Dynamics of Japanese Foreign Direct Investment (JFDI) in Electronic and Electrical (E&E) Manufacturing Sector in Malaysia

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Research Thesis for Ph.D. fulfillment

MARCH 2011

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ACKNOWLEDGEMENTS

With a grateful heart I give thank to God for His intelligence and strength in accomplishing this research thesis to attain a Ph. D under the supervision of Assoc. Prof. Norizan Md.Nor at Universiti Sains Malaysia and Prof. Hiroshi Matsubara at The University of Tokyo Japan.

My sincere appreciation to my main supervisor Assoc. Prof. Norizan Md Nor who has been my academic advisor since my bachelor degree back in 1997, and has been patiently guiding me with his bright academic expertise in achieving an ultimate quality research thesis. I am honestly appreciate the intellectual academic leadership of my co-supervisor Prof. Hiroshi Matsubara who has been generously contributing his invaluable time and effort in conducting and implementing my field work in Tokyo Japan.

Billions of thank to Universiti Sains Malaysia (USM) for not only providing physical support via advance facilities, knowledge based sources and discipline atmosphere, but also liberally granted me 3 years Fellowship as financial support. Million of thank to The Japan Foundation for 2008 JENESYS (Japan East-Asia Network of Exchange of Students and Youths) 3 months program and 2009/2010 Japanese Studies (JS) 6 months Fellowship in materializing research field trip with essential primary data collection in Japan. Special thank to The University of Tokyo and JETRO for the well-equipped facilities and unlimited sources in uplifting my research literature.

A special thank to all the lecturers at Geography department, School of Humanities, particularly Assoc. Prof. Suriati Ghazali who has been my faithful referee in all kind of academic applications. I have greatly benefited with a semester Japanese language course (JAL100) by Masatoshi Soeda sensei at the School of Languages, Literacies and Translation

USM for fundamental Japanese communication skill during fieldwork in Japan. I appreciate the professional assistance from managerial staffs at School of Humanities and Institute of Postgraduates Studies (IPS) USM. A sincere thank particularly to the assistant registrar of student affairs Miss Hani Soraya Ahmad who made me a humble call for the 2008 JENESYS program competition under The Japan Foundation.

I have benefited enormously from the bright comments and insights from research peers and scholars from various universities and organizations during the global conferences and symposiums attended in Japan. A special thank to Mika Mukai san, Shimada Seiya san, Masamichi Furuya san, Yojiro Tanaka san and Toru Ikeda san for assisting me and my only daughter during fieldwork in Tokyo Japan.

My love to my precious 10 year old then daughter Andreana Wen Shyn Tan who amazed me with her obedience and tolerance during my 6 months fieldwork from summer, autumn to winter in Tokyo Japan.

Again none of this would have possible and accomplished without the Almighty Father God from above.

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Again none of this would have possible and accomplished without the Almighty Father God from above.

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Dynamics of Japanese Foreign Direct Investment (JFDI) in Electronic and Electrical (E&E) Manufacturing Sector in Malaysia

ABSTRACT

This research focuses on the dynamics of JFDI in E&E manufacturing sector particularly the significance changes and the potential development in Malaysia. This study commenced with significant statistical data from Toyo Keizai Data Bank 2008 revealing the trend of JFDI and its essential catalytic role in E&E manufacturing function, employment, R&D, export and import particularly in China, NIEs and ASEAN. Inevitably an intense competition emerged from the potential huge market of China and the newly virgin market of Vietnam. With Japanese investors perception oriented methodology, the research objectives encompassed (i) to identify the key attraction factors in Malaysia, (ii) to assess the strategy and effectiveness of R&D in Japanese advanced technology and scientific knowledge transfer, (iii) to evaluate the Malaysian labor productivity, (iv) to identify solution to overcome the deficit resulted from the imbalance trade between Japan and Malaysia, and (v) to learn the strategy in remaining Malaysia an ideal competitive investment location in Asia region. During the fieldwork in Japan, the primary data of 23% responded from the population of 87 Japanese E&E manufacturing firms running operation plants in Malaysia. Simultaneously invaluable insights acquired from face-to-face discussion with 6 Japanese experts in Japan. The Japanese E&E manufacturing plants mostly clustered at the potential industrial estates located in Northern Industrial Region, Central Industrial Region and Southern Industrial Region in Peninsular Malaysia. The empirical findings revealed the dominant key attraction of well-developed infrastructure and traffic satisfied the most. Additionally with supportive ICT, Central Industrial Region emerged as a prominent agglomerated R&D function location for top Japanese leading E&E firms namely Matsushita (Panasonic) and Sharp Corporation in Southeast Asia region. Skill of labor and mid-management is satisfactory, but the increasing labor cost resulted from shortage of labor has impacted the total production cost. Strategic diversifications comprising "*kaizen*" has been implemented, the labor productivity has yet to reach the expected level. The significant role of SMEs in logistics function for part supply is essential to overcome the excess import of raw material and parts. Marketing and sale, and R&D functions added competitive strength for Malaysia in hosting Japanese E&E manufacturing plants for long term in Asia region.

Dinamik bagi Pelaburan Terus Asing (PTA) Negara Jepun dalam Sektor Pembuatan Elektronik dan Elektrik (E&E) di Malaysia

ABSTRAK

Penyelidikan ini berfokus kepada perubahan aliran masuk PTA Jepun yang signifikan dan pembangunan sektor pembuatan E&E yang berpotensi di Malaysia. Kajian ini bermula dengan analisis statistikal data dari Toyo Keizai Data Bank 2008 yang menunjukkan pola PTA Jepun dan peranannya dalam fungsi pembuatan E&E, pekerjaan, Penyelidikan dan Pembangunan (P&P), import dan eksport terutamanya di negera China, NIEs dan ASEAN. Persaingan sengit yang tidak dapat dielakkan muncul akibat perkembangan pasaran berpotentsi negara China dan pasaran baru Vietnam di rantau Asia. Dengan metodologi yang berorientasikan persepsi pelabur Jepun, objektif penyelidikan ini termasuklah (i) mengenalpasti factor tarikan utama di Malaysia (ii) menilai strategi dan keberkesanan P&P dalam pemindahan teknologi canggih dan saintifik pengetahuan Jepun (iii) meninjau produktiviti buruh Malaysia (iv) mempelajari cara penyelesaian untuk mengatasi masalah kekurangan belanjawan akibat daripada ketidak-seimbangan perdagangan antarabangsa negara Jepun dan Malaysia, dan (v) memperolehi strategi untuk mengekal Malaysia sebagai sebuah lokasi pelaburan yang berdayasaingan unggul di rantau Asia. Semasa kajian dilaksanakan di Jepun, sejumlah 23% data primer telah terkumpul daripada jumlah populasi 87 firma pembuatan E&E Jepun yang menjalankan operasi pembuatan di Malaysia. Secara serentak, pemahaman yang ternilai telah diperolehi daripada 6 pakar Jepun melalui perbincangan temu bual di Jepun. Kebanyakan kilang pembuatan E&E Jepun berkelompok di taman perindustrian yang berpotensi di Rantau Perindustrian Utara, Rantau Perindustrian Tengah and Rantau Perindustrian Selatan di Semenanjung Malaysia. Hasilan empirikal menunjukkan insfratruktur dan trafik yang maju merupakan faktor tarikan utama yang amat menyakinkan pelabur Jepun. Tambahan dengan sokongan kemudahan ICT, Rantau Perindustrian Tengah telah timbul sebagai lokasi yang beragglomerasikan fungsi P&P yang signifikan bagi firma-firma pembuatan E&E Jepun yang penting iaitu Matsushita (Panasonic) dan Sharp Corporation di Asia Tenggara. Kemahiran buruh dan pengurusan tengah adalah memuaskan, malahan kos buruh yang semakin meningkat ekoran daripada kekurangan buruh telah terimpak kos operasi secara keseluruhan. Strategi pempelbagaian termasuk "*kaizen*"

