

HAVE SMES BENEFITED FROM E-COMMERCE?

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ABSTRACT

Recently there has been a surge in research projects on how small and medium enterprises (SMEs) use E-Commerce/E-Business for business purposes. These include a mixture of academic, industry and government studies. The outcomes have presented a mixed message. While there are anecdotal success stories, SMEs found their E-Commerce/E-Business endeavours successful to a point but face difficulties in achieving many speculations portrayed by the media and visionaries. In this paper, I try to address the issue based on published works in the domain of E-Commerce/E-Business⁶ adoption among SMEs. The answer may lie in a more refined research strategy and consolidation of research outcomes. Lessons from EDI adoption might be useful to formulate impetus to further adoption.

INTRODUCTION

Over the last few years, finding out how SMEs can benefit from E-Commerce/E-Business has been a popular research and discussion topic. Academe (e.g., Poon, 1999; Tetteh, 1999; Mehrrens, et al., 2001), industry (e.g., Brulles, 2001; Yellow Pages Business Index, 2002) and governments (e.g., OECD, 1998; NOIE, 2002) are all interested in facilitating the diffusion of E-Commerce/E-Business among this group of firms due to their strategic importance to many national economies. Since the dotcom crash in the year 2000, many of the myths about E-Commerce/E-Business, its future and the potential impacts on the business world were re-evaluated. The exponential growth of adoption, the everlasting growth of market share and infinite Price/Earnings ratios are no longer true. Coupled with the huge losses of wealth in the share market and the massive IT investments, E-Commerce/E-Business has become a 'taboo' in many parts of the business world. For small businesses who were already sceptics after their initial try-out of E-Commerce/E-Business, many became very withdrawn from adopting E-Commerce/E-Business. Some small firms were enthusiastic in the beginning and engaged consultants to promote E-Commerce/E-Business but only ended up being disappointed (Bode, 2002).

Viewed differently, the downturn of the E-Commerce/E-Business might have been tragic from the financial sector perspective, but it is a golden opportunity for small businesses to accelerate the uptake of E-Commerce/E-Business. There are a number of reasons for this:

The costs of adopting E-Commerce/E-Business have gone down and this includes technical talents, hardware and software. What needed to be custom-built is now readily available as solutions. The downturn of the IT sector also means a larger pool of affordable IT talents is now available. This is important, as many SMEs do not have the same amount of resources for E-Commerce/E-Business as their large corporation counterparts.

Second, more lessons have been learned over the last few years about what E-Commerce/E-Business can achieve and the barriers/costs of achieving it. These lessons help SMEs to avoid paths and solutions which are problematic and infeasible. Consequently, SMEs can strategically allocate resources to target workable solutions based on others' lessons learned.

Third, more programs and resources are now available to support further adoption of E-Commerce/E-Business. Although first-mover advantage had been cited to explain the success of a handful of E-Commerce/E-Business ventures (e.g., E-Bay), in the case of SMEs, first-movers to implement full-fledged E-Commerce/E-Business solutions had proven to be a costly, sometimes fatal business exercise. Not only first-movers would have paid a high-price for their solutions, but also they became obsolete quickly (except if their E-Commerce/E-Business solution was merely email and a webpage). Bode (2002) mentions how some small firms engaged so called E-Commerce/E-Business consultant to implement solutions only ended up being over-charged and disappointed. This should not be a consequence of adopting E-Commerce/E-Business.

For the rest of this paper, I discuss why E-Commerce/E-Business adoption among SMEs has been a mixed success and what might be needed to further diffuse E-Commerce/E-Business and encourage more advanced deployment among SMEs in the future.

⁶ Instead of defining the differences between E-Commerce and E-Business, the author treats the two as a combined term.

SMES – AN HOMOGENOUS GROUP WITH STRONG HETEROGENEITY

Studies on E-Commerce/E-Business use and adoption among SMEs often started on different assumptions of what SMEs are. On one hand there are definitions by governments (e.g., Holmes and Gibson, 2001) which define SMEs based on number of persons employed, turnover and/or ownership structure of a business followed by further sub-classifications such as industry sector (e.g., manufacturing vs. non-manufacturing, agricultural vs. non-agricultural). By assuming SMEs within these categories are largely similar in their business processes, market orientation, management structure and having a similar supply chain often led to variation in results. For example, SMEs with 20 persons in a manufacturing industry, targets only the local city, might have a very different Information Technology (IT) investment profile compared to a 20-person firm in the software industry and has a worldwide market. The E-Commerce/E-Business orientation, the experience and perception of E-Commerce/E-Business success will logically be different.

