



## Barriers To Adoption of E-Business in India SMES

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**ABSTRACT**

E-business is the integration of Internet and related Information and Communication Technologies into the business organisation. E-Business creates new business models based on the direct system of communication between customers, suppliers and partners and helps in the enhancement of value created by Supply chain in SMEs. This paper is based on an empirical exploratory study based on primary data collected through a structured questionnaire, for identifying the factors that act as advantages and barriers in adoption of E-Business which have been identified in this paper. Organisations are adopting this innovative way to sell product and services to their customers. It is found that adoption of E-Business requires organisational, technological and strategic changes. Indian SMEs are far behind in adoption of E-Business technology because of a number of reasons that which have been discussed in this paper.

**KEYWORDS**

E-Business, SMEs, Information and Communication Technology.

**INTRODUCTION**

E-Business is defined as the range of all online business activities for product and services both Business-to-Business and Business-to-Consumer, through the internet. E-business is basically a form of technological innovation only. E-business is the integration of Internet and related Information and Communication Technologies into the business organisation, it helps in the enhancement of Supply chain of the SMEs, so that production and delivery becomes an easy and smooth processes-Business creates new business models based on the open system of communication between customers, suppliers and partners.

E-Business has been characterized as a mechanism that can break down barriers of distance, as firms move into more distant markets without having to be physically there and, simultaneously, reduce the costs of buying and selling(Vlachos, Zeimpekis, Chondros, Psarrou, & Stragas, 2009). E-Business can be extremely attractive option for most of the sectors to extend their customer bases into a global market. E-Business helps in processing goods and services online.

In contrast to the various benefits. E- Business offers, there are various threats which arise from communicating electronically.

**SMALL AND MEDIUM ENTERPRISES**

The small and medium enterprises are widely regarded as the engine of the Indian economy. Small and medium enterprises (SMEs) contribute significantly to industrial, economic, technological and regional development in all developed and developing countries. The SME sector is playing significant role in the development of entrepreneurial skills and forms as substantial portion of the country's export earnings.

In the Indian context, there is no demarking exist clearly among small and medium enterprises till 1997. During 1997, on the recommendations of Abidhussain committee, the government has raised the investment limit on plant and machinery for small units and ancillaries from Rs60/75 lakhs to 3 crores. Again government of India in 2000 has reduced the investment limit on plant and machinery from 3 crores to Rs. 1 crore in small scale industries. In India, the enterprises have classified broadly into two categories: a) manufacturing and b) services. Both categories have been further classified into micro, small and medium enterprises (MSME) basedon their investment in plant and machinery or on equipment. With effect from October 2, 2006, according to MSME development act the investment limit in plant & machinery for SMEs is in

**Table 1**

**Table 1: Classification of Small & Medium Enterprises.**

| Classification | Investment ceiling for plant, machinery or equipments |   |
|----------------|---|---|
|                | Manufacturing enterprises                             | Service enterprises                       |
| Small          | Above Rs 25 lakhs and up to Rs 5 crores               | Above Rs. 10 lakhs and up to Rs. 3 crores |
| Medium         | Above Rs 5 crores and up toRs10crores                 | Above Rs. 3 crores and up to Rs.5crores   |

**LITERATURE REVIEW**

Rowley(2002) defines E-Business as being a wider concept that embraces all aspects of the use of information technology in business. Not only includes buying and selling, but also servicing customers and collaborating with business partners, and often involves integration across business processes and communication within the organization.

Watch (2009) defines e-business as "automation business processes" which can be defines by replacing formerly paper-based document exchanges and their manual processing by electronic exchanges. Further to this E-Business looks at a wider concept that embraces all aspects of the use of information technology in business, thus challenging existing business models towards creating a climate which establishes consumer behavior, attitudes and relationships subject to re-evaluation and change.

The owner/managers play a pivotal role in decision making in SMEs. Hau and Turner (2001) argue that the owner's lack of knowledge of ICT technology and perceived benefits is a major barrier to the adoption of ICT.

In an exploratory study of small business use of the Internet in New Zealand by Abell and Lim (1996) found that the main barriers inhibiting SMEs from adopting e-business are: the fact that target customers/suppliers are not yet connected, concerns about privacy and security issues associated with the use of the internet, decreased productivity of workers through frivolous use, enforceability of contracts negotiated over the network, lack of expertise or personnel, lack of belief that on-line marketing would be effective, high connection or usage charges and technical limitations of hardware or software.