telah dilaksanakan, tetapi produktviti buruh masih belum mencapai tahap jangkaan .bur Jepun. Peranan signifikan Industri Kecil dan Sederhana (IKS) dalam fungsi logistik lah mustahak bagi membanteraskan import bahan mentah dan barangan pertengahan yang ebihan. Fungsi-fungsi operasi pamasaran dan jualan, serta P&P telah meningkatkan nilai .uatan persaingan Malaysia untuk memperolehi kilang-kilang E&E pembuatan Jepun bagi gka panjang di rantau Asia.

Chapter 1

Introduction

1.0 Introduction

East Asia has been revealing a special development trend with the lead of Japan, Asia's Tiger followed by the Asian Newly Industrializing Economies (NIEs) and other less developed countries in the region. Apparently the economic growth in Asia has been impacted beneficially as mature industries moved from Japan to the NIEs and the less developed countries through FDI and technology transfer. Such development pattern of East Asia has been characterized by the orderly image of a flock of flying geese. (Masuyama and Vandenbrink 2003, p.17). Generally Foreign Direct Investment (FDI) happens when a firm sets up or takes over another firm's, production facility in a chosen foreign country. The flow of FDI is measured per time period from the firm in the home country to the host country. According to GIPA (Global Investment Prospects Assessment), mergers and acquisitions are expected to resume their popularity in developed economies, while Greenfield investment will be preferred in developing countries (United Nations, 2004). UNCTAD (2008, p.37) stated an estimated of 78,000 TNCs in the world today with more than 780,000 foreign affiliates; The geographical repartition in origin of these TNCs is still in favor of South, East and South-East Asia in Asia region, followed by Latin America and South Africa. They operate in a wide range of industries encompassed the E&E equipments, computer industry, petroleum industry, telecommunications and transport sector. Undeniably Japanese companies were taking advantages through mergers and acquisition activities, with more overseas foreign-affiliated companies than other domestic Japanese companies (Basu & Miroshnik 2000, p.59) Investment Location expert and IPAs (Investment Prospect

Assessment) consistently rank Electronic and Electrical (E&E) equipment, motor vehicles and machinery and equipment the highest in terms of FDI prospect in the manufacturing sector (United Nations, 2004). On the other hand, the Asian countries in a neocolonial relationship provide Japan the cheap labor, raw material and markets for industrial manufactures (Fisher 1995, p.366).

1.1 FDI Inward Flow in Asia

With Japan, the "Tiger Economies" and China, the "Awaken Dragon" leading the way, a fast growing FDI flow occurs in almost all developing countries in this region (United Nations 2004, p.38). Besides Mahathir (2002, p.10) highlighted that Asian countries must take a more pro-active role in shaping the globalization process by coordinating among themselves better in promoting their rights and interests in the global decision-making institutions namely IMF, the World Bank and the WTO.

In the years of 2001 to 2003, FDI inflows had been slowed down into several Asian countries resulted from SARS, war in Iraq and tension in the Republic of Korea. World Investment Report announced a peak that reached by the global FDI inflows of US$1.4 trillion in 2000 before declining for three consecutive years to US$633 billion in 2003. Resulting from China's accession to the WTO (World Trade Organization) in 2001, China absorbed 66% of the total FDI flowing into East Asia in 2002 (Garnaut and Song 2006, p.70-71).

In 2004, global FDI inflows rebounded by 2% to US US$648 billion and Malaysia was the 26th largest recipient of FDI inflows in the world (MIDA 2006, p.18). However in 2000, 67% of world FDI stock went to developed economies compared with less than one-third went to developing countries (Dicken 2003, p.58). This happens in the region of Southeast

Asia, where the NIE (Newly Industrial Economy) Singapore has been the largest FDI receiver with the total of US$84,750 million from year 2001 to 2005. Table 1.1 listed the global FDI inward flow in Asia region from 1980 to 2005.

Table 1.1 FDI inward flow in developing economies of Asia from 1980 to 2005 (US$ million).

Developing economies	1980	1990	2000	2001	2002	2003	2004	2005	Total 2001-2005
Eastern Asia									
China	57	3,487	40,715	46,878	52,743	53,505	60,630	72,406	326,877
Hong Kong	710	3,275	61,924	23,777	9,682	13,624	34,032	35,897	178,936
Taiwan	166	1,330	4,928	4,109	1,445	453	1,898	1,625	14,458
Korea, Republic of	17	759	8,651	3,866	3,043	3,892	7,727	7,198	34,377
Southern Asia									
India	79	237	3,585	5,472	5,627	4,585	5,474	6,598	31,341
South-Eastern Asia									
ASEAN 5:									
Indonesia	300	1,092	-4,550	-2,978	145	-597	1,896	5,260	-824
Malaysia	934	2,611	3,788	554	3,203	2,473	4,624	3,967	18,609
Philippines	114	550	2,240	195	1,542	491	688	1,132	6,288
Singapore	1,236	5,575	16,484	15,649	7,338	10,376	14,820	20,083	84,750
Thailand	189	2,575	3,350	3,886	947	1,952	1,414	3,687	15,236
Non ASEAN5:									
Vietnam	2	180	1,289	1,300	1,200	1,450	1,610	2,202	8,869
Western Asia									
Saudi Arabia	-3,192	312	183	504	453	778	1,942	4,628	8,488
Turkey	18	684	982	3,352	1,137	1,752	2,837	9,681	19,741
United Arab Emirates	98	-116	-515	1,184	1,307	4,256	8,359	12,000	26,591

Source: UNCTAD, 2007.

