Small and Medium Entrepreneurs' Perspective on E-Commerce in Eastern Province of Sri Lanka

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Abstract

Even though there is a rapid development of social commerce, developing countries are still confronted by infrastructural and cultural issues related to the acceptance of e-commerce. Since Sri Lanka is a developing country, the acceptance of e-commerce by the small and medium sized enterprises (SMEs) is still in challenge by such barriers; it is now applying models for the acceptance of new technologies by SMEs. The paper aims to discuss these types of issues. This research study is endeavoring to develop a model, with the ideas of existing models on e-commerce, which will be applied with Sri Lankan conditions. The data collected by a survey is composed with prior models in e-commerce area to investigate this study, and it has been empirically tested to recommend an innovative model. The findings of this research reveal that poor awareness of the advantages of the e-commerce and organizational issues lined with its applications are the reasons for most of the e-commerce obstacles in Sri Lanka. The findings and suggestions of this study, can be applicable to other developing countries as well. This paper is giving a better representation of Sri Lankan market. Lastly the paper deliberates probable upcoming guidelines of this research, as well as its boundaries. This research supports to the hypothetical basis of information systems and e-commerce acceptance studies through recommending and testing a pre-acceptance model for e-commerce. The acceptance of e-commerce in SMEs in Sri Lanka has not been considerably inspected. It is obvious that the SMEs in Sri Lanka play a significant role in its economies. The findings of this study demonstrate a substantial affiliation between organizational readiness and the acceptance of e-commerce and validate the positive relationship between readiness of e-commerce and its acceptance.
Keywords: E-Commerce, Acceptance, Small and Medium Enterprises, Sri Lanka

1. Introduction

The benefits of E-commerce control its acceptance by small to medium sized enterprises (SMEs) (Kaynak *et al*., 2005). Before they invest money in e-commerce technologies, they need to regard the paybacks of e-commerce. It is a marketing tactic for conducting online business (Noyce, 2002). E-commerce can be an important tool for growth in developing countries, and several authors have highlighted the potential profits of e-commerce for such countries (Moodley and Morris, 2004; Molla and Licker, 2005; Kshetri, 2007; Datta, 2011) according to the attractiveness of e-commerce it is winning at the global level (Datta, 2011). Meanwhile, most developing countries are not aware regarding the paybacks of e-commerce (Kshetri, 2007).

Since we now live in the twenty-first century, the digital gap between developed and developing countries still remaining same. In today's world, most of the businesses keep in touch with their customers through the social network platform. This changes in the trend occurs as an outcome of the stream in e-commerce which is social commerce (Hajli, 2013, 2014a; Hajli *et al*., 2014), since the developing countries are not using the suitable systems and a proper model for e-commerce, it is not considering as a matter in developing countries, (Kshetri, 2007; Datta, 2011).

Most studies conducted based on developing countries are descriptive, and it has poor sound of theoretical groundwork (Kshetri, 2007; Datta, 2011). This study tries to realize previous obstacles in e-commerce acceptance especially in developing countries to fill the research gap in the literature of e-commerce acceptance in developing countries. It questioned the current view of obstacles, literature and models of e-commerce acceptance in SMEs within developing countries. The e-commerce acceptance is an essential topic, especially for the SME sector. The utmost fluctuating section of e-commerce are small businesses. Therefore, finding a faithful framework which can be use in developing countries is the purpose of the study. This model needs to be explored through a proper way related to current obstacles to e-commerce acceptance in those countries.

2. Review of Literature

Although there are some researches based on this topic there is a lack in e-commerce acceptance in developing countries to fully conclude this area. The purpose of this part is to define whether any patterns can be determined in e-commerce acceptance within a developing country.

Perhaps E-commerce is the most dominant way in which economic development can be reinforced by information and communication technologies (ICTs) (Datta, 2011). Earlier the information and technologies

adoption considered as two parallel streams of research. The positivist school has treated transmission and acceptance as statistically and objectively through highlighting the variation of its models. At the same time, the interpretivist school has given more prominence on the comprehension and creation of reality (Datta, 2011).

