CHAPTER ONE: INTRODUCTION

1.0 INTRODUCTION

This chapter is devoted to present the overview of the research background, where focus has been made to introduce the topic in detail. In particular, it is also aimed to highlight gaps in the existing literature related to the topic of key success factors of web based supply chain management and its relation to firm performance in Malaysian firms. In addition, the problem statement, research questions, research objectives, scope and significance of the present study are addressed. Finally, a thesis outline is presented in a diagrammatic form to show how different chapters of this study related to the entire process of research.

1.1 BACKGROUND

With an increasing number of competitors, both local and worldwide, businesses company do not only have to restructure their organizations to produce higher-quality products and services, reduce cost and react quickly to the market, but they also have to manage their supply chain networks effectively. According to Handfield and Nichols (2003), supply chain is made up of all the activities that are required to deliver products to customers; from designing product to receiving orders, procuring materials, marketing, manufacturing, logistics, customer service, receiving payment and so on. Hence, it can be concluded that any factor that influences a product's time-to-market, price, quality, information exchange, and delivery among other activities is a part of the supply chain. In fact, logistics had already become prominent and acknowledged as a critical factor of competitive advantage in other advanced countries like the United States and the United

Kingdom (Bowersox & Closs, 1996; Bowersox & Daugherty, 1995; Christopher, 1993). In other words, the increasing importance of the logistics industry is resulted from the expansion of international trade as well as the globalization strategy of companies in their business.

In the Asia Pacific region, the potential for growth is very promising (Sum *et al.*, 2001; Bhatnagar *et al.,* 1999). It can be seen from the recent dramatic expansion of external trade in countries such as Singapore, Thailand, Malaysia and Indonesia is due to the demand for more efficient and effective logistics services. Despite of the remarkable expansion of the industry; particularly in Malaysia, there have been very little published researches in the area of logistics and supply chain which led to a very limited dissemination of information for the purpose of coordination, learning, advancement etc. As a part of a research project on supply chain management (SCM), this study begins by examining the modern drift in supply chain management which is integrating Information technology (IT) in supply chain management, also better known as "web-based Supply chain management".

The emergence of information communication technologies has enabled companies to be more flexible and responsive to the changing market needs. In this study, a Web-based supply chain management system (WSCMS) is defined as an Internet-enabled SCM system that integrates networks of suppliers, factories, warehouses, distribution centers and retailers, through which the whole chain of logistic processes is managed. Consequently, a faster and more flexible coordination can be achieved between company, customers and suppliers along the supply chain.

The web-based supply chain links the trading partners through various information technologies– including the Internet and/or electronic data interchange (EDI)–to allow them to buy, sell and move products, services and cash. The traditional methods of logistics control starting to become incapable of managing the dynamics of contemporary logistics service requirements (Ballou 1999, Angeles 2000, Arlbjorn & Halldorsson 2002). Other than that, the flexibility in the supply-chain is needed as the rapid proliferation of e-Commerce requires a new approach. The flexible responses to customers' needs and a new supply-chain environment are needed in order to provide speed to market.

Supply-chain management (SCM) is a method for integrating a manufacturer's operations with those of all of its suppliers and customers and their intermediaries. SCM is sought to integrate the relationships and operations of several-tier suppliers in meeting requirements–such as quantity, delivery and the timely exchange of information. In addition, firms that embrace SCM also solicit ideas from the key suppliers and involved them directly in the new product development processes. By managing supply-chain costs and linking supplier capabilities to new product development, the corporate performance objectives in many organizations are advanced (Gurin 2000).

Turban *et al*. (2000) indicated that the powerful IT calculation capacity, Internet connection and communication functions operated by the enterprises could result in more efficient information exchange among the enterprises. It is clear that the use of IT in the operational process would lead to more successful enterprising and enterprises would further reduce the stocks and increase the inventory turnover rate and organizational performance. Sander and Premus (2002) conducted empirical study on American

manufacturing industry and found that IT operation on supply chain management can enhance competitive advantages and improve organizational performance. Thus, the e-supply chain or web based supply chain capability becomes one of the ways for the enterprises to enhance their competitiveness.