1.2 Problem Statement

The problem statements for this study comprise the unstable flow of Japanese Foreign Direct Investment (JFDI) to Malaysia, the significant of E&E manufacturing sector leadership, technology and knowledge transfer, productivity and increasing cost for labor, supply chain management, deficit in the Balance of Payment Account and intense competition in Asian market, as discussed below:

1.2.1 The In Flow of JFDI in Manufacturing Sector in Malaysia

This study is focused mainly on the in flow and trend of JFDI in manufacturing sector in Malaysia. However table 1.2 shows the FDI sources from various countries including Japan in manufacturing sector in Malaysia for the 5 years period during the post millennium. Williamson (2004, p.11) mentioned when the United States sneezes, Asia catches influenza; thus U.S. economy slumped in 2001, Japan remained stuck in its deflationary trap. Due to the "IT Bubble" crisis in the US, instantly the drastic fall of the demand in IT and other related product and services as consequence during the millennium. Meanwhile in 2001, "E&E Industry" crisis particularly the home electric division resulted sharp fall of demand and sale in Japan. Hence the inflow of FDI from the US and Japan illustrated an unstable declining trend in manufacturing sector in Malaysia particularly in 2002, 2003 and 2004 (see Figure 1.1).

The former Prime Minister Tun Dr. Mahathir Mohamad had been promoting the Look East Policy in 1980s arming to learn and emulate useful elements from the Japanese business culture, particularly the Japanese work ethic. Mahathir (1999, p.84) stated the way Japan had succeeded in creating a competitive manufacturing sector in a country basically devoid of natural resources was an aspect of the Japanese model that called for attention; Besides the

highly successful Japanese marketing strategies on the international markets was yet another point of interest. Apparently the huge inflow of JFDI in manufacturing industry in Malaysia in the later half of 1980s had created employment opportunity and contributed to the domestic industrial development and economic growth. Somehow an unstable flow and trend of JFDI occurred in 1990s, as a serial consequence from the collapse of Japanese "Economic Bubble" in 1991.

As mentioned by Dicken (2003, p.175) that Japanese's attempts throughout the 1990s by successive governments to stimulate the domestic economy through fiscal mechanisms were not successful. Subsequently, the inflow of JFDI drastically declined in manufacturing sector in Malaysia in the early years of millennium. Notably in 2002 year after the 2001 E&E industry crisis in Japan, it marked as the lowest JFDI sources for the past 15 years (1991-2005) in the manufacturing sector of Malaysia (see table 1.3 and Figure 1.2). Undeniably these external factors had brought an impact in a greater or less degree via inflow of FDI in local manufacturing industry, one of the main contributors in Malaysian's economy. Figure 1.3 illustrates the annual growth rate for Gross Domestic Product (GDP), consumption and investment in Malaysia from 1985 to 2008. The trough in 1998 and 2001 indicated the negative impact from the external factors namely the Asian Financial Crisis in 1997 and the US economic slump crisis in the millennium.

The *Keiretsu* system has dominated Japan's corporate scene in the post war period, based around a large financial institution or a major manufacturer, this system appeared to serve key stakeholders well for many decades (Economic Analytical Unit 2002, p.3). *Keiretsu* seems as an essential system for the affiliated Japanese MNCs in their primary decision making to extend across a broad spectrum of markets in the globe (Dicken 2007, p.128).

ıus the final decision making of Japanese MNCs depending strongly on the HQ in Japan to

ırther or withdraw investment in manufacturing sector in the host country like Malaysia.

able 1.2 FDI sources for the approved project in manufacturing sector in Malaysia, 2001-2005 (RM million).

Country	Year RM(million)					
	2001	2002	2003	2004	2005	Total
ıpan	3,366.12	587.39	1,295.79	1,010.66	3,671.72	9,931.68
:hina	2,922.68	55.26	247.23	187.11	39.58	3,451.86
;ermany	2,603.25	5,055.36	170.31	4,723.72	387.72	12,940.36
‹orea,	1,703.27	369.28	446.9	324.63	673.59	3,517.67
Netherlands	68.98	606.82	316.2	99.25	1,674.00	2,765.25
;ingapore	2,227.82	1,019.19	1,224.92	1,515.45	2,919.87	8,907.25
Taiwan	1,139.80	251.91	622.02	414.54	430.69	2,858.98
Jnited Arab Emirates	0	0.09	3,951.77	0	0	3,951.86
United Kingdom	123.09	167.95	3,870.43	151	99.21	4,411.68
United States	3,411.63	2,667.83	2,181.73	1,058.83	5,154.99	14,475.01

Source: MIDA, 2006.

Figure 1.1 FDI sources for the approved project in manufacturing sector in Malaysia, 2001-2005 (RM million).

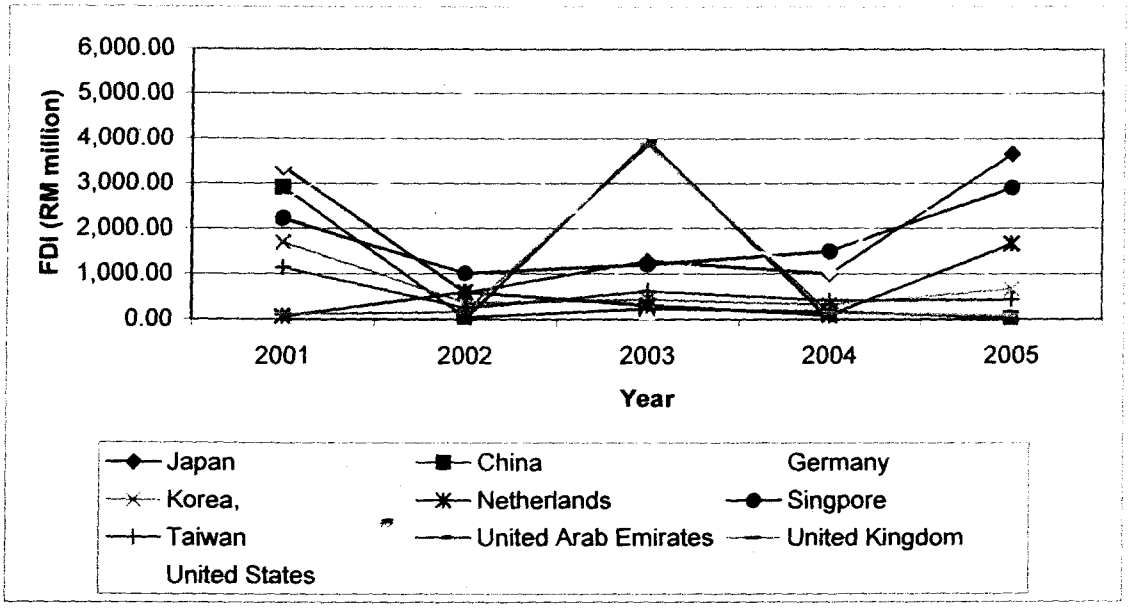


Table 1.3 JFDI for the approved project in manufacturing sector in Malaysia 1996 – 2005 (RM million).

