

Chapter One-Introduction

“The future is not some place we are going, but one we are creating. The paths to it are not found but made, and the activity of making them changes both the maker and the destination”

*John Schaar
Scholar and political theorist*

1.1 Background

Why do firms innovate? Why should it be important for a firm to innovate at all? As today, we are living in a borderless world where boundaries are no longer relevant, where accessibility to knowledge, expertise and technology is far advanced; innovation has become a necessity rather than a luxury (Kaplan & Warren, 2007). What’s more? The emergence of knowledge economy, highly intense global competition and considerable technological advances has turned the spotlight on innovation as a key to competitiveness. Hence, innovation is vital for a firm to sustain its performance, improve it and swim away from the surrounding competitors in the rough ocean of global competition.

Beaver (2002) states that innovation is an essential condition to economic progress, and a critical element in the competitive struggle of both enterprises and nation states. Further, Beaver suggests that over 60 per cent of all economic growth is due to technological innovations rather than improvement in labour productivity (Beaver, 2002). According to Temperley, Galloway and Liston (2004) with globalisation, many firms are forced to operate in an increasingly competitive global marketplace. Hence, in order to be competitive in a global market against countries with low labour costs, firms need to be

innovative to gain competitive advantage. Therefore, innovation is a kind of strategy for enhancing their competitiveness (Morries, Kuratko & Covin, 2008).

Innovation is, thus, the key factor to generate a higher productivity and greater prosperity for the economy. Innovation (as cited in Lawson & Samson, 2001, p.378) is the mechanism by which organizations produce the new products, processes and systems required for adapting to changing markets, technologies and modes of competition (D'Aveni, 1994; Utterback, 1994; Dougherty & Hardy, 1996). With an increase in innovative activities, innovation is expected to have a positive and significant impact on productivity. An increase in productivity would increase the rate of economic growth and eventually the economic well being of firms and the country as a whole. Henceforth, in the literature on innovation it is increasingly recognised as the source of competitive advantage and the wellspring for national economic growth.

It is also evident that firms which are innovation efficient will be able to perform better in a competitive environment. But, the question is what makes a firm's innovation an efficient one? Evans (2003) defines innovation efficiency as a process of incorporating basic science innovations into products. He further stressed that the world has witnessed the success of innovation as a means for firms to overcome the challenges they face such as a reduction in their market share, shifts in the customer loyalty, and fierce competition. Thus, firms that are innovation efficient will be able to perform better when they are able to produce new or significantly new products, sell them and reap the benefits through the increase in their sales.

Innovation cannot be only measured by R&D spending (Cosh, Fu & Hughes, 2003). There are several other factors which have an impact on a firm's innovativeness. For example, design in innovation-related products, or training and market analysis play an important role in helping firms transform new ideas and new technologies into commercially competitive products (Cosh et al, 2003).

At the same time, as the process of globalization intensifies, firms find themselves (especially those involved in manufacturing) facing severe competition from manufacturers in other countries. Hence, innovation is imperative for firms' survival.

Moreover, it is interesting to conduct research, and in particular, innovation research in Malaysia for several good reasons. Firstly, with rapid economic growth following the industrial transformation that took place in the 1970s and 1980s, Malaysia has evolved in recent years to be a leading country in the developing world (Ang, 2008). In fact, Malaysia's economic achievements since independence in 1957 are remarkable by any standard. The country's per capita income increased from US\$ 200 in 1960 to \$ 3,400 in 2000 (Lee & Lee, 2007). During this period, the Malaysian economy was transformed from an economy that was heavily dependent on exports of primary commodities (such as tin and rubber) to one that is driven primarily by the exports of manufacturing goods (Lee & Lee, 2007). In 2007, manufactured goods accounted for 31 per cent of the country's GDP and more than 70 per cent of the country's exports.