There are several definitions available for e-commerce, even though the utmost emphasize is processing and simplifying the business with the use of the internet (DeLone and McLean, 2004). E-commerce involves in the process of undertaking the business and carrying out commercial actions through the internet. It is argued that the advantages and the opportunities gaining by the e-commerce and the internet to attend to the global market is earned by the SMEs at very first (Kaynak *et al.,* 2005). Furthermore, e-commerce provides new canals to communicate with their consumers, especially with recent emergence in ICT and the emergence of social commerce.

E-commerce is a favorable way to cutoff the transport expenses as well as a providing some goods at a lower price than the traditional market (Santarelli and D'Altri, 2003). The advantages of e-commerce are different phase from one to another: market development, productivity of sales and promotion, simplicity on access and cost drops (Kaynak *et al*., 2005). Meanwhile E-commerce can cutoff the entry cost of SMEs' market, delivery costs and can provide opportunity to get global customer market (Santarelli and D'Altri, 2003).

SMEs are becoming more vigilant of the prospective paybacks of e-commerce and how it can rise their profits and market share. E-commerce needs both at intra and inter levels of organization's renovation in communication systems. It is discussed that the communication environment has changed (Capozzi and Zipfel, 2012) and new technologies has developed (Hajli, 2014b). One of the main problems for SMEs is accepting e-commerce in different countries, because of it reforming the relationship between the customers and businesses and re-engineering the business processes (Daniel *et al*., 2002). SMEs can use social commerce parallel with e-commerce to expand affiliations with their customers, since most of the customers are using social platforms such as online communities (Hajli, 2014b).

Various theoretical frameworks revealed in the present literature of e-commerce acceptance, which are typically determined by two leading theories – the Technology Acceptance Model (Davis, 1989), and the Theory of Planned Behaviour (Ajzen, 1985; Gefen *et al*., 2003; Pavlou and Fygenson, 2006). Some other study into e-commerce acceptance is forved by the Theory of Emotion and other theories (Rodrı´guez-Ardura and Meseguer-Artola, 2010; Al-Qirim, 2007). Though, other research has revealed with the base of main theories with reference to e-commerce acceptance, and the researchers have offered their own research frameworks. We can classified those frameworks into two main regions to design our model: organizational readiness and awareness.

Researchers and policy makers have come to the conclusion that in the developing countries, e-commerce playing a vital role for socio-economic progress (Sahay and Avgerou, 2002). There is a gap on information technology researches among the developed and developing countries (Harbi *et al*., 2009). Because of this gap the acceptance of e-commerce in SEMs in developing countries is increasing rapidly. Since more than 80% of the world's population are from developing countries it is important to explore developing meanwhile these countries are rapidly accepting e-commerce to improve their business (Molla and Heeks, 2007). Obviously, SMEs are essential for any country's development whether it is developed or especially in developing countries (Fathian *et al*., 2008).

Perceived effectiveness, perceived simplicity of use, organizational readiness and outdoor pressure are some of the different promoting factors of E-commerce acceptance (Gefen and Straub, 2000; Grandon and Pearson, 2004). Though, these different promoting factors are identified in developing countries. A research conducted in the Tunisian ICT sector concluded that, a developing market shows that the poor strong financial sector can fairly be attributed to risk within its ICT sector. This conclusion had a harmful outcome on the growth in this area (Harbi *et al*., 2009). This research point out the role of risk and the need of an alternate systems to compact with this risk. Subsequently large companies are having IT resources they are acting as the leaders in e-commerce acceptance (Thatcher *et al.,* 2006). It should be noted that whatever the probable paybacks that e-commerce can bring for SMEs, the acceptance of e-commerce is limited; (Moodley and Morris, 2004; Grandon and Pearson, 2004). Lack of sophisticated technology necessary level can be one of the potential reasons for this situation (Datta, 2011; Moodley and Morris, 2004; Molla and Licker, 2005). The maturity stage of IT of a SME can impact e-commerce acceptance (Oh *et al.,* 2012).

In developing countries, organizational factors, such as awareness, man power resources and business resources, force the primary e-commerce acceptance to a superior range than environmental factors (Molla and Licker, 2005). When most of the SMEs are suffered by the unreachable remuneration of ICT many profits and obstacles occur for accepting e-commerce in developing countries, (Datta, 2011). Though, there are several researches discussing the acceptance of e-commerce can bring many reimbursements to developing countries, but little experimental evidence also available in this field (Molla and Heeks, 2007). These are the significant yield on investment in ICT (Fathian *et al.,* 2008).