Poon and Swatman (1997) suggested that issues impeding the uptake of e-business in SMEs in Australia could be the cost

of investment, concerns about security and payment systems, cultural barriers, infrastructure issues and lack of understanding on how the technology could affect their businesses. Lawrence (1997) in her study of factors affecting the utilization of e-business facilities in Tasmanian SMEs, found that the main inhibitors included high costs of implementation, lack of time to implement e-business, lack of perceived advantages of using e-business and heavy reliance on external consultants (who are often considered by small businesses to be inadequate) to provide necessary expertise.

The lack of knowledge on how to use the technology and the low computer literacy are other contributing factors for not adopting ICT (Knol and Stroeken 2001).

Purao and Campbell (1998) suggested that the main issues that SMEs face involved security hazards, unfamiliarity with the internet, start up costs, lack of guidance about how to start the process and lack of perceived advantages in implementing e-business. El-Nawawy and Ismail (1999) in their study of e-business adoption by SMEs in Egypt reported that the main factors revolve around awareness and education, market size, e-commerce infrastructure, telecommunications infrastructure, legal system, Government issues, affordability/cost structure and social and psychological factors. Lowry et al (1999) in a study of Australia SMEs reported on the concerns about security and reluctance by customers to purchase on line.

**OBJECTIVE OF THE STUDY:**

1. Explore the awareness and usage of e-business among SMEs.
2. To assess the attitudes of SMEs towards e-business.
3. To examine the benefits in the adoption and usage of e-business.
4. To identify the most important barriers of e-business adoption in SMEs.

**HYPOTHESIS OF THE STUDY:**

1. SME does not perceive the potential e-business benefits to their businesses.
2. SME does not have a positive attitude towards e-business.

**RESEARCH METHODOLOGY:**

In view of the lack of sufficient research in this area of study, particularly in the context of a developing country like India, an exploratory research design was considered the most suitable approach. In addition this research design was adopted given the exploratory nature of the research question. Furthermore the exploratory survey research approach adopted in this study.

This research requires both primary and secondary data. The SME organizations were selected using a convenience sampling technique, while the interview involved talking to key decision makers (SME owner/managers and or/employees who had a role in the adoption and implementation of e-business and secondary data was gathered from various books, journals and websites).

A structured questionnaire was adapted to the present study. The questionnaire was divided into four sections. Section-A contained demographic profile regarding the SMEs. Section-B captured to determining the position of the company in terms of its use of e-business as well as its attitude towards e-business. Section-C is focused to determine benefits of e-business usage and section-D contained e-business adoption barriers.

**Results & discussions:**

The data collected for this study was proposed by using SPSS. Descriptive statistical tools like percentages, means, standard deviation and variance analysis used for the present study. The demographic characteristics of respondent SMEs are presented below from table 2 to table 4. Most (57%) of the respondents had between one and ten employees while 37% indicat-

ed that they had been in business for a period ranging from three to five years. The largest business sector represented was the retail/wholesale sector (37%) followed by other services (30%) like transport, tourism and leisure.

**Table 2: Size of the Business.**

| Responses | Frequency(N) | Percentage (%) | Cumulative percentage (%) |
|-----------|--------------|----------------|---------------------------|
| 1-10      | 57           | 57             | 57                        |
| 11-20     | 30           | 30             | 87                        |
| 21-30     | 10           | 10             | 97                        |
| 31-40     | 03           | 03             | 100                       |
| Total     | 100          | 100            | 100                       |

| Responses       | Frequency(N) | Percentage (%) | Cumulative percentage (%) |
|-----------------|--------------|----------------|---------------------------|
| Less than 5     | 03           | 03             | 03                        |
| 5-10            | 27           | 27             | 30                        |
| 11-15           | 37           | 37             | 67                        |
| Greater than 15 | 33           | 33             | 100                       |
| Total           | 100          | 100            | 100                       |