To ensure results are comparable between different studies, it is increasingly important to have SMEs samples not just classified by number of employees, but also other factors such as percentages of goods exported, management philosophy and background, roles played on and the characteristics of the supply chain, among others. Without these added dimensions of sampling, results from E-Commerce/E-Business studies will be difficult to rationalise for extension of theories or generalisation.

CONCEPTUALISING AND INTERPRETING E-COMMERCE/E-BUSINESS

Another difficulty to obtain a comprehensive understanding on how SMEs can benefit from E-Commerce/E-Business is the conceptualisation and interpretation of what E-Commerce/E-Business is. While there are formal definitions of what E-Commerce and E-Business is, these definition are often over-simplistic and context independent. For example, a commonly presented difference between E-Commerce and E-Business is E-Business encompasses a wider scope of business activities (beyond transactions) which are supported using the Internet and associated technologies (Johnston, 2001). While such definitions provide a broad understanding and a common language when discussing E-Commerce/E-Business activities, specific context of such activities are often not elaborated. For example, the July 2002 Yellow Pages® Small Business Index™ E-Business Report (Yellow Pages Business Index, 2002) reveals that 79% of small businesses have a PC connected to the Internet and 75% identified email as the most essential application. But such information does not provide any context in understanding how small businesses have gain benefits (strategic or otherwise) from the Internet, let alone E-Commerce/E-Business. Not dismissing the encouraging adoption rate of Internet access, true-spirited E-Commerce/E-Business goes beyond checking email to gaining strategic benefit. In fact, some developed countries starting to show despite a high adoption rate of Internet access, there is only relatively low adoption rate of E-Commerce/E-Business (HKSAR Government, 2001). Figure 1 is another piece of evidence supporting adoption of Internet access and use of email do not equate to E-Commerce/E-Business success necessarily. Consequently, a more holistic approach to study how small businesses actually benefited from E-Commerce/E-Business is most important in order to unravel the reality.

CONTEXTUAL UNDERSTANDING OF E-COMMERCE/E-BUSINESS SUCCESS

An alternative is to understand E-Commerce/E-Business success by qualifying success based on specific business contexts. Being a heterogeneous group, success factors applicable to one individual or group of SMEs do not guarantee they will work for another group. Moreover, the perception of success differs from individual to individual. Research has shown that industry characteristics, nature of goods (Kumar and Loebbecke, 2000), market scope, management's contribution (Poon, 2002) among others all have a contributing effect on the outcome of E-Commerce/E-Business success. It is also noted that there are multiple stages of E-Commerce/E-Business adoption and implementation (Poon, 1999; Mehrtens, et al., 2001; Chau and Turner, 2002). In order to combine the understanding on the real issues leading to E-Commerce/E-Business success, more elaborate research frameworks are necessary based on a holistic instead of partial view approach. One such framework is shown in Figure 2.

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French SMEs failing to benefit from e-commerce

The study by pollsters Taylor Nelson Sofres (TNS), found that while internet use has increased dramatically in French small and medium-sized enterprises in the past two years, most firms only use the web as a communications tool.

Relatively few SMEs have taken advantage of the sales and marketing potential of the internet. The TNS report was based on a study of 255 small business leaders in the US and 127 of their French counterparts.

For both groups, e-mail proved the most popular single use of the internet, with 78% of the French firms and 66.7% of the US companies saying they regularly sent electronic messages.

But when it came to other uses of the internet, the French SMEs lagged behind their transatlantic counterparts in nearly all areas. While nearly half (43.9%) of the US firms said they had used the internet to improve their customer service programmes for example, the total was only 27.6% in France.

Similarly, only 26% of the French SMEs said they used the internet as a marketing tool compared to 43.9% in the US. When it came to using the internet for in-company matters, the figures were even more striking.

While 29% of the US firms said they used the web to help with staff training programmes, the figure fell to just 2.4% in France. The survey also showed that most French SMEs are not making any money by using the internet.