3. Theoretical Framework

The researchers started a literature review related to e-commerce acceptance in developing countries to recommend the model. The model of the research is shown in Figure 1.

3.1 Organizational Readiness

This term emphasized some issues like the number of IT employees and the condition of the ICT infrastructure in a company, same times on a national level, society internet dissemination, and technological readiness and e-payment facility. The successful acceptance of IT is often determined by the level of sophistication of both IT infrastructure and organizational readiness (Thatcher *et al.,* 2006; Scupola, 2009). Since, business cultures is not promoting for the invention in many countries, the organization's readiness on e-commerce is not high, something which is true of Sri Lankan SMEs (Fathian *et al*., 2008).
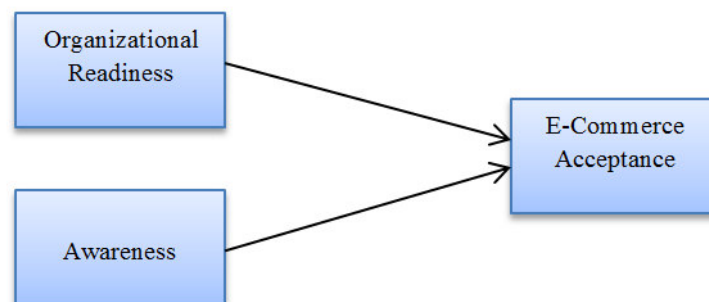

Figure 1: Research Model

This organizational readiness for e-commerce embraces four components: awareness, control, commitment and resources (Molla and Licker, 2005). Organization's understanding of the benefits and threats of e-commerce are meant by awareness.

One of the most powerful obstacle associated with e-commerce acceptance in developing countries is the poor ICT infrastructure and financial sectors, which embraces a poor e-payment too (Molla and Licker, 2005). In the case of developing countries like Sri Lanka, mainly challenging source is internet accessibility and network speed is not sufficient for SMEs (Fathian *et al*., 2008). Obviously, easy accessibility to the internet and a powerfully sympathetic industry are necessity for SMEs to acceptance of e-commerce. The lack of these aspects can form obstacles in organizational readiness in SMEs. As an outcome, technological and environmental issues, mentioned in forgoing studies (Datta, 2011; Grandon and Pearson, 2004; Kshetri, 2007), paying an ultimate influence on the acceptance of e-commerce all over the world, and specifically in developing countries. So our first hypothesis is that:

H1. E-Commerce Acceptance has positive relation with Organizational Readiness

3.2 Poor Awareness

The term "poor of awareness" deals to rational concerns in SMEs, meanwhile factors containing poor of awareness on e-commerce paybacks, poor ICT knowledge, poor International language skills, poor domestic language convenience and poor managerial observations. Rational modules related topics are playing major role in the initial acceptance of e-commerce in developing countries (Kshetri, 2007). Poor awareness is one of the most powerful topics which can create rational blocks (Molla and Licker, 2005). Rational blocks refer to poor of awareness, poor of domestic language availability, poor knowledge in international language and poor ICT knowledge (Kshetri, 2007).

In the study of Sri Lankan SMEs as like same in other developing countries, the poor international language skills and ICT knowledge are key dominant factors of the use of e-commerce. If the executive people have positive opinions on e-commerce acceptance and determined, then it can convey strategic value to their company. This is a fact in developed and developing countries (Grandon and Pearson, 2004). This perception needed knowledge of the business paybacks of e-commerce in developing countries (Molla and Licker, 2005). According to that the second hypothesis is that:

H2. E-Commerce Acceptance has positive relation with Awareness.

4. Research Methodology

4.1 Research Design

The key objective of this study is to provide a pre-acceptance model for e-commerce, and to assess the model using its concepts. Three research questions implemented to reach this objective, which are listed in Table 1. We decided to use quantitative approach model to test the model empirically. This study had its own non-

experimental design, and the data is collected through a paper survey.