Secondly, among all of the developing countries in the world, Malaysia is often held up as one of the few countries whose economic policies might be worth emulating (See, for example, Smogyi, 1991). According to Ritchie (2005. p.745), "mainstream economists suggest that liberal economic policy decisions on the part of Malaysia's ruling elite spurred

foreign direct investment, drove technological deepening, sidestepped resource abundance traps, and facilitated specialization, comparative advantage, and overall growth” (See, especially, Sachs & Warner, 1995). “Most importantly, such policies acted to restructure and reallocate existing resources into new combinations of labor, capital, and technology in ways that at least did not derail and most likely facilitated FDI-led growth (Sachs & Warner, 1995; Lall, 1999; Hobday, 2000; Felker, 2003) (As cited in Ritchie, 2005, p. 745).” Yet, backing his argument based on many political economists who are more familiar with Southeast Asia, Ritchie further asserts that “this attention to liberalization and economic reform as the drivers behind economic growth veils the way coalitional politics drove illiberal government intervention to address ethnically based economic inequality, create national heavy industries, and favor politically well-connected entrepreneurs (2005, p. 745)”. Although, my main focus in this research is ‘innovation capability’ in Malaysia, and not coalitional politics, it is important to know that macro-political and economic policies immensely affect the micro-level innovation. This is due to the fact that politics “conflates outcomes of economic growth, or raw wealth creation, with economic upgrading, the process of moving to ever-higher levels of *innovation* and value-added in the production process” (Ritchie, 2005).

Thirdly, Malaysia’s economic policies promoted fast-paced economic growth, the creation of a remarkable physical infrastructure, competent macroeconomic management, and an extensive foreign-led manufacturing industrialization (Ritchie, 2005). Notwithstanding these positive outcomes, these same policies later hindered further development by thwarting the creation of new supply of knowledge and skills. Consequently, “despite its explosive FDI-led export growth, Malaysia remains mired in

technological mediocrity, unable to overcome the “microlevel rigidities” that keep it from achieving the same developmental level of the East Asian NICs (See, Kaldor, 1972; Waldner, 1999; & World Bank (Malaysia Brief), 2003). Since, growingly, FDI is diverted to China, “Malaysia faces a potentially suffocating structural squeeze: neither price competitive with China nor technologically competitive with Singapore, the East Asian NICs, or the OECD countries” (Ritchie, 2005, p. 746).

Last but not least, Malaysia is now seriously considering an economic transformation plan to move from resource-based economy to an innovation-driven one as mentioned in National Innovation Model (NEAC, 2010, see also Figure 1.1). This economic endeavor requires the government to study, and review their economic strategies in light of innovation within the context of Malaysia. Thus, for these and other reasons, this study has made an attempt to unveil the key drivers of innovation within Malaysian firms from a product and process innovation perspective. The target population in this study covers all firms which are involved in business activities in both manufacturing and service industries in Malaysia and not only Malaysian-ethnic owned ones.

1.2 Research Motivation/Problem Statement

This research is motivated by three chief factors; firstly, my personal passion and will for research in the field of innovation and technology management since, 2008 when I first became acquainted with this field in George-Simon-Ohm University of Applied Sciences, Nuremberg, Germany. Since then, I have constantly questioned myself, “why do some firms perform better than others?” and “why is it that some firms survive in face of the high tides of market, economic downturn, stifling competition, while others simply have to surrender

or even go out of business?”. The quest for a plausible answer to these questions required me review a dozens of the seminal studies conducted in the field of management as well as mainstream research particularly in the field of strategic management where competitive advantage and firm survival have been attributed to firm’s innovativeness and innovation performance. Therefore, part of the motivation for this study is to examine the firm’s innovation capability in relation to its innovation performance.

