

# E-COMMERCE PRACTICES AMONG SMEs: A REVIEW OF MAJOR THEMES AND ISSUES

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## INTRODUCTION

The widespread use of Internet brings a new landscape to business. In particular, e-commerce (EC) application has been well accepted as a potential measure to improve effectiveness and efficiency of a firm's operation. E-commerce further expands the firm's market, enables new business model and embraces globalization (UNCTAD, 2003).

Undeniably, large firms are most dominant and more pervasive than small and medium sized firms (SMEs) as far as EC is concerned (Daniel & Grimshaw, 2002). Nevertheless, the use of Internet and EC does benefit smaller-sized firms even though the extent of such benefits might not be the same. This is because SMEs have limited resources and capability. But EC fits better the SMEs because of their less complicated structures that make them more easily adapt to any changes.

SMEs represent the largest proportion of established businesses in most countries. Hence, the role of SMEs towards the nation's growth with respect to the economic, employment as well as gross domestic product (GDP) is not trivial. Obviously, information and communication technology (ICT) becomes one of the potential means to facilitate their business operations. On top of that, ICT is now becoming a major component of the country's performance and competitiveness (UNCTAD, 2003). Hence, enabling IT helps them to respond to business environmental pressures, to fulfill customers' demand, and to face globalization challenge (Bernades & Verville, 2005).

To date, a considerable number of studies on the issue of EC and SMEs have been initiated since its commercialization in mid 1990s. Those studies have examined the issue from various aspects. This paper therefore attempts to analyze the major trends of prior researches in this research domain.

## MAJOR THEMES OF RESEARCH IN EC AND SMEs

Generally, researches on EC practice among SMEs at least fall under one of the following themes.

### E-READINESS

This pre-adoption studies generally concern about the potential factors that firm perceive as crucial to embrace EC. The readiness factor has been investigated at both the firm level and national level (Molla & Heeks, 2007; Ramayah, Yan, & Sulaiman, 2005). To some extent, the studies propose an

e-readiness model as a basis for considering firm readiness to embrace EC (Fathian, Akhavan, & Hoorali, 2008; Molla & Licker, 2005).

#### EC ADOPTION

Studies in this category explore the drivers that motivate or impede EC adoption by SMEs. There are at least two approaches to examining EC adoption. The first approach is descriptive in nature that simply identifies the list of motivating factors and barriers of EC adoption (Lawson, Alcock, Cooper, & Burgess, 2003). The latter approach assesses the strength of the influence of each factor on the adoption decision (Jeon, Han, & Lee, 2006; Kartiwi & MacGregor, 2007).

Overall, the factors that influence adoption can be classified into several categories i.e. individual, organizational, environmental and technological related factors. The review reveals that several factors have been very common among researchers. Firstly are individual factors i.e. COE or management characteristics. Secondly are organizational-related factors such as cost, size, industry sector, human resource skills and organizational readiness. Thirdly are environmental factors particularly vendor's support, government's role, trading partner's pressure, and competitor's pressure. Lastly are technological related factors that include security, relative advantage, compatibility, and perceived usefulness.

#### EC DIFFUSION

Diffusion generally refers to the extent EC technology assimilates into other processes within the organization (Beck, Wigand, & Konig, 2005). Assimilation indicates the degree of EC being deployed into the business operation. The intensity of EC deployment had been viewed either on the extent of EC technologies adopted e.g. e-mail, intranet, EDI and web (Al-Qirim, 2005, 2007a) or the functions of the firm which EC supports such as communication, interaction, and transaction (Raymond, Bergeron, & Bllili, 2005). Investigation of diffusion issues imparts further understanding on the types of EC applications that are highly applicable to the firm and the business operations that the EC supports most.

#### IMPACT/CONSEQUENCE OF EC

At this stage, the studies were particularly interested in assessing the impact of EC on firm's performance. Earlier works examined the consequences of EC from various aspects of SMEs. These include financial performance (e.g.: Johnston, Wade, & McClean, 2007; Raymond et al., 2005), competitive advantage (Teo, 2007), business efficiency (Beck et al., 2005), and implementation success/satisfaction (Chong, 2008).

## EMERGING EC ISSUES IN SMES

Based on the comprehensive reviews of prior studies, this paper brings into the light salient issues pertaining to EC adoption by SMEs. The outline of these issues might be a good starting point in pursuing future research in this area.