Table 1: Research Questions

What are the obstacles to e-commerce acceptance for SMEs in developing countries?
Do rational issues for SMEs, like as poor awareness and knowledge about the paybacks of e-commerce, or poor computer knowledge, strongly impact the degree of e-commerce acceptance?
Does organizational readiness affect acceptance of e-commerce by SEMs?

4.2 Sri Lankan Case

Since Sri Lanka is a developing country in terms of ICTs this survey selects the case of Sri Lanka to examine the suggested model. And, Sri Lanka has a good geopolitical location in the South Asia and the present political condition of the country makes the case more interesting. It is also important that very less survey has been taken out in developing country like Sri Lanka (Fathian *et al*., 2008), it also another validation for picking this country for study.

In 2002, the state government hosted a widespread ICT gateway with containing most of the government firms in its first step in ICT expansion and boosts them to conduct their work online. Government providing e-government facility with the objectives of, placement of ICT in training, ICT in art and culture, ICT in social services, ICT for higher education and ICT to support SMEs were (Fathian *et al*., 2008). But there were some issues in ICT growth in Sri Lanka such as even though we had e-banking system that banks couldn't handover money to other countries and subsequently SMEs collect a lot of money from the world wide market, they are facing troubles. The internet speed in Sri Lanka is not enough; it's also another obstacle in SMEs accepting e-commerce. And the country has highly trained IT workers but it hasn't sufficient number of IT employees in SMEs field. And it is common that many Sri Lankans citizens like use new technologies, though SMEs cannot invest on new technologies since it is going out of the market rapidly.

Most of the SMEs in Sri Lanka are having employees between 5 and 50. With that population of this research, the researchers consider the SMEs with the IT sector. With the base of the knowledge from the literature and article analysis, Sri Lankan SMEs haven't much awareness of e-commerce, and also it confusing by improper IT infrastructure. It is reliable with other exploration about Sri Lankan. ICT groundwork, the network speed, internet accessibility and the capacity of IT employees are the serious issues for SMEs (Fathian et al., 2008). However recently the country has accepted their necessity for a digitalized economy and tried to juncture with the digital market. This study will explore about the obstacles to the practice of e-commerce in Sri Lanka.

4.3 Participants

The researchers chose the SMEs as our target, because, they have a critical influence on the developing countries' economies, and they cover major role the economies. To emphasis, the researchers SMEs in IT sector in the Sri Lanka. Even though Sri Lanka is a developing country, it is developed different sectors. Existing research concluded that IT enlargement can create ways to massive profits for developing countries (Harbi *et al*., 2009) and by that these countries can reduce its digital gaps. In Sri Lankan case, the IT area is one of the most pioneering businesses and it has newly undertaking e-commerce in the business. Another reason for selecting SMEs with IT support is that they reinforced the study by fascinating their associates to contribute in this work. Therefore, it provide more flexible for us to data collection. It is common that attracting people to participate in a research is not a simple task.

It is very important to jot down here that even though three decades of civil war was successfully rescued and still it's paying vast consideration to overcome from the negative footprints of the war. Albeit the SMEs are privatized sector the central government is in controlling it. At last, the familiarity of SMEs with the language used and activities related to "e" is another reason for selecting the IT sector. SMEs with the IT sector are inventers in e-commerce in Sri Lanka (Fathian *et al*., 2008)

4.4 Data Collection

Purposeful sampling method is followed to find out the sample; random quota sampling method was followed based on different concerns, such like age and geographical factors to prove that the research sample was satisfactorily representing the population. As prior to this research, a pilot survey conducted with the involvement of a small number of businesses in order to "*debug the instrument*" (Bell, 2010) – make sure that the expression of the questions was clearly understood by the respondents. The sample size is 69 SMEs in the Eastern province of Sri Lanka. The questionnaire followed a Likert scale to assess the data. The scale is from 1 is strongly disagree to 5 is means that strongly agree.

5. Data Analysis
5.1 Reliability
The reliability of a survey depends on the reliability of the assessment it follow (Sapsford, 2006). Providing reliable outcomes from monotonous measurements is the optimal goal of this reliability. The researchers used Cronbach's Alpha to test the inner reliability to assess the trustworthiness of this research. The rule is to have 0.70 or more to confirm the Cronbach reliability coefficients; this study had all three constructs' value of Alpha above the threshold (Table 2)

There were some modifications have taken place on the survey questionnaire to improve the reliability of the test, according to the reliability of the research contingent on the "piloting of the instrument" and the phrasing of the questions (Bell, 2010).These two tests confirmed that we could analyze the data from the survey.