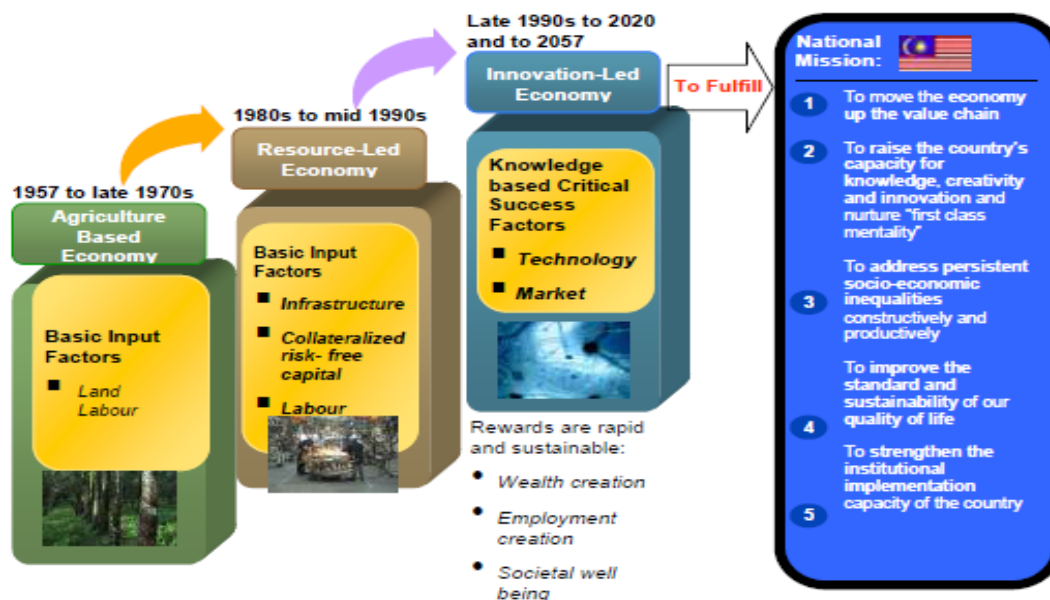
Secondly, his Excellency YAB Dato' Seri Dr. Mahathir Mohamad (Dr. M), the former prime minister of Malaysia, formed a “vision” known as “Vision 2020- The Way Forward” where he put forward the idea that “hopefully the Malaysian who is born today and in the years to come will be the last generation of our citizens who will be living in a country that is called 'developing'. The ultimate objective that we should aim for is a Malaysia that is a fully developed country by the year 2020¹.” And this great vision, which in my opinion is a blessing, caught my attention and raised my curiosity as I am, too, a developing nation -born young researcher. Therefore, as rapid advances in innovation and technology have been a major driving force for much of the economic growth and rise in living standards in the post world war II era, I would be increasingly interested to investigate innovation in the context of Malaysia as a developing country. Developing countries like Malaysia in the past 50 years had experienced a substantial economic transformation, moving from a resource-based economy (Land and Labour) to a production (manufacturing) and services-oriented economy where Infrastructure, Labour and Capital (collateral base) are the key elements. In fact, as mentioned in National Innovation Model² (INOVASI Majlis Inovasi Negara), “there is a need to shift the resources based economy

¹ Retrieved 15th May, 2010, <http://www.primeministersofmalaysia.net/2020.php>

² Retrieved 15th May, 2010, <http://www.mosti.gov.my/mosti/images/pdf/innovation%20model%20jtpin.pdf>

and production based economy to a sustainable economic [sic- economy] where knowledge and ‘know-how’ become the main drivers for economic growth. It is no longer enough to be assemblers or expert practitioners of old methods, as we will surely be overtaken by those with cheaper labour. This has led to the migration into Innovation base economy. Thus, the factors of production in traditional economy is [sic- are] NOT RELEVANT in the Innovation Economy.” Figure 1 illustrates this economic development.

Figure 1.1: Economic Development in Malaysia



Source: National Innovation Model, Report by INOVASI
<http://www.mosti.gov.my/mosti/images/pdf/innovation%20model%20jtpin.pdf>

As explained earlier, Figure 1 above clearly demonstrates the economic development of Malaysia from 1957 to the present time and further. It shows how the country has progressed from an agriculture-based economy (1957-Late 1970s) to the resource-led economy (1980s- mid1990s), and finally as “envisaged by the policy makers and economists” to innovation-led economy (late 1990s-2020, and to 2057).