Figure 1 French SMEs failing to benefit from E-Commerce/E-Business

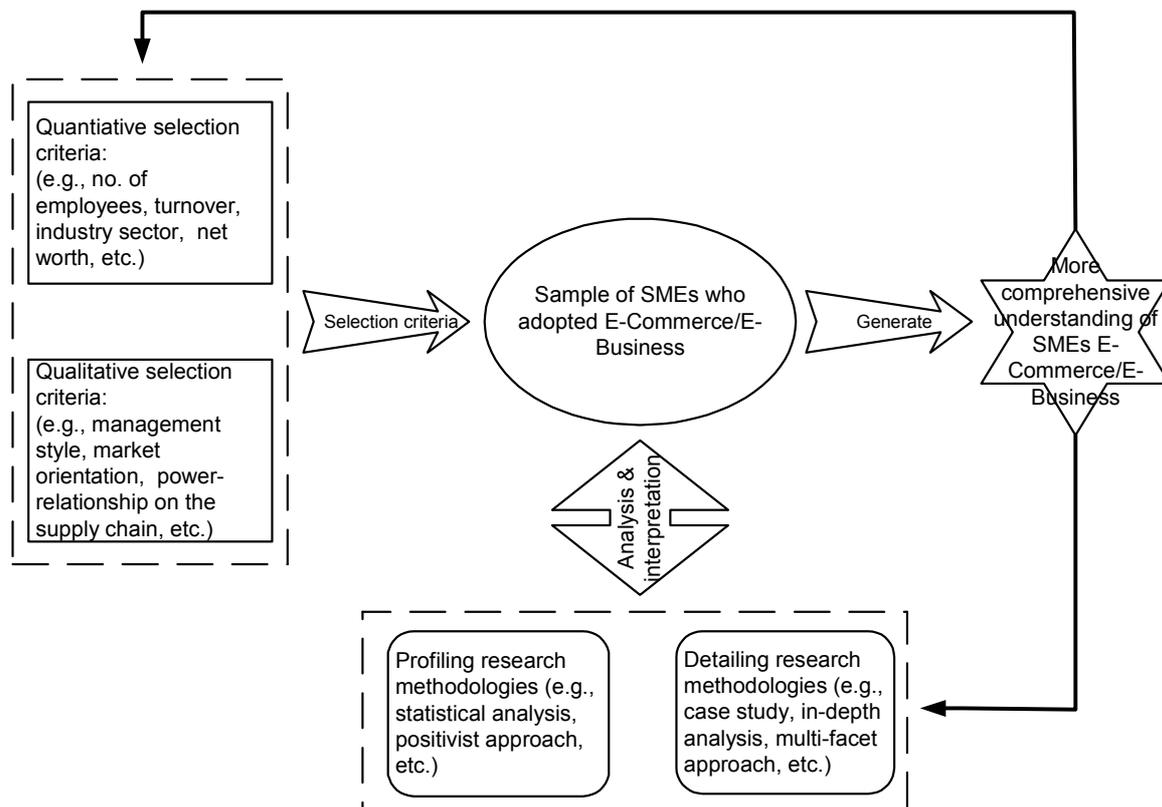


Figure 2. A suggested research framework for ongoing SMEs E-Commerce/E-Business research

As there are more research outcomes published in the area, I believe the area is mature enough to enter a consolidation phase. Instead of providing more fragments, the area will benefit further if a consolidation of these understandings is performed.

LATEST INITIATIVES TO FACILITATE E-COMMERCE/E-BUSINESS ADOPTION AMONG SMES

SMEs E-Commerce/E-Business adoption has reached the agenda of many governments and regional organisations. The internationalisation and globalisation of many sectors forces some SMEs to be part of a global alliance. E-Commerce/E-Business is often the IT platform which keeps such geographically dispersed

alliances operating (OECD, 2002). The Asia-Pacific Economic Co-operation (APEC) has a specific Steering Group which hosted a workshop⁷ dedicated to the understanding and development of SMEs E-Commerce/E-Business in 2000. In Australia, the National Office for Information Economy (NOIE) has recently furnished a series of case studies⁸ detailing how SMEs have benefited from E-Commerce/E-Business plus action plans for others to follow. In addition, individual countries in the region such as Singapore and HKSAR-China⁹ also have initiatives to encourage the adoption of E-Commerce/E-Business among SMEs.