Table 2: Reliability statistics

Item	Alpha Value
Organizational Readiness	0.842
Awareness	0.733
E-Commerce Acceptance	0.813

5.2 Testing of Hypotheses
Pearson's correlation was used to examine the association between e-commerce acceptance, organizational readiness and the awareness. It takes two different variables and assesses its linear dependency. It is a vital correlation measurement way, and it had a key impact on research methods (Rodgers and Nicewander, 1988). The coefficient range is from -1 to 1. If the correlation is close to -1, then it is representing a negative relationship between variables, and if the correlation closer to 0 then it representing a non-existence relationship between the two variables (Rodgers and Nicewander, 1988). The researchers used SPSS software to calculate the correlation between the variables. The results of the calculation of hypothesis are summarized in Table 3.

Based on the outcomes, there is a positive relationship occurred between SMEs' awareness and acceptance of e-commerce. The outcome of this hypothesis is supported at 99 percent confidence. Consequently, increases in awareness of the paybacks of e-commerce acceptance can increase the SMEs acceptance of e-commerce acceptance in developing countries. This highlights the awareness' roles, domestic language availability, and ICT knowledge, observations of executive managers and international language skills for staff and managers or owners of SMEs.

Table 3: Results of hypothesis testing

Variables	Hypothesis	R-Value	P-Value	Results
Awareness	H1	0.479(**)	0.000	Supported
Organizational readiness	H2	0.668(**)	0.000	Supported

Note: **Correlation is significant at the 0.01 level (two-tailed)

The outcomes of the second hypothesis also supported at a 99 percent confidence level. It's also representing that the relationship between e-commerce acceptance and organizational readiness is both strong and positive. And it also validates the significance of organizational readiness in e-commerce acceptance. Appropriate issues contain the number of IT employees and ICT infrastructures state, within a particular SME and at national level; internet dissemination in society; technological readiness; and the e-payment infrastructure, among others. Hence, these results illustrate a positive correlation between the hypotheses and E-commerce acceptance. The existing literatures also demonstrate the same outcome, which specifies that organizational readiness and lack of awareness are the key dominant factors for acceptance of e-commerce SMEs in developing countries.

6. Discussion, Implications, Limitations and Future Research
6.1 Discussion
This research study was carried out in a developing country like Sri Lanka to emphasize the acceptance of e-commerce in rest of developing countries. The position taken by organizational readiness and awareness in the acceptance of e-commerce in SMEs in developing countries validates by this study. Organizational factors also play a major role in the acceptance process in developing countries. Outcomes of this experimental study specifies that the less amount of IT employees and ICT groundworks in SMEs, low internet dissemination, environmental law and technological readiness of the country, and the e-banking infrastructure are the most powerful obstacles to acceptance. These aspects are commonly governed by the central government by giving more consideration in generating an enhanced environment for development.

The other factors – poor awareness, including poor knowledge regarding the rewards of e-commerce, lack of domestic language accessibility, lack of ICT knowledge and poor international language skills in SMEs; consisting their own influence on e-commerce acceptance. The research also reveals that infrastructures, internet accessibility and network speed are the key factor organizational readiness to obtaining paybacks from e-

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commerce for SMEs. SME's growth in Sri Lanka is still questionable by lack of international language and lack of awareness in management to the paybacks of e-commerce.

Re-structuring the attitudes and knowledge of e-commerce is very essential for SMEs in developing countries. Adapting to the social commerce in e-commerce stream is the new trend in current world, in which the two main parties of the e-commerce: businesses and customers, communicating through social technologies. Conversely developing countries like Sri Lanka are still questioned to use IT in SMEs by means of low internet dissemination and organizational readiness. In fact, hesitation of the country to accept the e-commerce is one of the main concerns in avoiding the development in e-commerce. When developing strategic plan to associate the market with the world wide digital market the SMEs face further complications. There are a several of problems and blocks that the model incurred in this research is not mentioned. The main problems is the organizational readiness. Some of the problems are directly related with the environment and those are out of the control of SMEs, even some of them can controlled by SMEs. For example, poor awareness of the management related to the paybacks of e-commerce can control by the SME itself.