Year	RM million
1996	4,607.27
1997	2,164.24
1998	1,867.86
1999	1,006.14
2000	2,880.55
2001	3,366.12
2002	587.39
2003	1,295.79
2004	1,010.66
2005	3,671.72
Total	22,457.74

Figure 1.2 JFDI sources for the approved project in manufacturing sector in Malaysia, 1996 - 2005 (RM million).

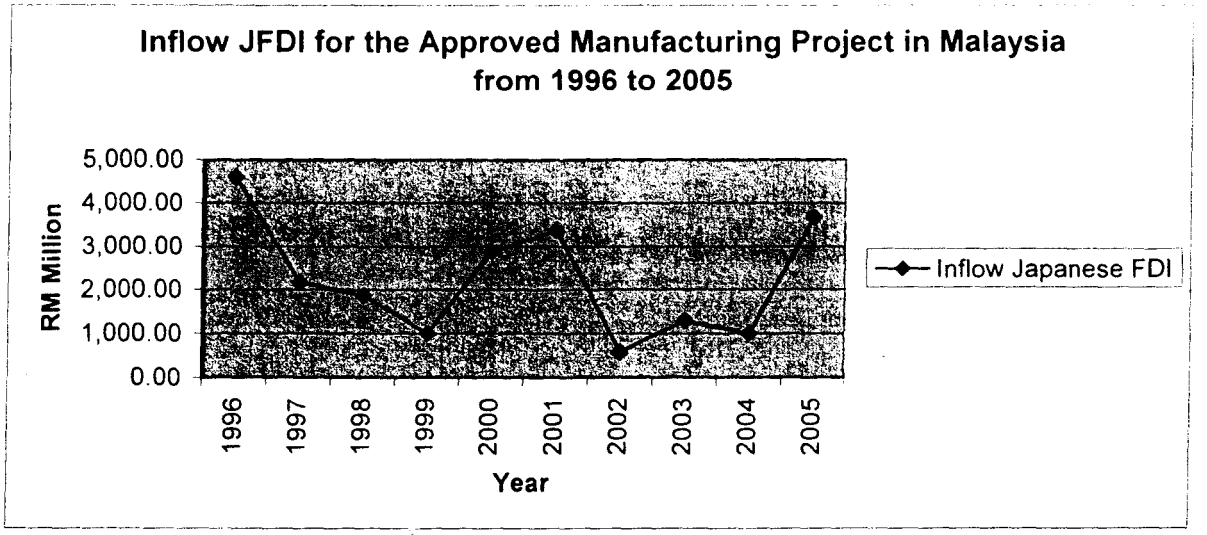
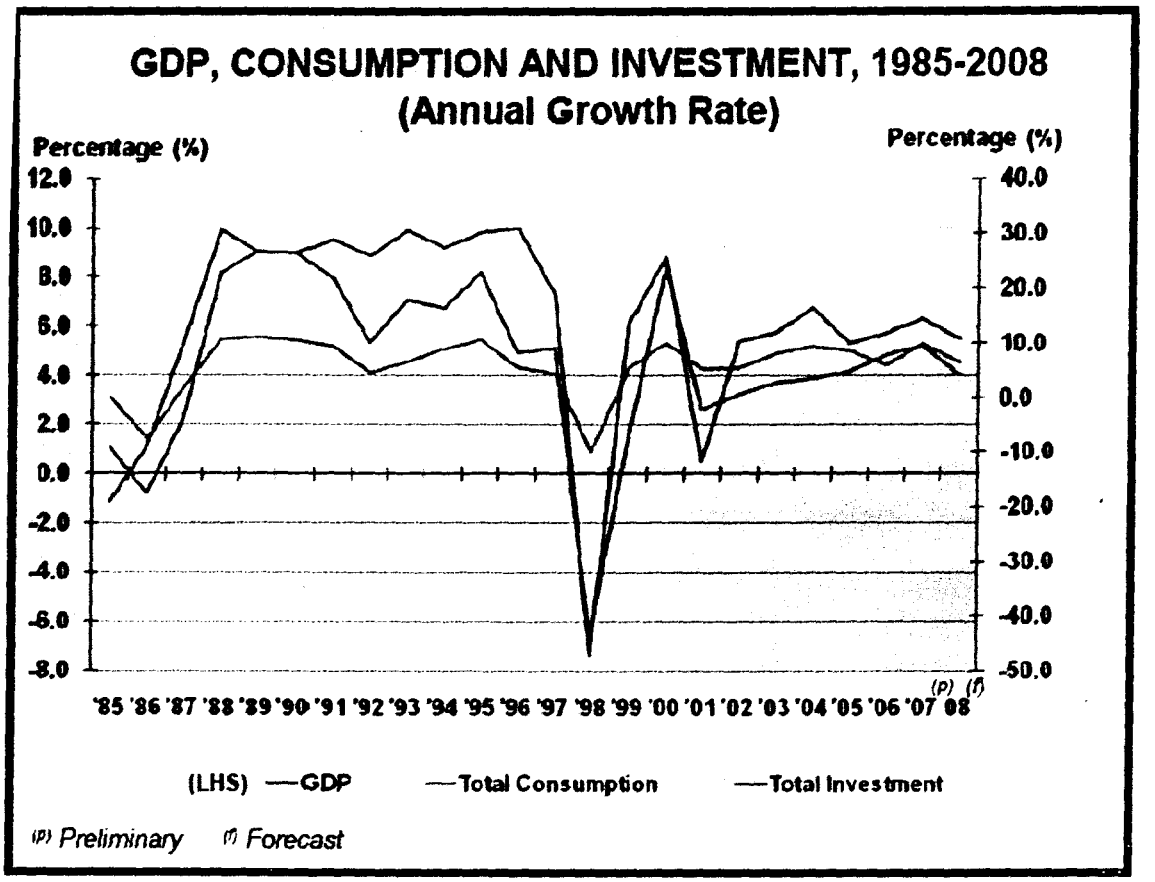


Figure 1.3 Annual growth rate for GDP, consumption and investment in Malaysia (1985-2008).



Source: Economy Planning Unit (2008, p.9)

1.2.2 The Significance of Japanese E&E Manufacturing Sector in Malaysia

Apparently E&E sector has been manifested as a leading sector in manufacturing industry in Malaysia. In 2008, the investment in expansion and diversification projects by the leading E&E sector was RM7,328 million with the highest percentage of 35.3% in the manufacturing industry in Malaysia. However in 2009, it declined to RM3,117 million yet with the highest percentage of 29.5% in the manufacturing industry in Malaysia (MIDA, 2009). Marshall (1923, p.19) mentioned industrial leadership has generally been accompanied by a large foreign trade and the volume of its foreign trade is a fairly good measure of a country's prosperity. Between January to November 2009, the leading E&E

manufacturing sector contributed 55.1% from the total export of manufacturing product in Malaysia (MIDA, 2009, p.28).