### SLOW ACCEPTANCE AND PROGRESS IN EC USAGE

Majority of studies of EC in SMEs have reported that e-readiness and EC acceptance among SMEs is relatively slow. This is particularly more obvious as far as developing countries are concerned (Hussin & Al-Musowi, 2006; Sam & Leng, 2006; Sulaiman, 2000). More disappointingly is that the adoption is limited to the basic EC applications particularly of e-mail and web presence. Firms simply rely on EC for communication and basic advertising strategy with no further interest to enable online transaction (Lawson et al., 2003). Despite the fact that EC offers extensive list of applications for business use, advanced applications are rarely found as being strategic for the SMEs. Future studies might initiate an in-depth investigation to understand the phenomenon. Further, it is also essential to establish links between the extent of EC usage and the benefit the firm realizes from EC.

### DRIVERS OF EC USAGE

As noted earlier, past studies have revealed various factors that consistently influence the decision to adopt EC. These factors were also found to be consistent since the early stage of EC introduction in mid 1990s (Raymond et al., 2005). There are, however, several factors which have received least attention in prior studies despite being found important such as networking intensity (Chong, 2008), international market/export intensity (Bharadwaj & Soni, 2007), location of business (Chong, 2008), and communication channel (Lee, 2004). Hence, these factors deserve further validation in future research.

EC provides a different form of applications for business to choose from and those applications differ in term of their sophistication level. Interestingly, different factors influence adoption of different types of EC applications in different ways (Al-Qirim, 2007a, Dholakia & Kshetri, 2004). Determinant factors also vary significantly at different adoption stage (Brand & Huizingh, 2008). Knowledge and perceived benefits are most influential at the earlier stage of adoption, but become less important when EC moves toward the higher end of adoption ladder (Roberts & Toleman, 2007). Most importantly, earlier finding by Brand and Huizingh (2008) further indicates that further progress in EC adoption (sophistication of use) depends largely on the present status of EC adoption of the firm. Future research could examine the determinant factors that affect a specific EC process or domain as one model of EC adoption has difficulty to fit all type of EC application (Poon & Swatman, 1999). Narrowing down the research work on specific EC

application also warrants useful outcome for in-depth understanding of the present issue.

#### INCONSISTENT EC PRACTICE ACROSS COUNTRIES

There are limited attempts to examine EC practices across several countries. This offers an exciting area for further confirmation of what factors affect firm in different countries, the extent of EC usage across countries and issues that are most profound in certain countries as compared to others. Based on the limited studies available, low level of EC adoption and least sophisticated use of EC technology are most profound among developing countries as compared to developed nations. The studies reported relatively low acceptance among these countries particularly more advanced applications such as transactional and integration stage (Chong, 2008). On top of that, different factors were found to affect adoption on different countries (Kartiwi & MacGregor, 2007). Specifically, developing countries cite organizational issues while developed countries refer to technical barriers as more prevalent barriers (Daniel & Grimshaw, 2002). This is particularly interesting as EC model in developed countries will not be the same as in developing countries considering the likely effect of several environmental factors such as government intervention, culture, and availability of infrastructure.

#### EC AND FIRM PERFORMANCE

Generally, the use of EC positively influences firm performance specifically firm growth (Raymond et al., 2005), financial gain (Johnston et al., 2007), and competitive advantage (Teo, 2007). However, the extent of realized benefits was inconsistent across sectors, regions and sizes (Johnston & Wright, 2004). On the same vein, the benefits from EC are positively associated with the extent of EC usage (Meroño-Cerdan & Soto-Acosta, 2007; Sam & Leng, 2006). Firms with more advanced EC applications tend to reap greater benefit in term of efficiency than those with limited use of such applications (Beck et al., 2005). Thus, this aspect of EC requires further investigation as SMEs are relatively concerned about the perceived benefits of having EC in place.

#### CONCLUSION

This paper aims to review the major trends and emerging issues in the area of EC practices among SMEs based on earlier research works. This paper ends with several conclusions. Firstly, the major themes are quite consistent with the growth model (OECD, 2000) which states that EC starts with readiness stage, followed by intensity stage and the impact stage towards the end of the model. Most studies at present, however, seemed to have concentrated on the upstream issues (e-readiness, adoption and diffusion) while limited studies were reported on the downstream aspect of EC (impact). Secondly, extensive list of potential drivers and impediments have been proposed to explain the firm's intention to embrace EC with respect to

organizational, environmental or technological contexts. Nevertheless, different factors have been found to influence different types of EC technologies or at different levels of EC sophistication. Thirdly, several salient issues emerge to direct future research in this promising knowledge domain. The primary issues include slow acceptance of EC, adoption of EC largely at the least sophisticated EC applications, larger digital divide between countries (particularly developing countries) and the degree of EC impact to firm performance depends on the extent of EC usage by firm. Hence, this literature analysis would be a starting point to set the direction of future research works on this particular research domain.

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