Indubitably, the raised awareness of innovation as a key driver of economy towards a better future, on its own, deserves appreciation. Government (The Ministry of Science, Technology and Innovation (MOSTI)), has also shown its [partial] commitment by conducting only a few national surveys of innovation which by the time this study is completed are considered as obsolete knowledge yet of historical value. These surveys (as cited in Lee & Lee, 2007) were conducted through a government agency known as the Malaysian Science and Technology Information Centre (MASTIC) which has been carrying out national surveys of innovation (NSI) in the Malaysian manufacturing sector on a biannual or tri-annual basis since the mid-1990s. The methodology for these surveys is based primarily on the approach adopted in the Community Innovation Surveys (CIS), conducted in Europe since the early 1990s. The first NSI survey (NSI-1) was conducted in 1995 (covering the period 1990-1994), the second (NSI-2) in 2000 (covering 1997-1999) and the latest (NSI-3) in 2002/2003 (covering the period 2000-2001). In addition to these surveys, the Malaysian Knowledge Content Survey (MyKe Survey), carried out in 2003, also covered innovation, albeit in a more limited manner. In all surveys, two types of innovation have been identified, namely, product innovation and process innovation. The fourth and the most recent national survey of Innovation (NSI-4) was conducted during the period of 2002-2004 and its main focus was on innovation activities in the manufacturing sector. In the fourth survey, the overall methodology was preserved resembling the preceding with minor changes regarding data collection and survey instrument. NSI-4, however, encompassed very basic issues such as demographics of the innovating and non-innovating firms in Malaysia and constructs such as firm size, ownership types were discussed as characteristics of these firms. So far, as continuous government research on

innovation were stopped and the next national survey is yet to be conducted after a six-year laps, neither could I find any academic research investigating and discussing the key drivers of innovation performance within firms located in Malaysia, nor was I able to find hypothetic-deductive approach research which empirically tests the innovation topic among both manufacturing as service-oriented firms in Malaysia. Even NI4 exclusively focused on manufacturing firms in Malaysia. Therefore, in view of the above, there is a gap in the literature on innovation in Malaysia concerning concrete, theory-driven studies which empirically research the key drivers of innovation.

Thirdly, In July 1995, Malaysia became one of the signatories to the General Agreement on Trade in Services (GATS), an interim international accord on liberalizing global trade in financial services (Bank Negara Malaysia, 1996). In light of the various developments taking shape in the domestic as well as the international markets, it is essential that companies begin to map out strategies for success in the open environment of the not too distant future. This is because the GATS framework provides for progressive removal of barriers to trade in services. Thus, local companies who were once protected from economic liberalization faced unprecedented change in the business environments in which they operated (Govindaran & Gupta, 2001; Anand & Kale, 2005).

Further, on January 1, 1995 Malaysia became a member of World Trade Organization (WTO), and since then Malaysia has been engaged in the process of economic liberalization so much so that it has been noted in WTO website “members praised Malaysia's steady economic growth between 2005 and 2008 (WTO, 2010)”. Although the economy suffered in 2009 due to the global financial crisis “members were pleased about the positive economic growth projected for 2010 (WTO, 2010)”. In addition, “...members were

interested to know how the authorities intend to promote the development of services and high-tech manufacturing, which they see as future growth engines of the economy (WTO, 2010)”. The globalization and liberalization of markets under the WTO require that Malaysia continue to compete, not only in the global market in goods, but also in services and in attracting investments. Therefore, there is intense competition in the global marketplace resulting from trade liberalization. For Southeast Asia, the implementation of agreements under the World Trade Organization and the Common Effective Preferential Tariff (CEPT) Scheme of the ASEAN Free Trade Area has even created greater competition. Thus, considering this growing competition, the ability of a firm to adjust to changing environment is the key to company survival (Yasai-Ardekani & Nystrom, 1996). It is also held that the effectiveness of the adaptive response is dependent on aligning the response to the environmental circumstances faced by the company (Miles & Snow, 1978; Hambrick, 1983). The alignment of an organization's strategic orientation to its environment is of paramount importance to business success (Morrison & Roth, 1993). Hence, the crucial challenge faced by local companies in economic liberalization is the need to maintain *strategic focus* (Anand, Brenes, Karnani & Rodriguez, 2006). However, in this project, the strategic focus is more towards building or strengthening the innovation capabilities of the companies who have faced or are now experiencing the toughness of the competition and cry out for competitive advantage which as mentioned earlier is rooted in the organization’ ability to innovate!

