

# **Chapter ONE**

## **INTRODUCTION**

### **1.1 Introduction**

The Industrial Revolution was powered by the steam engine, invented in 1712, and electricity, was first harnessed in 1831. As it required a network to contain and transmit its power, electricity's potential had to wait 50 years after it was harnessed before the first power station was built in 1882. It took another 50 years before electricity powered 80 percent of factories and households across in the United States. However it was not until the factories replaced the old power system for electric motors that fundamental changes in production occurred. Factory structures were streamlined, and key processes, such as materials handling and manufacturing flows were made more efficient.

The digital revolution is happening much more quickly. The harnessing of light for nearly instantaneous communications and the ability to use microscopic

circuits to process and store huge amounts of information are enabling the current economic transformation.

In 1946, the world's first programmable computer, the Electronic Numerical Integrator and Computer (ENIAC), stood a whole 10 feet tall, stretched 150 feet wide, costs millions of dollars, and could execute up to 5,000 operations per second. A quarter of a century later, in 1971, Intel had managed to pack ENIAC's processing power into a 12mm<sup>2</sup> chip with a USD 200 price tag. Today's Intel Pentium Chip could handle 1.5 Ghz of instructions per second.

As late as 1980, phone conversations only traveled over copper wires which carried less than one page of information per second. Today, a strand of optical fiber as thin as human hair can transmit in a single second the equivalent of 90,000 volume of an encyclopedia.

A global digital network using packet switching technology combines the power of these remarkable innovations of computing and communication. The Internet ties together the computing power on desks, in factories and in offices around the world through a high-speed infrastructure.

According to Cerf (2000), the Internet's pace of adoption easily eclipses all other technologies that preceded it. Radio was in existence 38 years before 50 million people tuned in; TV took 13 years to reach that benchmark. Sixteen years after

the PC kit came out, 50 million people were using one. Once it opened to the public, the Internet crossed that line in four years.

## **1.2 Electronic Commerce and the Digital Economy**

Two facets of the “digital economy”, electronic commerce (i.e., business processes which shift transactions the Internet) and the Information Technology (IT) industries that make e commerce possible, are growing and changing at breathtaking speed. Not only were we unable to foresee five years ago how advances in information technology would alter the manner we do business and create value, but the rate of change is consistently racing ahead of estimates that only a year ago appeared highly optimistic.

The value of e commerce transactions, whilst still small relative to the size of the economy, continues to grow at a remarkable rate. More significant than the Ringgit amount of these transactions are the new business processes e commerce enables and the new business models it is generating. Both the new Internet based companies and the traditional producers of goods and services are transforming their business processes into e commerce processes in an effort to lower costs, improve customer service, and increase productivity.

Electronic commerce is a means of conducting transactions that, prior to the evolution of the Internet as a business tool in 1995, would have been completed

in more traditional ways- by telephone, mail, facsimile, proprietary data interchange systems, or face to face contact.

While individual private estimates of Internet access and size vary significantly from each other, taken together all of them indicate remarkable growth.<sup>1</sup> By any measure, the ability of consumers and businesses to reach the Internet and to engage in e commerce is increasing rapidly.

For this thesis, we shall adopt the definition of E commerce from the WTO:

“The production, distribution, marketing and sale and delivery of goods and services by electronic means.”

### **1.3 SME and E-Commerce**

In any major restructuring of industries and markets brought about the convergence of technologies such as the Internet, Small and Medium Enterprises will be the main sources of innovation and hence the engine of economic growth, provided they are prepared for such a major shift.

SMEs also belong to a group that potentially stands to benefit most from opportunities offered by electronic commerce, as their business organizations are more flexible and easier to re-engineer to take advantage of new methods to compete with larger firms.

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<sup>1</sup>Differences among private estimates result from differences in definitions, methods, data, model and sampling error and product coverage.

The definition of SME adopted from the SME/SMI Association of Malaysia:

“Classified as enterprises with annual sales turnover of not more than RM25 million and employees of 150 and below.”

APEC SME Policy Level Group (1998) found that SMEs are key to the economic growth and productivity of a country. Within the APEC region, there are 40 million or more SME's which together comprise over 95% of all enterprises employ up to 84% of the workforce, contribute between 30% to 60% of the GDP and account for 35% of all exports from the APEC region.

SMEs are overwhelmingly the biggest players in the business to business (B2B) electronic commerce, contributing to 80 percent of all e commerce activity. These SME's use electronic commerce to gain an advantage in the B2B marketplace. Consequently SME's that do not keep pace with electronic commerce stand to be marginalized in the marketplace.

SMEs are more prone to be affected by macroeconomic changes occurring in an economy than those operating on a larger scale. These changes could be in the nature of changes in tax structure, business cycles, variations in foreign exchange rates, access to newer technologies, lower global prices, increased imports and product obsolescence.

Whilst breathtaking in speed and impact, the development in e commerce reflect the activity of less than 5% of the worlds population. The gross disparity in the spread of the Internet and the benefits derived from it should become a matter of grave concern. The digital divide has the potential to leave many developing nations behind, resulting in growing disparities between countries and societies. For example, UNESCO observed that the North South divide may be exacerbated in a situation where most of the world's population lacks the basic access to a telephone, let alone computers. The lack of access to technology and the Internet would keep many small and medium enterprises from being competitive.