**Table 3: Age of the Business:**

**Table 4: Type of the Business:**

| Responses     | Frequency(N) | Percentage (%) | Cumulative Percentage (%) |
|---------------|--------------|----------------|---------------------------|
| Textiles      | 30           | 30             | 30                        |
| Granites      | 37           | 37             | 67                        |
| Wood works    | 23           | 23             | 90                        |
| Food products | 10           | 10             | 100                       |
| Total         | 100          | 100            | 100                       |

**Table 5: Benefits of E-Business:**

| Rank | E-Business benefits                            | Mean | SD   | Var  |
|------|--|------|------|------|
| 1    | To maintain relationship with the customers    | 4.4  | 0.79 | 0.62 |
| 2    | To provide quality of information              | 4.4  | 0.95 | 0.90 |
| 3    | To strengthen marketing activities             | 4.3  | 0.82 | 0.67 |
| 4    | To maintain relationship with the suppliers    | 4.3  | 0.25 | 1.56 |
| 5    | To compete the competitors                     | 4.2  | 0.87 | 0.76 |
| 6    | To attract new customers                       | 4.2  | 0.92 | 0.85 |
| 7    | To exploit new markets                         | 3.9  | 1.27 | 1.61 |
| 8    | To search new suppliers                        | 3.8  | 1.14 | 1.30 |
| 9    | To streamline internal activities              | 3.8  | 1.51 | 2.28 |
| 10   | To develop internal and external communication | 3.7  | 1.30 | 1.69 |

Table 5 shows that to establish the rank order for perceived e-business benefits, the mean rating of each statement was computed. A variable with a mean larger than three was regarded as important. Consequently, all the benefits are considered important since they have means significantly larger than three. Based on respondents who considered the benefit important/very important, the strongest benefit to emerge was improved quality of information (86%) and jointly followed by the need to communicate with existing customers and suppliers and to gain an edge over competitors. Therefore H1 is rejected.

**Table 6: E-Business adoption barriers:**

| Rank | E-Business adoption barriers                          | Mean | SD   | Var  |
|------|---|------|------|------|
| 1    | E-Business is too costly                              | 3.9  | 1.45 | 2.10 |
| 2    | E-Business is too complicated to implement            | 3.2  | 1.13 | 1.28 |
| 3    | Too expensive to hire technically qualified employees | 3.1  | 1.29 | 1.66 |
| 4    | Lack of knowledge about E-Business                    | 2.4  | 1.42 | 2.02 |
| 5    | E-Business does not offer any advantages              | 2.3  | 1.25 | 1.56 |

Table 6 tells that E-Business adoption barriers are influencing their decisions not to adopt the technology on a five point Likert scale ranging from 1 (not important) to 5 (very important). Similarly, the procedure used to rank benefits was followed on barriers. The first three barriers have means three, hence were considered strong inhibitors to e-business adoption and usage. A closer look at these barriers shows that, the results are rather inconclusive. So H2 is accepted.

## DISCUSSION

This study is in support of research findings by Stansfield and Grant (2003a), were 70% of the respondent SME organizations indicated they currently use the Internet, while 73% use e-mail. SMEs in our study predominantly use E-business applications for informative (communication) purposes and to interact electronically with suppliers and customers. Similarly, studies by Lomerson et al (nd), Bolongkikit et al (2006), Stansfield and Grant (2003a) and Walczuch et al (2000) found a prominent use of electronic commerce applications for communication purposes. On the other hand, findings by Stansfield and Grant (2003a) found marketing research popular chiefly to find information about competitors and finding alternative sources of supply.

E-business applications currently used by study respondent organizations are entry-level technologies/activities according to adoption ladders promulgated by Akkeren and Cavaye (1999). Therefore, the use of e-business by study SMEs can be described as in its infancy. This finding is congruent to findings by Cloete et al (2002) and Bolongkikit et al (2006). Entry-level activities/technologies provide the infrastructure upon which sophisticated e-business activities can be developed (Akkeren and Cavaye, 1999). In relation to this study, respondent SMEs therefore have the necessary technological capabilities to adopt sophisticated e-business technology. This is in support of findings from Cloete et al (2002).