Byrd and Davidson (2003), from explorative literature review on electronic based supply chain management, found that there were rare studies with respect to the influence of web based-Supply chain capability on firm performance. Besides that, most of the studies subjectively evaluated the influence degree of IT on the activities of supply chain (Byrd & Davidson, 2003). In addition, they were also lacked of objective evaluations. Therefore, the purpose of this study is to empirically test a framework identifying the relationships among web based-Supply chain Management' capability, and organizational performance.

1.2 PROBLEM IDENTIFICATION

Since the early 1990s, Malaysia has been transforming from a commodity-based producing nation to a manufacturer of industrial products that is geared towards exports. Since the last quarter of the twentieth century, the country has undergone a spectacular structural transformation. From an agriculture and primary commodities dependence, it is now an export-driven economy, which in turn is spurred by capital-intensive, knowledge-based, and high technology industries. In the 1990s, the economy achieved average annual growth rate of 7 percent. The economic growth was broad based and driven by strong domestic demand. It is also reinforced by the favorable export performance.

Exports and imports also went up by four times since the beginning of the last decade to reach a total of almost US$150 billion by the turn of the century (Sohail *et al*, 2003). The manufacturing sector has been the engine of growth of the economy. Exports of manufactured goods had made up 85 percent of the total exports.

However in the country, the uptake of e-business practices amongst small and medium size manufacturing unit as well as in other industrial sectors have been slow and challenged with problems. Studies by Ren *et al.,* (2006) in Europe, listed several factors that led to this situation of events such as, lack of data security and commitment from top management.

In Malaysia various government initiatives have been carried out to encourage and assist local firms to be a part of the digital economy. Whilst participation is encouraging, it is still far from satisfactory. Ramayah *et al.* (2004) in a survey conducted on e-readiness in SMEs located in the Northern Malaysia states, found out that the companies are ready to participate in e-business but factors such as commitment from top level management and investment in ICT can be the factors that hinder success.

A recently conducted preliminary case study (Mukhtar *et al.,* 2007) on six companies in the wood and wood products industry in Malaysia revealed several contingent factors that led to the state of a virtually non-existent presence of electronic or web based practices especially those that support strategic decision-making. Mukhtar *et al.*, 2007 in their study using a case studies approach, they discovered that the use of ICT is mainly to support operations and management while the use of the Internet is mainly for promotion of goods and as a vehicle to expedite the searching of potential suppliers. Among the reasons cited for these conditions of events are the lacks of an e-business

strategy; the existing competitive strategy does not justify the application of e-business, the position of the company in the supply chain and the condition of ICT infrastructure and expertise.

Due to the popularity and functionality of the Internet/Intranet, many researchers have realized that benefits can be derived from applying Internet technology to communications and systems management in supply chains (Ghiassi & Spera 2003; García-Dastugue & Lambert 2003; Lancioni *et al.* 2003; Lancioni *et al.* 2000; Pant *et al.* 2003). Therefore this study seeks to identify the key capability of a web based-supply chain management by exploring the literature review and develop a framework of the study to explain how these capabilities of web based supply chain management influence the firm performance in Malaysian context. The following sections discuss research questions and the objective of the study.

1.3 RESEARCH QUESTIONS

These are the questions to be answered while completing this study:

1. What is the level of capability of supply chain management and firm performance in the Malaysian firms?
2. How these capabilities of web based supply chain management associated to firm performance?
3. Which one of the capabilities of web based supply chain management influence the most in the firm's performance?

1.4 RESEARCH OBJECTIVES

The objectives of the study are:

1. To examine the reported level of web based supply chain capabilities and firm performance.
2. To investigate the association or relationship between web-based supply chain management capabilities and firm performance.
3. To examine the effect of the web-based supply chain capabilities on firm performance.

1.5 SCOPE OF THE STUDY

This study is unique since it looks at the empirical findings of the firms in a developing economy in Asia Pacific region. However, the scope of this study is limited to Malaysian firms. Firms in manufacturing and services sector will be the major focus in this study because of their strategic importance and contribution to Malaysian economy. The questionnaires are distributed to the heads supply chain division/department or person who involved in supply chain decision making in the randomly selected firms. It is hoped that the findings of this study will benefit Malaysian firms especially those in manufacturing and services sector.

