model to incorporate external factors as shown.

8.1. Government support

Government support was found to be the first and one of the most important factors for the adoption of e-procurement as stated by majority of the interview participants. They mentioned various different ways such as the improvement of infrastructure, laws and regulations, intellectual property protection, financial support, education programme and promotion of ICT usage etc in their interview statements that are related to the government and positively influence SMEs adoption of e-procurement. The head of IT in Saudi Suzuki also believed that Government is a key external factor that can have positive or negative impact on SMEs adoption of e-procurement. The role of government in e-procurement adoption has been discussed extensively in literature. (Chan et al., 2012) has confirmed this in their study stating that ,It is very common across the business world to look for government support, and the same is the case for Saudi Arabian SMEs. One main reason for government support is that it enhances people's trust in online business and they feel more secure (Chen and McQueen, 2008).

8.2. Own postal addresses and delivery service

Another important external factor mentioned by majority of the interview participants across four selected Saudi Arabian SMEs for the adoption of procurement owned postal address and delivery services in the country. They understood that without unique postal addresses and efficient delivery services e-procurement adoption is very difficult. This can be confirmed by the interview statements of the participants. (Belanger and Hiller, 2006) confirms this by stating that a secure and trusted postal service is the backbone for the success of e-business, including e-procurement, because it ensures that goods are delivered within the timeframe required and in the right condition. Similarly (Alfuraih, 2008) has stated that in Saudi Arabia, if a company or an individual wants to receive mails and parcels, they will need to subscribe to mail boxes in the post office. The head of IT department in Saudi Suzuki mentioned that there have been some positive steps by the government in this regard which ease the adoption of e-procurement in the future. Saudi Post understood the importance of delivering to buildings and houses in 2005 and thus started a project which was duly approved and appreciated by the government (Saudi post, 2008 and Alfuraih, 2008). The 'Wasel' post and delivery service operates throughout Saudi Arabia and provides a variety of options for customers to receive their parcels. Customers can subscribe to the 'Wasel' postal service by visiting their office or online from home or office. Letters are delivered free via this service but there is a special charge for parcels and other deliveries. The 'Wasel' Postal service provides six different delivery options for customers to choose from, including delivery with an e-stamp, e-mail notification about the parcel status and safe keeping. The service covers the country's major cities, where most SMEs are situated, but there is a need to extend it further to some remote areas in the future. Currently nearly a million customers, including companies and individuals, have subscribed to various Wasel services (Etesalat, 2013 and Saudi post, 2008).

8.3. Providing secure and trustworthy online payment options

Secure online payment means are extremely important for all e-business activities including e-procurement and this is very much evident from the interview statements of the participants. Majority of participants stated that people must have trust in these payment ways and must be protected from all sort of scams. According to Beynon-Davies (2013), online payment is a key requirement for e-procurement and other e-business activities. A credit card is a key requirement of online payment which is not easy to get from Saudi Banks, because they are only given to people who have a specific monthly income which is deposited directly into the bank (AlGhamdi et al., 2011). AlGhamdi and colleagues further state that most companies prefer to receive payments via a credit card as opposed to a debit card because they can be cashed easily and there is less chance of fraud in payments. Security of payments is one key issue the on part of customers, whether individuals or companies (AlGhamdi et al., 2011).Deputy Head of Saudi Suzuki also considered it an extremely important external factor. Similarly the head of KA understands that secure payment options are very otherwise customer, SMEs, Supplier and the economy will be at stake. Another very important aspect of online payment was identified by the head of IT in Saudi Suzuki . This lack of trust along with people understanding and being comfortable with the English interface creates a lot of problems e.g. Wu (2012) believe that the interface of online transactions on the company website is a major concern in such online transactions. Many people in Saudi Arabia either do not understand or do not feel comfortable with English and prefer to have an Arabic interface, as this will make their jobs quicker and easier because they will not have to spend time decoding the terminology (Alrawy and Sabry, 2009).

8.4. Low cost and high speed internet connection

Many interview participants believed that though the availability of cable and mobile internet has increased in the country yet the cost and speed need to be further reduced to fulfil the needs of e-procurement adoption. A high speed connection is required so that the SME's e-procurement system can be integrated into the supplier's system. Compatibility with the supplier's network is very important if the SME wants to get the full benefit of automatic transactions (RajKumar, 2001; Croom and Brandon-Jones, 2004). Croom and Brandon-Jones (2004) found a strong relationship between the performance of e-procurement systems and network speed or connectivity.

8.5. IT-related educational programs

Skilled workforce is another key external factor as most of them are expatriates. Many believed that the Government has invested in the sector and IT syllabus has been integrated in school and colleges and training centres has also been set in various big cities but it will take time for the work force to be ready and take up the challenge. The head of Procurement department raised a very valid point in this regard. He stated that the owners must be educated as they are mostly the head of SMEs and takes all decisions. Until and unless they are not IT trained and aware of its benefits the progress in this direction will be very slow. This is confirmed by Alghamidi(2011) who has stated that, Educational programs are therefore required to increase awareness about such services and to eradicate fear and trust issues amongst businesses and the public in Saudi Arabia.The benefits of e-business activities, including e-procurement, must be conveyed to businesses and individuals via special educational programs (Angeles and Nath, 2007). Similarly, IT subjects should be taught from an early age in schools and colleges. These educational programmes will not only improve people's awareness but will also motivate them and increase their confidence to engage in online transactions. Education and awareness is critical to initiate a positive and more adoptive culture for e-procurement and other e-business activities. Confidence and awareness among SMEs and the general public will change their basic perceptions of online business activities and will help in eradicating the misconceptions, security and trust issues they have in their mind (Alrawy and Sabry, 2009).