There has been much research focused on the foreign companies’ performance, specifically whether foreign companies are at a competitive disadvantage vis-à-vis local companies and when and whether foreign companies outperform locals when competing

abroad (Zaheer, 1995; Zaheer & Mosakowski, 1997). Much of the research to-date has focused on the experiences of companies operating in the United States, Western Europe and Japan (Wolf, 1975; Li & Guisinger, 1991, 1992; Zaheer & Mosakowski, 1997; Rugman & Verbeke, 2004) but there has been little empirical analysis of the firm's innovation capability and its impact on the firm's performance in the context of Malaysia. This *gap* in the research is remarkably noteworthy given the tremendous changes in economic development strategy that have taken place throughout the developing world over the last two decades (Wells, 1998; Hoskisson, Eden, Lau & Wright, 2000). During this period, governments in emerging markets and developing countries such as Malaysia began privatizing state monopolies, deregulating industries and liberalizing markets by bringing down barriers to foreign entry. Since, increasingly, FDI is diverted to China, "Malaysia faces a potentially suffocating structural squeeze: neither price competitive with China nor technologically competitive with Singapore, the East Asian NICs, or the OECD countries" (Ritchie, 2005, p. 745). Thus, it is timely to investigate the status of innovation capability of Malaysian firms and shed light on the key drivers of innovation from a product and process innovation perspective.

1.3 Research Objectives

The overarching objective of this MBA thesis is to determine the key drivers of innovation from a product and process innovation perspective in Malaysia. The lack of research in this area as well as the discontinuity of the national surveys in Malaysia highlights a knowledge gap in the most recent literature. This study, therefore, aims to address this gap and in doing

so to provide directions for firm owners and management to sustain and improve their businesses' performance.

With this in mind, the research addresses the following topics in particular: *innovation capability* (e.g. leadership/strategy, employee competence, information and organizational intelligence, market and customer orientation, creativity and idea management, organizational structures/systems, culture and climate, and management of technology); and *innovation performance* (e.g. revenue from new products, innovativeness, time to market, customer satisfaction, productivity, employee morale, and research and development as a percentage of sales). In short, the nexus between innovation capability and innovation performance will be examined. The detailed objectives that guide this research are:

- To review and analyze the relevant literature that focuses on innovation capability and innovation performance.
- To find an appropriate answer to the research question posed in this study using appropriate quantitative techniques.
- To discuss the empirical and practical contributions of the research findings, to assess the limitations of the study and to present avenues for future research.

1.4 Research Question

The research question motivating this study is:

What are the key drivers of innovation within firms in Malaysia from a product and process innovation perspective?

1.5 Scope of the Study

This research is restricted to the field of product and process innovation within both manufacturing and service industries in Malaysia and hence the findings and the conclusions drawn from the research are representative of firms based in Malaysia only.

1.6 Contribution of This Study

This research can be justified in both theoretical and practical terms. The *theoretical contribution* includes a better understanding of the strategic importance of innovation capabilities of Malaysian firms which impact their innovation performance, an area in which empirically tested studies (especially at international scale) are scarce. This is evident as “the weak track record of domestic innovation in Malaysia is reflected by the comparatively low number of researchers (National Economic Advisory Council [NEAC], 2010, p. 52)”. In the same fashion, “the number of scientific and technical articles published in internationally recognized journals by Malaysians is also well below comparable countries (NEAC, 2010, p.52).”

Moreover, the theoretical contribution helps researchers to advance knowledge in the areas of firm’s innovation capability and its innovation performance. This research, further, opens new research avenues for succeeding researchers to cross-check and validate its findings within the context of Malaysia (e.g. replication studies), and other neighboring, developing economies such as Thailand, Taiwan, Indonesia, Vietnam, etc. Furthermore, future researchers can use this framework to examine the relationships between firm’s innovation capability and its innovation performance in a larger scale covering more geographical areas of Malaysia and being more focused on issues such as industry, firm size

(small high-tech firms, SMEs, large firms), and ownership type (Government Linked Companies, Family Businesses, etc.).