1.2.3 Research and Development (R&D) in Japanese Technology Transfer

A strategic Research and Development (R&D) is needed to transfer Japanese technology to local labor effectively at the Japanese E&E manufacturing plants in Malaysia. As explained by Dicken (1988, p.350) technological change has been extremely rapid in the E&E sector, a major effect has been to increase greatly the productivity of the labor force. Though most of the Japanese factories adopt mixed technology, however local labor seems more adaptable with mass production technology (Tan, 2004). Subsequently it contributes to higher productivity and better quality of manufacturing production. The empirical finding of Asakawa (2001) with implementation of obtained questionnaire survey of 44 Japanese MNCs HQs and 69 overseas R&D subsidiaries responded, stated the breakdown of ethnocentricity has caused the perception gap between the HQs and the overseas R&D laboratories, which is prominent in the failure of knowledge and information sharing. Abo (2003, p.641) clarified a transition occurred since the latter half of 1980s where Japanese priorities have shifted to Taiwan and Korea for a greater specialization of product lines with new higher value-added products, more local R&D activity and providing support for the local production in the ASEAN region and mainland China.

Dicken (2003, p.284) mentioned there are mainly three important issues in evaluating the technological impact of foreign enterprises on host economies, namely the extent to which technology is transferred, the appropriateness of the technology transferred and the costs to the host economy of acquiring the technology. In the 1990s, Japanese bought the latest

Table 1.4 UNCTAD Innovation Capability Index.

	1995		2001	
Country	INICI	High/Medium/Low	INICI	High/Medium/Low
United States	0.946	H	0.927	H
Japan	0.906	H	0.885	H
China	0.354	M	0.358	M
India	0.287	L	0.285	L
NIEs				
South Korea	0.821	H	0.839	H
Taiwan	0.852	H	0.865	H
Hong Kong	0.593	M	0.563	M
Singapore	0.719	H	0.748	H
ASEAN				
Thailand	0.413	M	0.488	M
Malaysia	0.393	M	0.467	M
Philippines	0.452	M	0.423	M
Indonesia	0.276	L	0.261	L
Vietnam	0.218	L	0.295	L

Source: UNCTAD 2005, p.114

Note: The combined index is an un-weighted average of the Technological Activities Index and the Human Capital Index.

industrial technology and equipment from overseas, and also advisers (chiefly British) to supervise the initial stages of development; Subsequently these technologies were chosen to fulfill the needs of particular industries as regarded by Ministry for Economy, Trade and Industry (METI, which named after MITI) as being essential action to achieve national objectives (Knox and Agnew 1998, p.172; Dicken 2003, p.173). As examined by Serapio and Dalton (1999) the Japanese electronic industry comprising NEC's research institute, Canon and Panasonic Technologies are conducting basic research in the US; Demand (market-oriented) and supply (technology-oriented) have both played an important role in influencing most foreign companies decisions to invest in R&D in the US. Since 1980s the Japanese E&E manufacturing plants have been actively operating offshore in overseas including

Malaysia located in the Southeast Asia region, thus the effectualness of R&D in transferring Japanese technology is very much concern.

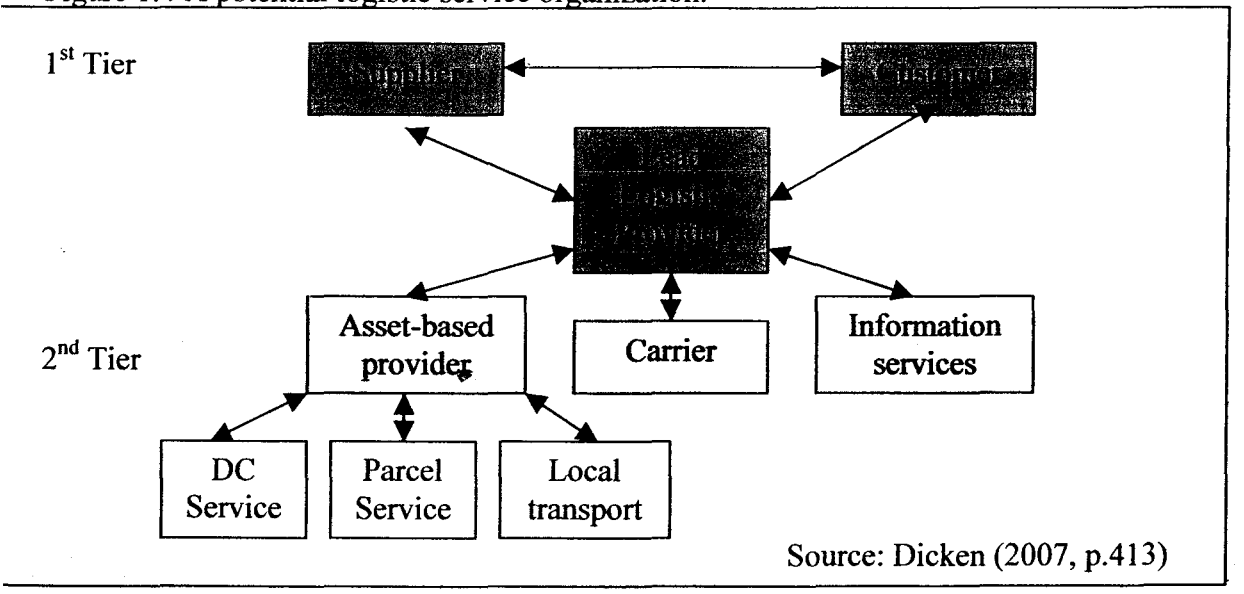
1.2.4 Productivity and Labor Cost

Since 1980s the pushing factors of Japanese Foreign Direct Investment (JFDI) to Malaysia and other ASEAN countries are mainly the high labor costs and labor shortage in Japan (Raduan, 2002, p.97). Undeniably the availability of cheap semi-skilled labor has had immense impact on regional industrial development as presented by Weber in his theory of least cost model – labor, (Blij & Murphy 2003, p.373). Nevertheless in the previous study, the empirical finding read the problems of the rapid increase of labor cost and the shortage of manufacturing electrical engineers and software engineer in Penang Malaysia (Tan, 2004). On the other hand the capital and technology intensive of manufacturing structure in the Japanese factory has been decreasing the employment opportunity for local labor. The year 2000 statistical data showed a different trend of foreign investment structures in manufacturing sector in Penang. JFDI created employment opportunity for 24,503 labor with actual capital investment of RM1,641.6 million compared with American FDI employed of 54,121 labor with an actual capital investment at only RM957 million (http://www.pdc.gov.my, August 2001). As elaborated by Kono and Clegg (2001, p.231) the percentage of average labor cost over sales is between 10 percent and 15 percent in Japanese manufacturing companies. Thus these raised questions: is the Japanese TNC satisfied with the profit obtained from the manufacturing operation in Malaysia? Does the profit obtained get to cover the increasing labor cost in Malaysia?