8.6. Supplier's willingness and readiness to participate or exert pressure

Most of the interview participants mentioned it in their interview statements and understood that it is one of the key external factors that has a vital role in SMEs adoption of e-procurement e.g.Other participants from across the four selected SMEs had similar views and believed that suppliers readiness and willingness to adopt and integrate e-procurement in their setup is very vital and affects SMEs adoption of e-procurement. Sila (2013) confirms that Suppliers' pressure can be another external factor that affects a firm's adoption of e-procurement. Sila (2013) further stated that such pressure is due to the fact that it will improve communication between the two parties, reduce cost and also give rise to operational benefits for both the SME and the supplier, and is thus mutually beneficial. They further investigated in their study that most buyers are not happy with their suppliers, mainly because the service offered is less efficient or it is slow, but still more than 60% are willing to have e-procurement in place because it is more efficient than the manual system. Some firms might be unwilling, but because better and trusted suppliers only allow electronic procurement, they will need to go ahead with it (GlasGutsmiedl, 2015). Sila (2013) also found a positive relationship between suppliers' adoption of new technology and the number of SMEs that are willing to adopt e-procurement.

8.7. Competitor's pressure

Competitor's pressurewas another important factor mentioned by the interview participants and relates it to the adoption of e-procurement. They believed that globalisation and the presence of SMEs which uses innovative technology forces SMEs to adopt innovation like e-procurement so that it can offer competitive prices and survive in the market. Competitors' adoption of e-procurement also exerts pressure on SMEs to adopt e-procurement in order to remain competent in terms of time efficiency and prices (Tsai, 2012) The firm will need to be connected to as many suppliers as its competitors are in order to get the best and cheapest purchasing deals using online procurement systems (Sila, 2013).It was also found that policies and regulations are required not only to resolve conflict of interests

between the stakeholders but also to overcome and punish all sorts of computer crimes.Similarly the head of procurement department in Saudi Suzuki stated that Saudi Arabia can make significant advancement in e-procurement and other e-business activities due to better GDP and per capital income of people but only when appropriate policies and regulations are implemented which are consistent with internal laws both in theory and practices.

8.8. Policy and regulations

National policies and regulations affect the adoption of e-procurement in both public and private sector SMEs (Gatautis and Vitkauskaite, 2015). Some of the Asian countries, such as Malaysia, the Philippines, China and Korea, have made the reforms needed for the smooth adoption of e-procurement, while other countries, including Saudi Arabia, are behind in this regard. Policy and regulations must provide necessary protection for businesses, partners, suppliers and customers. Rehman et al. (2012) found that there is a positive association between the policy and regulation framework and the SMEs' adoption of e-procurement.

8.9. Business and national culture of the country

Another important external factor that is perceived to affect the adoption of e-procurement is the business culture and environment of a country. Many study participants mentioned it in their interviews and understood that it has a vital impact on the SMEs adoptions of e-procurement. The head of procurement department in KA also had similar views and believed that it is a key external factor that acts as an important inhibitor or enabler for e-procurement adoption Saudi Arabian SMEs. Another very important point mentioned by the head of IT department in Saudi Suzuki regarding National environment and demographics of Saudi was regarding the population living in Cities which he thought is a good enabler of ICT.Change takes place quickly in an unstable and turbulent environment but at a very slow pace in a stable business environment (Lynch et al., 2012). However, in the modern business world, SMEs must be innovative get competitive edge over others in the industry. For quality customer services, firms need innovative products, managerial efficiency and fast information processing, which call for innovative IT technology, including e-procurement. Firms doing business in a competitive and unstable business environment need reduced transactional cost via supply chain integration and e-procurement adoption (Vecchiato, 2012).Previous studies have found that firms in a hostile environment are more likely to adopt e-procurement (Vohra et al., 2015). The Kingdom of Saudi Arabia is characterised by great political and economic stability and thus the rate of innovation is slow. Similarly, there are not many multinational and other companies in Saudi Arabia that exert high competitive pressure for local firms to adopt innovation, and thus the rate of ICT innovation is slow.

9. Conclusion

The study has extended Gunasekaran and Ngai (2009) model to investigate external factors affecting the adoption of e-procurement. The study has found seven key external factors relevant and important for the adoption of e-procurement in Saudi Arabian SMEs. The study found that Culture and external factors are intrinsically linked due to the fact that e-procurement I n itself is a western product developed on the norms of western culture and will impact the work culture of SMEs in Saudi Arabia. The study revealed that Government support is the first and most important external factors for the adoption of e-procurement as stated by majority of the interview participants. It was also found that secure online payment means are extremely important for all e-business activities including e-procurement and this is very much evident from the interview statements of the participants which raised some questions on the trust people have in current means of online payment. Skilled workforce is also found to be a key external factor as most of them are expatriates. Similarly national policies and regulations affect the adoption of e-procurement in both public and private sector SMEs. Further the study revealed that the Kingdom of Saudi Arabia is characterized by great political and economic stability and thus the rate of innovation is slow. Similarly, there are not many multinational and other companies in Saudi Arabia that exert high competitive pressure for local firms to adopt innovation, and thus the rate of ICT innovation is slow.

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