The *practical contributions* are beneficial to government and the policy-makers who wish to improve Malaysian firms' innovation performance, and their competitiveness which consequently lead to Malaysia's economic progress. This is basically in line with the ambitions of the National Economic Advisory Council (NEAC) which was inaugurated with a specific mandate to formulate a New Economic Model (NEM) to drive Malaysia's transformation into an advanced nation by 2020. In fact, "the lack of researchers [or research] and R&D results in a lack of innovation in the industrial and export sectors in which an unrelenting search for higher value added products and processes, and the capacity for their commercialization are essential to global competitiveness (NEAC, 2010, p.52)." This is supported by a World Bank survey of manufacturing which indicates that Malaysian firms are less involved in developing innovative processes compared to those similar countries (NEAC, 2010). Moreover, surveys conducted in 2002 and 2007 indicate that "Malaysian firms prefer to undertake less sophisticated activities, such as upgrading existing product lines or machinery and equipment. Activities that give rise to greater innovation and require the filing of patents are undertaken less frequently (NEAC, 2010, p.52)." In addition, Malaysia's innovation efforts (from 2002 to 2007), indeed experienced an overall decline (NEAC, 2010, p.52). As mentioned in the NEM, "the focus for [Malaysian] government in the future should be on developing a supportive environment for innovation and risk-taking and providing firms the opportunities to develop higher valued products for new markets (NEAC, 2010, p.104)." Therefore, the results of this study will help the Malaysian government and policy makers to learn about the key drivers of innovation in Malaysia and

better understand those key innovation factors which are not present at the present situation. As a result, they will be able to develop remedial action plans to make significant strides towards a better future for Malaysia.

1.7 Limitations of the Study

Any piece of research has its own constraints and this study is no exception, therefore suffering from several limitations. Firstly, as a partial fulfilment of the MBA program, the time and budget allocated to this thesis research are extremely limited. Secondly, since innovation management is an under-researched area in Malaysia, it has been always given Cinderella attention, and as a consequence, there has been found very little solid literature (ISI journal articles) on innovation capabilities to back up this research airtight theoretically. Thirdly, the respond rate to the questionnaire survey through email in Malaysia is extremely low, as low as 1 per cent in case of this study. As a result, convenience sampling, rather than random sampling method, was chosen and the data collection procedure was mainly restricted to personal contacts and introduced informants. Fourthly, as mentioned earlier, due to low response rate and lack of cooperation to academic endeavours by the firms in Malaysia, it was quite impossible to focus only on one particular industry and therefore, there is no strong industry representativeness in this study. Lastly, as the sample size is only 85, the results should be interpreted with caution and strong generalizability should be avoided.