1.6 SIGNIFICANCE OF THE STUDY

This research study explores the literature review to identify the key capabilities of an electronic or web based supply chain management. The study will also test and investigate empirical evidence of the relationship between different key capabilities of web based supply chain management and firm performance.

From the practical point of view, this study is significant in the Malaysian firms as it attempts to provide an insight to the management or policy makers particularly in the manufacturing and service sectors to adopt e- strategies in the adoption and integration of supply chain management for effective decision-making to sustain a competitive advantage.

1.7 THESIS OUTLINE

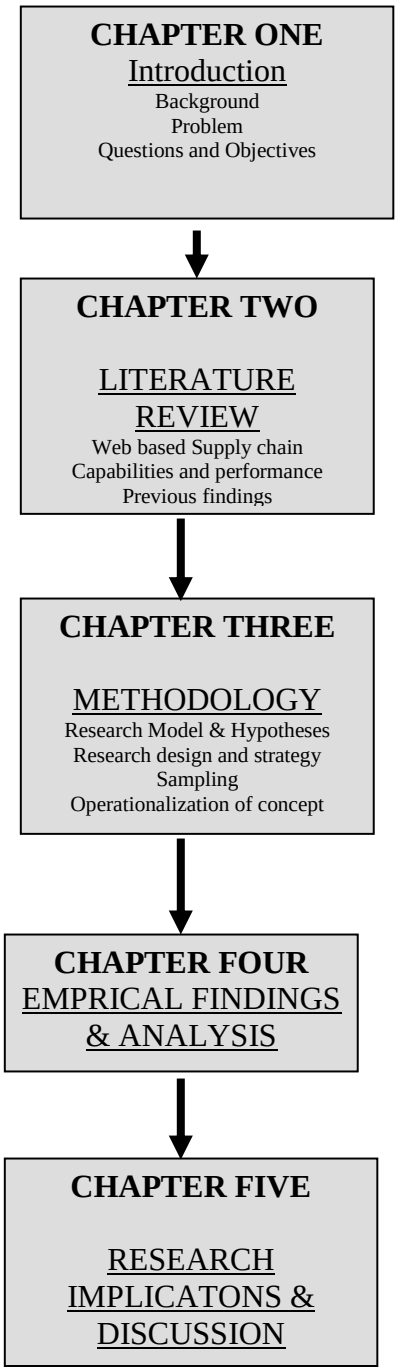

Figure 1.1. Outline of the thesis

Figure 1.1 illustrates the structure of this research based on the content of the individual chapters. The arrows in Figure 1.1 indicate how the chapters are linked to each other. In chapter one, the background of the study is discussed to understand the purpose of the study. A brief review of the literature on supply chain management is discussed with the understanding of how electronic or web based supply chain management is related to firm performance.

The chapter identifies two important variables of the study that is web based supply chain management as independent variable and the firm performance as dependent variable. In this chapter, the research statement, questions, objectives, scope and significance of the study are clearly discussed.

In chapter two, literature on web based supply chain management is reviewed in relation to the various dimensions of web based supply chain management to the firm performance. A summary of the previous findings is also presented in this chapter. Based on literature review, the research model is developed and research hypotheses are discussed.

In chapter three, the conceptualization and operationalisation of the concept and methodological issues are further explained in detail. Research approach, research strategy, and research design to sampling, measurement and data analysis are discussed in detail.

The next chapter, chapter four, contains the major empirical part of the study that covers data collection, data recording, data presentation and data analysis. This chapter is devoted to the analysis, discussion and interpretation of the empirical findings that result in answering the research problem, test the hypothesis, and presentation of the hypotheses

results to answer research questions.

Finally chapter five provides a summary of the most important empirical and theoretical findings. Evaluation, revision and interpretation of the empirical findings are also discussed in this section. Implications for practitioners and policy makers and for future research are provided on the basis of the findings as well as the limitations of the present research.