

Obstacles to SMEs for E-Adoption in the Asia Pacific Region

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INTRODUCTION

The e-commerce revolution has affected all organizations. Of particular interest is its effect on small and medium-sized enterprises (SMEs), because we can observe an interesting duality, where these companies are most likely to benefit from the opportunities afforded by e-commerce (because through e-commerce, it is possible to level the playing field), and yet they appear to be slowest in embracing many of these e-commerce possibilities. On several social and economic grounds, SMEs are of overwhelming importance in most of the Asia Pacific/Pacific region. In fact, they comprise well over 90% of all enterprises in this region and provide employment for over half of the region's workforce (Wattanaputtipaisan, 2002; APEC, 2001). Typically, the SME sector accounts for upwards of 90% of all firms outside the agricultural sector of East and Southeast Asia, and of Japan as well (Alphonso, 2001; Regnier, 2000; Tambunan, 2000; Wattanaputtipaisan, 2002; A Report Prepared for Asia Pacific Foundation, 2002).

Given the importance of SMEs to this region, it becomes crucial to understand the obstacles they are facing. First, we must understand why e-commerce adoption has been slow, if it occurs at all, for these SMEs, and then suggest changes to policy that may enable the alleviation of such obstacles, and hence, the successful embracing of e-commerce for these SMEs. What follows is a brief synopsis that serves to outline the key factors hindering SMEs' participation in e-commerce and the obstacles to SMEs for e-adoption in the Asia Pacific region.

BACKGROUND

Electronic commerce (e-commerce) succinctly stated refers to any transaction completed over a computer-mediated network that involves the transfer of ownership or rights to use goods or services (Tambunan, 2000); i.e., e-commerce can be defined as the conduct of buying, selling, and financially transacting by electronic means.

E-commerce has been around for many years, particularly in the form of electronic data interchange (EDI). However, it is the Internet that is bringing it to the fore (Afuah & Tucci, 2000). The key aspect of e-commerce today is doing business over the Internet. E-commerce levels the playing field and lets small organizations compete with large organizations. The concept of e-commerce is about using the Internet to do business better and faster as well as shrinking traditional barriers of distance and time (Afuah & Tucci, 2000). Despite the downturn in the Internet economy represented by the crash of many dot-com companies, several forecasts continue to predict huge potential in global e-commerce over the next several years (Turpin et al., 1998). With an estimated 188 million users at year-end 2002, the Asia Pacific/Pacific region constitutes the world's second largest Internet market, ahead of North America (eMarketer Inc., 2002). South Korea, China, India, Singapore, Malaysia, and Indonesia are leading in ICT proliferation and e-commerce offerings as compared to other countries (Hill, 1998). ICT use is related to general economic indicators, such as gross domestic product (GDP), yet it is also affected by a wide range of other factors, including government policies, telecommunications costs, and social aspects (Beal, 2001; A Study Report on Thailand, 2001). Despite a sluggish economy in the Asia Pacific region, consumer demand for devices such as computers, mobile phones, and personal digital assistants (PDAs) has remained consistent throughout the region, and Internet usage is rising^{1,2} (Debroy, 2002; UNCTAD, 2002; PricewaterhouseCoopers, 1999), yet the adoption of e-commerce by SMEs has been notably slow.

As the usage of the Internet is growing, the e-commerce and e-business initiatives in Asia Pacific are growing at a very fast rate. eMarketer projects that business-to-business (B2B) e-commerce revenues will grow to exceed \$300 billion in the Asia Pacific/Pacific region by 2004 (eMarketer, 2002, www.emarketer.com). Despite such a high growth of e-commerce in Asia Pacific/Pacific and other Asia Pacific countries, the percentage of revenues generated through business-to-consumer (B2C) e-commerce transactions are still very low as compared to developed countries (Beal, 2001).

SMEs and E-Commerce

The adoption of e-commerce technologies is important for the ongoing survival of SMEs. The most significant business benefits for SMEs from the use of e-commerce are described below (Arunachalam, 1995; Sengenberger et al., 1990, Sharma et al., 2003, Afuah & Tucci, 2000):

- Better service quality—E-commerce can improve the quality of the marketing, sales, support, and procurement processes of SMEs by delivering more accurate, timelier, and more complete information to the point of sale, point of decision, or point of support. Service can also be delivered over a broader geographic and temporal base worldwide or any-time, anywhere.
- Reduced service costs—The self-service Internet-based e-commerce model is characterized by relatively low variable transaction costs, with increasing cost-effectiveness as the scale of activity increases. At higher volumes of activity, Internet commerce channels for sales and support services are likely to be low-cost channels.
- Increased revenue—Extended geographic sales channels and improved service quality may lead directly to increased market share, improved competition among brands, and greater revenue.
- Reduced time to complete a business transaction—By communicating electronically, the time required to place and confirm an order can be compressed by hours or, in some cases, days or weeks. This shortens the lead time for product delivery. As a result, it may be possible to reduce parts or finished goods inventories or receive critical products more rapidly to gain a competitive advantage.
- Reduced administrative costs—The cost of processing purchase requisitions, purchase orders, and payments can be dramatically reduced, as can invoice and bill presentation costs. The accuracy of business transactions is improved, increasing customer satisfaction; reducing transaction, auditing, and administrative expenses; as well as reducing the costs of expedited manufacturing and shipping costs to correct erroneous or late orders.
- Improved return on capital—By shortening the “product turn” and payment cycles, enterprises can reduce the amount of material requirements and the time for which funds must be committed to pay for the production of inventory, materially lowering capital requirements.
- Increased return on investment through better planning—More timely planning and information allows for more efficient acquisition and scheduling of

capital equipment, reducing unit costs, increasing the return on investment, and ensuring a better match between manufacturing capacity, production, and market demand.

- Increased time devoted—SMEs now can devote more time to their products and their customers and lose less time in unproductive administrative jobs, such as time savings associated with electronic purchasing and materials management.
- Enhanced marketing—SMEs can enhance their local and international marketing efficiency through electronic catalogues and advertising through the Internet.
- Enhanced innovation capacity—SMEs can dramatically enhance their innovation capacity through technology watch, reverse and concurrent engineering, rapid prototyping, and distance manufacturing.
- Increased bidding opportunity—SMEs can bid on larger and international projects through networking with other partners worldwide and even with competitors.

OBSTACLES OR BARRIERS TO THE ADOPTION OF E-COMMERCE

The potential opportunities and benefits of e-commerce for SMEs include strengthening customer relationships, reaching new markets, optimizing business processes, reducing costs, improving business knowledge, attracting investment, and creating new products and services (APEC, 1999). Specifically, e-commerce represents an opportunity for SMEs to compensate for their traditional weaknesses in areas such as gaining access to new markets and gathering and diffusing information on a broad and international scale. Despite this, the following are the various obstacles that are experienced by Asia Pacific SMEs for their e-adoption that we have found through our research.

Lack of Awareness among SMEs about E-Commerce

This first and basic obstacle for adoption of e-commerce usage among SMEs in Asia Pacific is lack of awareness of e-commerce and the availability and access to the telecom infrastructure at a reasonable cost. This finding was confirmed by the APEC Report (2002). Many SMEs are found to be not aware of the developments taking place and the role they could play in this new marketplace. At times, the persons involved in SMEs found e-commerce literature too technical and complicated. Unless govern-

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