1.2.5 Supply Chain Management

Lambert and Cooper (2000,p.66) emphasized a successful SCM (Supply Chain Management) that requires cross-functional integration with a critical role of marketing. Mullins et.al. (2006, p.311) elaborated that supply chain management encompassed a process of new data collection, communication, materials handling and transportation technologies that enable firms to reengineer their distribution processes in ways to increase customer service levels while simultaneously reducing costs. Meanwhile Ross (1999, p.10) clarified the support of SCM including convergence of the individual marketing, product design, production and logistic plans and activities found within each organization into a coherent value-enhancing supply channel system positioned to respond conclusively to the rapid changing needs of a global marketplace. As illustrated in figure 1.4, Dicken (2007) elaborated supply chain that may be organized internationally by a lead logistic provider as the key intermediary. The first tier makes subcontracts with the second tier to perform operational logistic activities in specific regions or business areas. Subsequently the second tier might further collaborated with small and medium-sized operators in local and niche markets.

Figure 1.4 A potential logistic service organization.



Source: Dicken (2007, p.413)

3rd Tier

1.2.6 Deficit in Balance of Payment Accounts

According to Department of Statistic Malaysia (June 2009, p.59) the main objective of compiling Malaysia's balance of payment estimates is to provide information on Malaysia's economic performance vis-à-vis the rest of the world in terms of the magnitude and types of transactions in Current Account and also in Capital and Financial account Flows; The Current Account position summarizes the country's transactions in goods, services, income and current transfer and presents on overall view of Malaysia's earnings and spending in terms of foreign exchange for the period under review.

Generally the balance of payment accounts will record all transactions regarding international trading, borrowing and lending with foreign countries. As explained by McTaggart et.al (2003, p.808-809) credit entries are for the records of the activities generating a flow of funds into the country such as exports and income receivable; while debit entries are used for all activities with an associated outflow of funds for instances imports and income payable. However Basu & Miroshnik (2000, p.15-16) explained that the total international capital flow observed in the capital account for every country is equal to the current account balance of that country. After 1982, with a huge balance of payment surplus, Japan became the net capital exporter particularly in the form of portfolio investments. With an increasing surplus in the current account of the balance of payments in Japan, capital outflows have started rising after 1991. The percentage of share in total manufactured imports from Asia to Japan significantly increased from 21.32% in 1985 to 26.27% in 1990 and eventually to 48.88% in 2000 (Tomiura 2003, p.26).

Statistical data from Central Bank of Malaysia (Dec 2006, p.137-148) shows negative impact of JFDI in Malaysia. This is due to the negative trade balance between lower value in

export and higher value in import for the external trade of Malaysia and Japan. Japan has been one of the largest export destinations, accounting for 9.4% of Malaysia's exports in 2005. Exports to Japan increased by 2.8% to RM49.9 billion in 2005 compared with RM48.6 billion in 2004. However E&E products were the main exports to Japan, accounting for RM16.7 billion or 33.5% of total exports (MIDA 2006, p.13). In 2004, the trade balance in the Malaysian Current Account Balance indicated the highest deficit value of -RM15,890 million for Japanese external trade compared with other countries (JETRO 2008, p.14). Additionally, Malaysia has been borrowing from Japan with the large loan amount after United States (see table 1.5). Thus such situation should be highlighted and resolved by the authorized parties in order to avoid unnecessary aggravation.

Tongzon (2002, p.115) revealed some of the ASEAN countries, namely Philippines, Singapore and Thailand that face negative trade balances with Japan because of a great deal of manufactured products and machinery import from Japan compared with the export to Japan. Lim (2004, p.333-340) argued the collapse of the exchange rate had at its source to the fundamental dis-equilibrium in the balance of payment and to the free substitutability of their domestic currency. This can be seen in the spring of 1995, when the US dollar started to appreciate against the Japanese yen, the exchange rates of the Asian currencies effectively strengthened against the Japanese yen. Subsequently this translated into a loss in price competitiveness and slower export growth, which resulted the widening trade and current account deficits for the Asian countries.

able 1.5 Malaysia's loan from Japan for 1999-2005.

Year	RM Million
1999	6,355
2000	2,684
2001	4,751
2002	3,451
2003	2,787
2004	2,121
2005	1,335
Total (2000-2005)	17,129

Source: Central Bank of Malaysia (Dec 2006, p.145-148)

1.2.7 Competitiveness in Asia

According to Masuyama and Vandenbrink (2003, p.22) East Asia's industrial structure is skewing towards manufacturing than services is a natural consequence of the prevailing Japanese model of industrial development in the region and the flow of FDI from Japan and the NIEs. Apparently China and India markets have opened up business and investment opportunities in Asia. China, a potential market with huge purchasing power and low labor cost, has been successfully attracting in flow FDI; Meanwhile India, a potential Information and Communication Technology (ICT) investment location, started exporting its qualified and quality engineers to Asian markets (Tan 2004). Regarding the public capital, the ASEAN had a strong link with Japan while Korea and Taiwan had very strong relationships with the US for the last decade (Basu & Miroshnik 2000, p.27). In 1990s, FDI had increased quickly and steadily in Vietnam, another "virgin" market in favor of labor-intensive and resource-driven industries (United Nation 1998, p.112). Hence it is essential for

Malaysia to recognize its key attraction factors tapping the competitive advantages and continuously attracting JFDI in manufacturing sector, particularly Electronic and Electrical sector.

Table 1.6 reveals the findings of a global strategic management consulting firm on the GSLI (Global Service Location Index), suggested the wage-cost advantage of offshore locations will last for at least another 20 years. Apparently failure to enhance the skills of the work force and the business environment will cause a loss of competitiveness in the fast-moving remote services business. India and China continue to lead in the GSLI and their declines in cost advantage are offset by improved, more available talent and enhanced business environment. Malaysia reinforces its position as the primary alternates to India and China, followed by the other 5 major ASEAN markets namely Thailand, Indonesia, Philippines, Singapore and Vietnam (Kearney 2007).

Table 1.6 Global Services Location Index (GSLI) 2007.

Rank	Country	Financial Attractiveness	People & Skills Availability	Business Environment	Total Score
1	India	3.22	2.34	1.44	7.00
2	China	2.93	2.25	1.38	6.56
3	Malaysia (ASEAN5)	2.84	1.26	2.02	6.12
4	Thailand (ASEAN5)	3.19	1.21	1.62	6.02
5	Brazil	2.64	1.78	1.47	5.89
6	Indonesia (ASEAN5)	3.29	1.47	1.06	5.82
7	Chile	2.65	1.18	1.93	5.76
8	Philippines (ASEAN5)	3.26	1.23	1.26	5.75
9	Bulgaria	3.16	1.03	1.56	5.75
10	Maxico	2.63	1.49	1.61	5.73
11	Singapore (ASEAN5)	1.65	1.50	2.53	5.68
12	Slovakia	2.79	1.04	1.79	5.62
13	Egypt	3.22	1.14	1.25	5.61
14	Jordan	3.08	0.98	1.54	5.60
15	Estonia	2.44	0.96	2.20	5.60
16	Czech Republic	2.43	1.10	2.05	5.57
17	Latvia	2.65	0.91	2.00	5.56
18	Poland	2.59	1.17	1.79	5.55
19	Vietnam (ASEAN)	3.33	0.99	1.22	5.54
20	United Arab Emirates	2.73	0.86	1.92	5.51

Note: The weight distribution for the three categories is 40:30:30. Financial attraction is rated on a scale of 0 to 4, and the categories for people and skills availability and business environment are on the scale of 0 to 3.