1.8 Organisation of the Thesis

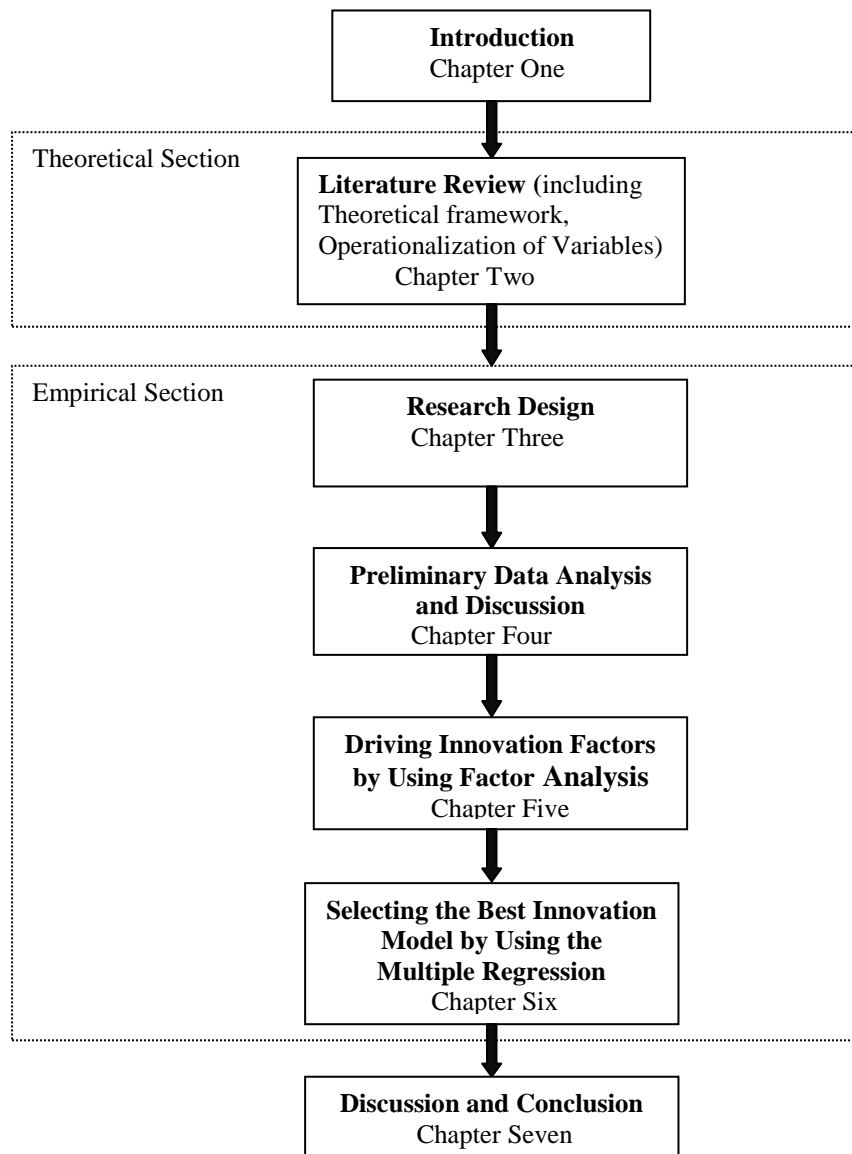
This research is developed through seven chapters as follows. *Chapter One* introduces the research. It provides the research background, motivation/problem statement, objectives, the research question, scope of the research, significance of the study, and the organization of the thesis.

Chapter Two reviews the related literature on the topic with a specific focus on the major concepts that impact on this research. The literature is drawn from two major streams – innovation capability and innovation performance– which provide the theoretical framework within which this study fits and the platform upon which the research question is developed.

Chapter Three outlines the research method including data collection, sampling method, operationalization of conceptual framework, and statistical techniques employed.

Chapter Four reports and interprets the results of some statistical analyses such as descriptive statistics, demographic data, etc. And *Chapter Five* attempts to drive innovation factors by using factor analysis. *Chapter Six* presents the Best Model of Innovation within the context of Malaysia. And finally *Chapter Seven*, discusses the overall results and presents the conclusion to the research, including conclusive findings, contribution, limitations and avenues for future research. At the end of the thesis, *References* and *Appendices* will follow. Figure 1.2 depicts the structure of this thesis.

Figure 1.2: Structure of the Thesis



1.9 Conclusion

The field of innovation research is vast. However, ever increasing globalization and hyper competition have made it extremely difficult for many firms to sustain their performance level and improve it. Also, due to this, many have ceased to exist. Additionally, being long in the business, would not any more guarantee that the firm will continue performing in the

long run. As a result, the question is: what are the determining factors for a firm to survive and grow? What are the key drivers of innovative organizations? These are some of the research questions that this study aims to analyze. This chapter provided an introduction and overview of the thesis. The research questions, research objectives, scope of the research, and research structure were presented. The background to the thesis showed the significance of innovation in the face of a competitive environment and its strategic importance for firm innovation and performance. Moreover, the chapter highlighted the low number of researchers and lack of innovation research in the context of Malaysia. This coupled with the Vision 2020 and even more recently the New Economic Model which attempts to transform Malaysian economy to an innovation driven economy place an emphasis on the urgent need for more research in this area, particularly, the relationship between firm's innovation capability and its innovation performance.