6.2 Implications

In developing countries like Sri Lanka, this survey could be a source for conducting more researchers in e-commerce. Through studying pre-acceptance models in developing countries using multisource data, this study presented pre-acceptance model for e-commerce, and provide support to this topic. In IS research era this research illustrate the expansion in e-commerce is an ongoing process, and the acceptance of e-commerce is also an on-going topic. In case of policy development and practical, the research printout the requirement for the growth in ICT in Sri Lanka. This should include the other factors which are arising blocks on organizational readiness to expand the e-commerce such like internet accessibility and network speed, skilled IT employees in SMEs and supporting a process to uphold the awareness of SME managers. It is also vital for the national government to explore more in the e-banking especially for e-payment system and the problems when reaching to global banks. As SMEs have difficulties in transferring money worldwide.

6.3 Limitations and Future Research

Only a few researches were scanned in the initial literature review in order to catch patterns within the literature. Because of the limited timeframe and need for disposing the resources, were able to study few researches in this topic. Another major issue when undertaking the study is the difficult to get the full involvement of the managers of SMEs. Since it is a developing country based case, Sri Lankan SMEs need to conduct more study, even in our case, the researchers were only able to explore regarding only 69 SMEs in the Eastern part of the country. Furthermore, the model only applied and tested in the Sri Lankan SMEs ICT sector, in contrast it should be more explore in e-commerce acceptance with other developing countries as well; the researchers concentrated our investigation on Sri Lankan SMEs.

The outcomes are related with possibilities emergence with the discussion of e-commerce acceptance in developing countries. One future expansion on this study is it could be to exploring the same model in rest of the developing countries, and it can be tested with other sectors than ICT in SMEs. Further study on this will promote the validity of the model, and will suggest a proper method for generalizing the result for other developing countries. It is also essential to point out any other blocks to the acceptance of e-commerce.

7. Conclusions

Through suggesting and testing a pre- acceptance model for e-commerce this research supports to the hypothetical foundation of IS and e-commerce acceptance. The acceptance of e-commerce in SMEs in Sri Lanka has not been significantly explored. As general the SMEs are taking main role in all economy. The finding of this research reveals a significant relationship between organizational readiness and the acceptance of e-commerce. With that it is also proven that there is a positive relationship between awareness of e-commerce and its acceptance. The above dialogue based on this paper reveals the significance of organizational readiness and lack of awareness in the pre- acceptance process for e-commerce in SMEs within developing countries. The model has been tested in a single case study in Sri Lanka, by means of multiple data sources, gathered over interviews, secondary data and surveys in SMEs.

Most of the SMEs from Sri Lanka are not using e-commerce in a standard way because of the poor understanding about the paybacks of e-commerce and as a result of this; they are not willing to accept the e-commerce. Consequently, it is very needed to spread proper basic knowledge regarding e-commerce and its advantages in SMEs from developing countries so as to providing knowledge regarding paybacks and promote them to participate in contemporary digital economy. The survey revealing that the topics related to e-commerce acceptance in Sri Lanka have multiple phases. Primarily, the government has paying its strong inspiration on organizational readiness of IT SMEs. The infrastructures for ICTs and e-banking services are some of the key factors that the central government providing or expanding in order to provide a strong backbone for e-

commerce. These are vital areas in boosting SMEs to accept e-commerce in Sri Lanka. The other element is the present condition, which making barriers to Sri Lankan SMEs to trade freely with the worldwide partners. Lastly, SMEs should come forward themselves to put footage to know regarding vast paybacks of e commerce for the business and future business expansion: social commerce is a special one.

The issues prompting the acceptance which have been confirmed by this research – organizational readiness and poor awareness – can be uphold by increasing government supports, as has been validated by other studies which shows the significance of the governmental role (Kshetri, 2007). Developing country governments can increase the awareness of e-commerce within their borders, and can pay considerable attention on developing the country IT infrastructure. This support is noticeably established in Sri Lanka completely by the central government, through the telecommunications facility expansion, improved IT and e-banking systems in that country.

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