Source: Kearney (2007, p.2)

1.3 Research Objectives

This study is a further study for researcher's M.A. research thesis entitled Japanese Foreign Direct Investment in Manufacturing Sector in Malaysia: A Case Study of Penang (1991-2000). Thus, the objectives are showed below:

(i) to identify the key attraction factors in Malaysia based on the Japanese Investors perception;

(ii) to assess the strategy and effectiveness of Research and Development (R&D) in transferring technology and knowledge;

(iii) to evaluate the productivity of Malaysian labor (compare with other Asian labor) in Japanese Electronic and Electrical (E&E) manufacturing sector;

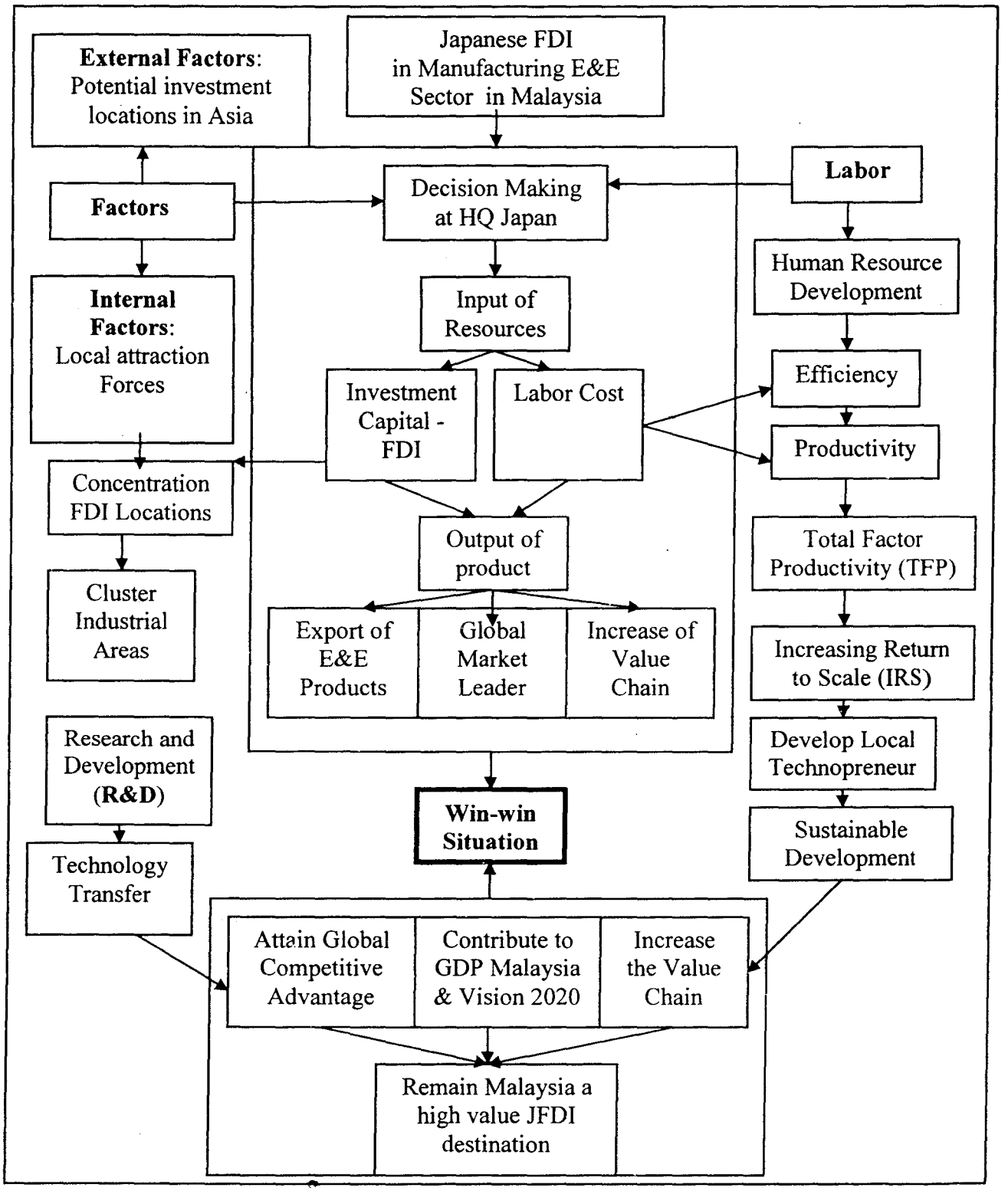
(iv) to identify solution to overcome the deficit and bring positive impact to the trade flow for Japan and Malaysia;

(v) to learn the strategy in remaining Malaysia an ideal investment location and achieving competitive advantage and sustainable economy growth for a long term.

1.4 Research Process

This research discussed the significant development and changes of Japanese inflow FDI in manufacturing E&E sector in Malaysia. The detail descriptions for the research process are clearly illustrated in Figure 1.5. The first research objective (as mentioned in 1.3), namely the key attraction factors in Malaysia that are basically determined by the external and internal factors. Apparently the external factors are beyond control of Malaysian government, encompassed strategic investment locations with lower production cost, huge potential market, currency exchange gain, better infrastructure with high tech facilities, etc. Whereas the domestic factors are in the reach of Malaysian government

Figure 1.5 Detail descriptions for the research process.



particularly the government industrial policy in establishing an ideal investment location to fulfill the needs of the Japanese E&E manufacturing MNCs for sustainable economic development in long term. Nevertheless these key attraction factors will then affect the significant ultimate decision that determined by the top executive officers at the HQ of Japanese E&E manufacturing sector in Japan, for the furtherance of resources input encompassing investment capital FDI and labor cost to Japanese E&E manufacturing MNCs in Malaysia. Table 1.7 described the specific features of decision making in certain areas that bring into consideration by the Japanese investors.

The inflow of JFDI mainly concentrates in the geographical agglomerated industrial locations comprising the Northern Industrial Region, Central Industrial Region and Southern Industrial Region in Peninsular Malaysia. These clustered industrial regions are well equipped with advanced infrastructure and facilities, availability of land and labor force, access to domestic market, support of Small Medium-sized Enterprises (SMEs) and government incentives. Certainly these elements highly encourage and support R&D activities (objective 2) at the Japanese E&E manufacturing plants in Malaysia, from technical service center to innovation and development laboratory to research laboratory, with fundamental activities of design and testing to the advance level of research and development in attaining the ultimate result of technology transfer.