Our study respondents perceive the potential e-business benefits important to their businesses. This is in support of previous research findings by Cloete et al (2002). The importance of improved competitiveness and marketing as perceived benefits support previous findings by MacGregor and Vrazalic (2004). Also supported by previous findings is the importance of e-business in exploiting new markets. Walczuch et al (2000), Lowry et al (1999), Keynak et al (2005) and Pracy and Cooper (2000) all point to the fact that with EC, SME can access global customers. This study rates the costly nature of e-commerce as the most significant barrier to the adoption and usage of this technology. Various studies notably Owens and Beynon-Davies (2001), Ramsey et al (2003), Looi (2003) and Bolongkikit et al (2006) attest to this fact. SMEs which among other issues seek to infuse information and communication technology (ICTs) into the operations of SMEs as well as cultivating a culture of e-business which makes business easy, quick and cost effective among SMEs. The main use of e-business is for communication/informative purposes. SMEs have a positive attitude/outlook towards E-business and its related technologies such as the Internet, websites and e-mail.

SMEs consider perceived e-business benefits important in influencing their decision to adopt and use the technology and its applications. Concerning that the three most important barriers of E-business adoption in SMEs are: e-business being too costly, E-Business is too complicated to implement and too expensive to hire technically qualified employees their business.

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## REFERENCES

1. Abell, W. and Lim, L. (1996) "Business use of the Internet in New Zealand: an exploratory study" 2. Bolongkikit, J., Obit, J.H., Asing, J.G. and Tanakinjal, G.H. (2006) "An exploratory research of the usage level of e-commerce among SMEs in the West Coast Sabah, Malaysia" Available at:
2. Cloete, E., Courtney, S. and Fintz, J. (2002) "Small business acceptance and adoption of e-commerce in the Western Cape Province of South Africa" *E-Journal* Vol 10 Number 4 pp 1-13.
3. Kaynak, E., Tatoglu, E. and Kula, V. (2005) "An analysis of the factors affecting the adoption of electronic commerce by SMEs: evidence from an emerging market" *International marketing Review*, Vol 22, Number 6 pp 632-640.
4. Lomerson, W.L., McGrath, L.C. and Schwager, P.H. (nd) "An examination of the benefits of e-business to small and medium size businesses" Proceedings of the 7th annual conference of the Southern Association for information system.
5. Looi, H.C. (2003) "A model of factors influencing electronic commerce adoption among small and medium enterprises in Brunei Darussalam" *International Journal of information technology*, Vol 10 Number 1, pp 72-87.
6. Lowry, G., Singh, M. and Scollary, A. (1999) "Electronic commerce initiatives in Australia: identifying opportunity, meeting challenges, and measuring success" Proceedings of the 10th Australasian conference on information systems, pp. 532-541. Wellington, New Zealand 1-3 December.
7. MacGregor, R. and Vrazalic, L. (2004) "Electronic commerce adoption in small to medium enterprises (SMEs): a comparative study of SMEs in Wollongong (Australia) and Karlstad (Sweden)", <http://www.uow.edu.au/commerce/econ/csbr/pdf/E-commercestudy.pdf> (Accessed on 4 December 2006).
8. Owens, S. I. and Beynon-Davies, P. (2001) "A survey of electronic commerce utilization in small and medium sized enterprises in South Wales" Proceedings of the 9th European conference on Information systems, Bled, Slovaniapp 461-467.
9. Poon, S. and Swatman, P.M.C. (1997) "Small business use of the internet: findings from Australian case studies".
10. Pracy, D. and Cooper, J. (2000) "internet commerce adoption by small and medium sized enterprises in the Illawarra
11. Ramsey, E., Ibbotson, P., Bell, J. and Gray, D. (2003) "E-opportunities of service Sector SMEs: an Irish cross-border study", *Journal of small business and enterprise development*, Vol 10, Number 3 pp 250-264.
12. Stanfield, M. and Grant, K. (2003a) "An investigation into issues influencing the use of the Internet and electronic commerce among small-medium sized enterprises" *Journal of electronic commerce research*, Vol 4, Number 1, pp 15-33.
13. Stanfield, M. and Grant, K. (2003b) "Barriers to the take up of electronic commerce among small-medium sized enterprises" *Informing science*, Walczuch, R., van Braven, G. and Lundgren, H. (2000) "Internet adoption barriers for small firms in the Netherlands" *European management Journal*, Vol 18 Number 5, pp561-572.