Among all these initiatives, it is apparent that resources are moving from helping individual SMEs to adopt E-Commerce/E-Business in isolation to setting up collaborations, networks, clusters etc., (D'Orazio, et al., 2001) so SMEs can be part of a trading or industry E-Network or E-Cluster (Brown and Lockett, 2001). This shift of focus has the following advantages:

The first wave of government and business effort to bring E-Commerce/E-Business to SMEs has achieved awareness and preliminary adoption. In developed countries, it means most SMEs now at least have an Internet-ready PC, a browser and basic knowledge and experience of E-Commerce/E-Business. However, to have SMEs to ascend to the next stage(s) of adoption/implementation is more challenging than it was originally thought. One reason is that the amount of resources and investment needed grows exponentially. Figure 3 is an illustration of the level of difficulty and investment varies with the comprehensiveness and scope of implementation.

To further the adoption of E-Commerce/E-Business among SMEs, it might need the further commitment of large organisations. This might sound paradoxical but past experience is an important reference here. In the era when Electronic Data Interchange (EDI) was maturing, there were visionaries suggesting how EDI might transform how business was done. Surely there were pockets of success and among these, businesses had transformed and gained strategic advantage. However, most of the business community did not benefit from EDI as extensively as it was first predicted. Retrospectively, many explanations were given, by both the academe and the industry, why EDI was not as successful as once thought. I believe there are important lessons here to learn when furthering E-Commerce/E-Business adoption among SMEs.

In the case of EDI, often the most successful implementations were the ones driven by large corporations. The reason being that they had the financial and IT resources to build up the infrastructure. While there were debates on whether this type of 'hub-and-spokes' approach was healthy from a power-relationship perspective, they no doubt provided SMEs a ready-to-go platform to adopt EDI. E-Commerce/E-Business adoption by SMEs is now facing a similar crossroad. While no one owns the Internet and the basic tools (e.g., the browser) are often free, but true business activities requires the integration of backend systems and eventually across the supply chain. In many industry sectors, the most powerful players on the supply chain are still the large companies. Therefore, an E-Cluster (Brown and Lockett, 2001) formed by large organisations, regulatory bodies and SMEs seems to have delivered positive outcomes in some cases. Of course time will tell if such an E-Cluster approach is sustainable.

Incidentally, quite a few of the latest projects¹⁰ support by NOIE's ITOL program are of the nature of building such E-Clusters, either at technological or business process level, for various industry sectors.

⁷ <http://www.apec2000.gov.bn/ecommm/index.htm>

⁸ <http://www.noie.gov.au/Projects/CaseStudies/Ecommerce/ShortForm/industry/index.htm>