Undeniably the increasing labor cost in Malaysia is a challenge faced by the Japanese E&E Manufacturing MNCs. To fulfill the third research objective as stated in 1.3, efficiency of Malaysian labor comprising the education and experience level, skill training by the Human Resource (HR) department, technology adaptation level and working ethical that eventually contribute to the productivity in E&E manufacturing operation, is emphasized and

Table 1.7 Features of Japanese decision-making.

	Areas	Japanese Decision-making
1.	Goals and policies	Long term growth and global vision, respect for people, sharing of common corporate philosophy and vision.
2.	Information collection	Analytical (deliberate) centralized and participatory, flow of tacit knowledge.
3.	Creation of ideas	Incremental and innovative, emphasis on quality for customers.
4.	Time horizon	Large investment for the future.
5.	Evaluation	Consensus and risk-taking, generous about failure after due effort.
6.	Interaction	Good interaction between departments, cooperation by virtue of mutual trust.
7.	Speed of implementation	Prompt after consensus reached.
8.	Financial performance	Low Return of Investment (ROI) and Return of Equity (ROE)
9.	Product with world competitive strength	Watches, cars, cameras, televisions, CD players, LCDs, semiconductors, game machines, electrical components.

Source: Kono & Clegg (2001, p.205)

weighed. Inevitably it reveals in the Total Factor Productivity (TFP) that obtained from the difference between actual growth in real GDP and growth in the quantity of labor and capital used to produce an output. Then it increases returns to scale under the technological conditions where the percentage change in output exceeds the percentage change in inputs, which also called economies to scale. Such optimistic scenario contributes not only to the

tocal SMEs but simultaneously to develop local technopreneur. This helps building a strong and reliable support system in part and material supply to Japanese E&E manufacturing plants in Malaysia.

During the running of manufacturing operation activities at the Japanese E&E plants in Malaysia, the supply chain management comprising all essential movements that involved inevitably from the input of resources particularly JFDI capital and labor, to the output of E&E manufacturing product that eventually reach the end user in the domestic or global market. The domestic raw material and part supply plays an important role to enhance the value chain, mostly in the ultimate export value of Japanese E&E manufacturing product from Malaysia to global markets. Prominently a unique distinguished managerial system called "keiretsu" in Japanese E&E manufacturing industry as one of the factors resulted a deficit in the trade flow between Japan and Malaysia (objective 4)..

With the successful technology transfer from the increasing R&D activities in Japanese E&E manufacturing plants and the growth of local technopreneur in Malaysia, surely an ideal investment location will be emerged where global competitive advantage, Vision 2020 and high value chain are attained simultaneously. Undeniably the production functions comprising R&D, marketing and sale, production support etc. that implementing by the Japanese E&E manufacturing plants in the potential industrial region reveal a significant role of an ideal investment location for Malaysia in Asia region (objective 5). Eventually a sustainable economic development with an optimistic "win-win" situation for both Malaysia and Japanese E&E manufacturing industry will be acquired in the near future and remain for a long term.

1.5 Research Location

The industrial clustering regions in Malaysia concentrating in several potential and strategic locations namely Northern Region covering Penang, Kedah and Kelantan, Central Region encompassed Selangor and Klang, and Southern Region Malacca and Johore Bahru that located next to the NIE Singapore. Table 1.7 illustrates the Free Industrial Zones (FIZs) and Free Commercial Zones (FCZs) that allocated at the abovementioned industrial clustering regions in Peninsular Malaysia. FIZ is established to facilitate the export oriented industry, while FCZ is to carry out only commercial activities, such as importation, exportation, transshipment and warehousing of goods (MIDA).

Raduan (2002, p.93) presented the 1996 geographical distribution of JFDI in manufacturing sector in Malaysia are highly concentrated in Selangor (299), Johore Bahru (127), Penang (101) and Negeri Sembilan (101). However some changes have occurred after an uncertainty of JFDI inflow in Malaysia (see table 1.9). JFDI in E&E sector are mainly focused in Selangor (125), Johore Bahru (65), Penang (28), Negeri Sembilan (17), Kedah (16) and Malacca (15). Meanwhile table 1.10 revealed the approved manufacturing project to Japanese factory in E&E sector are mainly concentrated in Selangor, Johore Bahru and Penang, particularly from year 2002 to 2006. Thus research field works will be executed at these industrial areas for primary data collection.

Table 1.8 Free Industrial Zones (FIZs) and Free Commercial Zones (FCZs) in Peninsular Malaysia.

	FIZs	State	FCZs	State
1	Bayan Lepas I, II, III	Penang	Butterworth	Penang
2	Bayan Lepas IV	Penang	Bayan Lepas	Penang
3	Seberang Perai	Penang	Rantau Panjang	Kelantan
4	Jelapang II	Ipoh Perak	Pengkalan Kubor	Kelantan
5	Kinta	Perak	KLIA	Kuala Lumpur
6	Sama Jaya	Kuala Lumpur	Pulau Indah MILS Logistic Hub	Selangor
7	Telok Panglima Garang	Selangor	North Port of Port Klang	Klang Selangor
8	Pulau Indah(PKFZ)	Selangor	South Port of Port Klang	Klang Selangor
9	Sungai Way I	PJ Selangor	West Port of Port Klang	Klang Selangor
10	Sungai Way II	PJ Selangor	Port Klang Free Zone	Klang Selangor
11	Ulu Klang	Ampang Selangor	Stulang Laut	Johore Bahru
12	Batu Berendam I	Malacca	Johor Port	Johore Bahru
13	Batu Berendam II	Malacca	Port Tanjung Pelepas	Johore Bahru
14	Tanjung Kling	Malacca		
15	Pasir Gudang	Johore Bahru		
16	Tanjung Pelepas	Johore bahru		

Source: MIDA

Table 1. 9 Geographical distribution of JFDI in manufacturing sector in Malaysia in 2008

	E&E		Manufacturing	
States in Malaysia	Total	%	Total	%
Johore Bahru	65	22.1	139	18.0
Kedah	16	5.4	42	5.4
Kelantan	1	0.3	2	0.3
Kuala Lumpur	8	2.7	29	3.7
Malacca	15	5.2	28	3.6
Negeri Sembilan	17	5.8	47	6.1
Pahang	4	1.4	15	1.9
Penang	28	9.5	86	11.1
Perak	12	4.1	33	4.3
Perlis	1	0.3	2	0.3
Sabah	-	-	4	0.5
Sarawak	2	0.7	12	1.6
Selangor	125	42.5	330	42.7
Terengganu	-	-	4	0.5
Total	294	100	773	100

Source: JETRO 2008