Malaysia, like other developing countries, must embrace ICT if it to sustain economic growth and remain competitive in the global marketplace. The promise of significant economic growth and increased revenues has placed electronic commerce high on many public and private agendas. Governments the world over has adopted the development of e commerce as a high priority program. Some have enacted e commerce laws in an effort to implement the e commerce agenda. The burgeoning New Economy is not only transforming the way business is conducted, it is also transforming how governments' strategies their national development plans. In fact e commerce is also transforming society itself as information and telecommunication technology begins to transform the social structures of societies.

In the case of Malaysia, the economic impact that is the most compelling reason for the adoption of e commerce. Electronic commerce has exerted a strong

downward impact on firm's internal production and transaction costs. These costs relate mainly to the cost of executing a sale, costs associated to the procurement of production inputs and costs associated with making and delivering the product. At the macro level the increased efficiency and competitiveness of individual firms is aggregated into making a country more competitive internationally. With international competition becoming increasingly fierce, e commerce plays an increasingly important part in national economic planning.

Due to the rapid changes in technology, new procedures, standards and regulations, the government should constantly monitor the adequacy and relevance of our cyberlaws and regulatory environment. It should be prepared to review, modify or even overhaul our laws to keep them relevant, comprehensive and facilitative thus preventing them to be obsolete and restrictive to the conduct of e commerce.

Electronic commerce in Malaysia is still in its infancy, and many SMEs are way behind in the involvement of e commerce. It is imperative not to allow our SMEs get left behind in the new economy. In most emerging economies, 60-90 percent of economic activity takes place in the non-IT SME sector, Rao (2000). Whilst big organizations can muster the resources needed for e commerce, the challenge is in getting SMEs on board the Internet agenda by working around their knowledge, resources and skill shortages. Although the notion of e-commerce is generally well understood, few businesses appreciate it's potential to realize its potential to enhance efficiency.

#### **1.4 Objectives**

The objectives of this research are to:

- Highlight the importance of e commerce in the new economy, and examine the potential benefits of embracing e commerce to the firm and in the macroeconomic level
- Analyze the current state of adoption of e commerce amongst SME's in the Malaysian economy.
- Assess the impediments and challenges faced by SME's in embracing e commerce, and to look at the role of the government as the main driver of e commerce.
- Analyze the policies outlined by the government to encourage e commerce adoption.
- To look at the potential effect of an e commerce boom, led by SMEs, on the Malaysian economy.

#### **1.5 Theoretical Framework**

The scope of this research is limited to the small and medium industries and enterprises within Malaysia. It is known that e commerce can significantly improve the efficiency of economies, enhance their competitiveness, and improve the allocation of resources and increase long-term growth. We know eventually e commerce will just become commerce, i.e., it will become another part of a



critical backbone on which business relies. However, during the transition, e-commerce will drastically change the ability of firms to create and capture value and will lead to the restructuring of many markets.

It is known that the rapid technological progress in ICT, along with its widespread diffusion have led to speculation about 'frictionless economies' where transaction costs are nearly zero, barriers to entry disappear and markets clear instantly, Hagel and Armstrong (1997). Whilst e-commerce is far from a frictionless mode of exchange devoid of transaction costs, it offers significant savings both within and between firms Cohen (1998).

This research will focus on the potential impact of the firm (specifically SME's) as well as the impact on the economy as a whole. It attempts to answer the questions "Why is e-commerce adoption so dismal in Malaysia?" "What are the main stumbling blocks?" "Is the government doing enough to encourage e-commerce in the country?"

## **1.6 Methodology**

This thesis uses a secondary data source from published reports, papers, articles and books. Some data is sourced directly from the Internet. All the data was compiled and analyzed to give a broad view of the state of e-commerce adoption amongst SMEs in Malaysia, the problems and challenges they face and current initiatives in place to encourage e-commerce in Malaysia.

### **1.7 Organization of the study**

The thesis starts off with a literature review in chapter 2, which looks at numerous studies focussing on the benefits of e-commerce to the firm and also its impact on economic growth.

Chapter 3 maps the state of electronic commerce in Malaysia (specifically amongst SMEs), and also some projections for electronic commerce by the industry.

Challenges in electronic commerce adoption amongst SMEs in Malaysia specifically and in other countries in this region in general is discussed in Chapter 4. The role of the government and private sector led by the multinational companies (MNCs) is analyzed in chapter 5. Current initiatives and polices in promoting electronic commerce within the SME community is also discussed Chapter 5.

Chapter 6 takes a peep into the future prospects of electronic commerce in Malaysia. It also provides some recommendations to further encourage e-commerce adoption for SMEs in Malaysia.

### **1.8 Significance of the study**

The significance of this study is that it allows, through thorough analysis of the state of SME and e commerce in Malaysia to:

- Point out the importance and benefits of adopting e commerce, so that Malaysia's industries do not get left out in the ear of globalization.
- To point out the increasing importance of the Internet and e commerce despite the current world economic slowdown.
- Provide a general assessment of the challenges and impediments of e commerce in Malaysia so that these issues are addressed and its implementation expedited.
- Assess current policies, initiative and the governments role as a driver for e commerce, to highlight its weaknesses and to improve on it's effectiveness.
- A look at the future prospects of e commerce in Malaysia
- Highlight how adopting e commerce might lead to higher micro economic and macro economic growth.

### **1.9 Limitation of the study**

Time constraint and difficulty in obtaining comprehensive data on e-commerce adoption in Malaysia was the major limitation of the study.