⁹ http://www.info.gov.hk/digital21/eng/sme/sme_intro.html

¹⁰ http://www.noie.gov.au/Projects/ecommerce/ITOL/Round_6/index.htm

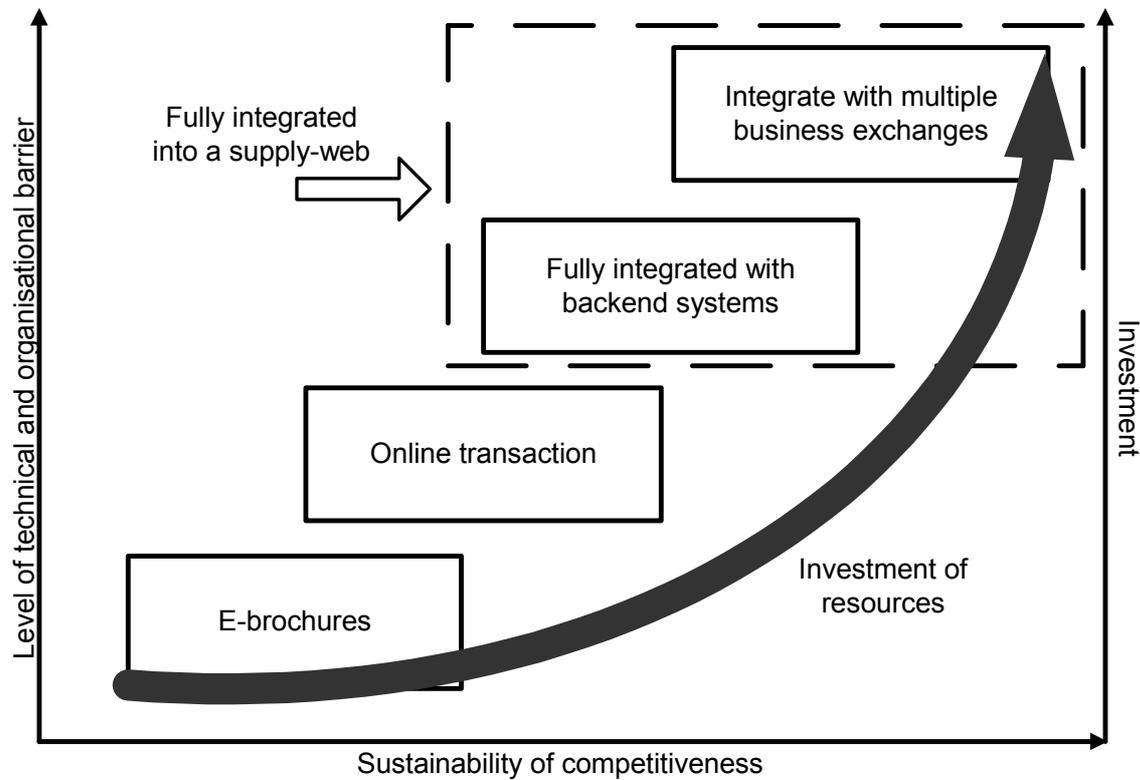


Figure 3. Level of difficulty vs. sustainability of E-Commerce/E-Business solution

LESSONS AND IMPLICATIONS FOR SMES MANAGEMENT

SMEs management should be aware of the successes and failures experienced by their peers in adopting E-Commerce/E-Business. This will help a SME to increase its chances to be successful when they further their initiatives. Existing case studies such as those presented by NOIE are useful resources. SMEs should also be aware of the impact of the new economy, particularly the importance of knowledge and information to the strategic position of an SME (Lee, 2002). This will help management of SMEs put E-Commerce/E-Business into perspective.

Resources and commitment to build customised E-Commerce/E-Business solution in isolation can be enormous once gone past the initial stage. Tools such as the Ready Reckoner¹¹ offered by NOIE would be a good start to decide what is involved in adopting E-Commerce/E-Business. However, it is important to gain understanding on the pathway to full-fledged E-Commerce/E-Business solution (see Figure 3) and obtain a good estimation on the resources commitment before engaging a provider of solution.

E-Commerce/E-Business strategy and decision-making should be business driven and follow business logic. Although the 'build-it-and-it-will-come' logic works for a small number of SMEs, for the majority, resources should be allocated based on predicted business outcomes which are well quantified and qualified. Such business logic has prevailed in SMEs and traditional wisdom of priority should be applied. It is possible that the more feasible E-Commerce/E-Business solution is to use an E-Cluster infrastructure. Often adopting an Application Service Provider model, most E-Cluster applications require only an Internet-connected PC and a

¹¹ <http://www.noie.gov.au/Projects/CaseStudies/Ecommerce/ReadyReckoner.xls>.

standard browser. I believe some of the E-Cluster applications will be the affordable E-Commerce/E-Business solution for many SMEs in the near future although the power-relationship issues will surface again.

CONCLUSION

Despite the many research efforts performed on the topic of SMEs E-Commerce/E-Business, anecdotal evidence pointing to both success and failure. Frameworks for predicting SMEs E-Commerce/E-Business success are still in their infancy. Among many SMEs reported to have benefited from E-Commerce/E-Business, some are of a short-term or marginal nature. There is no-doubt that most national economies can benefit from the success of widespread adoption of E-Commerce/E-Business. However, sustainable success can only be resulted from an advanced and complex state of adoption as illustrated in Figure 3. SMEs should move forward adopting a cautionary and evolutionary approach. I do not believe there is turning back for E-Commerce/E-Business, but knowing how to move forward will determine the winner. Despite the economic uncertainties at the time of writing, SMEs should take advantage of the lower costs and availability of E-Commerce/E-Business expertise to further their initiatives. Also, it is important for SMEs to monitor developments supported by government and industry to ensure they can be part of the industry E-Clusters when built.

Finally, an E-Commerce/E-Business strategy should be business driven. There are risks involved and by taking calculated risks in a well-informed manner, E-Commerce/E-Business should deliver benefit of a large scale to SMEs.

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