



FACTORS INFLUENCING THE CHORE OF EQUITY MODES OF FOREIGN  
ENTRY: A STUDY OF US MULTINATIONALS IN THAILAND

By

MANISH SHRESTHA

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of

Master of Business Administration

Graduate School of Business  
Assumption University  
Bangkok Thailand

February 2003



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# Abstract

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The choice of foreign entry mode is a crucial aspect in international business. This choice has a major impact on the success of a firm's international operation. The Foreign Entry Mode choice is influenced by several factors and thus, it is essential to properly understand the influence of each factors on the choice of entry mode.

The primary objective of this research is to test the variables that influence the choice of foreign entry mode adopted by U.S. manufacturing multinationals in Thailand. This research has identified six variables namely, global strategy, international experience, diversification, relative size, firm-specific asset and reputation. This study focuses on U.S. multinationals established in the manufacturing sectors of Thailand and operating with the Board of Investment promotional privileges. The mode of foreign entry is restricted to wholly owned subsidiary and joint ventures, both of which are forms of investment based modes of entry

The data collected from 140 U.S. multinationals are used to test the six hypotheses constructed in the research. The hypotheses were tested using the chi-square test: Pearson's chi-square and Cramer's V as a basis for interpretation. All the variables except the relative size of the affiliate proved to be statistically significant with the dependent variable: mode of foreign entry. Analysis revealed that there was a higher tendency to setup wholly owned subsidiary rather than joint ventures by manufacturing U.S. multinationals.

Statistical analysis revealed that global strategy of the firm, higher international experience and higher degree of transfer of firm-specific asset to the affiliate increased the probability of wholly owned subsidiaries and similarly, higher perceived reputation of the firm increase the probability for wholly owned subsidiaries. The probability of joint ventures increased with higher degree of diversification of the affiliate from the parents core operations.

The analysis provides valuable managerial implications for managers of multinational firms, that they should be aware of these factors in order to make the correct choice of foreign market entry. Also, policy makers are suggested to enforce regulations that permit majority ownership and control, patent protection for technology and enforcement of contracts, which will have a positive impact on the investors' attitude. Moreover, new policies should be designed to promote flow of foreign direct investment and transfer of sophisticated technology.



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# Chapter 1:

## Introduction

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### 1.1 Overview

Multinational enterprises (MNEs) can be defined as ‘an enterprise that controls and manages productions establishments in at least two countries’ (Caves, 1982). Today, there are more than 65,000 multinational enterprises with over 850,000 affiliates abroad<sup>1</sup>. These MNEs play an important role in the process of economic restructuring of the world economy as they are vehicles for transfer of capital and production technologies.

In the recent past decades, there has been a phenomenal growth of foreign direct investment (FDI), or investment by multinational enterprises in foreign countries in order to control asset and manage production activities. FDI plays a significant role in cross-border transfer of capital and other non-financial resources such as technologies and managerial skills.

A firm investing in a production facility in a foreign market has to make an important strategic decision. It has to choose an appropriate mode of entry i.e. select an institutional arrangement for organizing and conducting international business transactions (Root, 1994). The firm that wants direct control over the foreign production has to determine the degree of equity control i.e. it has to decide whether

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<sup>1</sup> UNCTAD: World investment report 2001

to establish a wholly owned subsidiary (WOS) or form a joint venture (JV) with a local partner.

This research study focuses to explain the various factors that have an influence on the choice between a wholly owned subsidiary (WOS), or a joint venture (JV) in foreign entry mode decision strategy. The main reason for investigating only these two types of entry modes is that they are comparable. A common feature of WOS and JV is that the relation between the subsidiary is not only a contractual one, but also involves equity participation. This distinguishes WOS and JV from non-equity mode of foreign entry, such as exporting and licensing. Several studies have explored the factors that influence the choice between WOSs and JVs (Agarwal and Ramaswami, 1992; Kogut and Singh, 1988; Bell, 1996).

The entry mode decision is an essential element in the process of global strategy formation (Anderson and Gatignon, 1986). Several, previous researchers have identified that entry mode is contingent on several variables. Ranajan and Pangankar (2000) in their study of entry mode decision have summarized the variables as strategic, competence and cost variables. The first variable, strategic variables involve the global strategy of the firm, the global synergies and the global concentration of the firm. The competence variable include the international experience of the firm, relative size of the affiliate and the diversification of the affiliate, and lastly the cost variables include the factors such as firm-specific asset and reputation of the firm.



## 1.2 Profile of FDI in Thailand

Foreign direct investment (FDI) can serve not only as an important source of capital funds to fill the developing countries' saving gap, it is also an important channel of technological and managerial resources as well as provide foreign market access to developing host countries like Thailand.

Historically, Thailand has been one of the most open countries in the ASEAN region towards foreign investment. It was quick to recognize the powerful role that foreign investors could play in fuelling export-led growth, and it was well placed to attract such investment during the years of regional structure adjustment in the late 1980s. Partly, as a result of FDI inflows, Thailand was one of the world's fastest growing economies (OECD<sup>2</sup>, 1999).

According to the Bank of Thailand, the size of FDI increased from 3,878 million Bahts in 1980 to reach a record level high at 209,888 million Bahts in 1998, since then the net FDI has been declining, amounting only to 2.5 percent of GDP in 2000, or about one third of the 1998 level. The net inflow of FDI in Thailand amounted to 115,286 million Baht in 2000<sup>3</sup>. However, the large FDI flows in 1998 and 1999 were mostly for re-capitalization of the Thai corporate sector rather than Greenfield investments.

Furthermore, the sectoral composition of the net FDI has changed substantially. More inflow of FDI is noticed in the Services, electrical appliances,

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<sup>2</sup> Organization of economic cooperation and development

<sup>3</sup> Bank of Thailand

machinery and transport equipment, and chemicals sectors, while the trade sector received less than 10 percent of the total net FDI in 2000.<sup>4</sup>

### 1.2.1 Sources of FDI and Significance of FDI from U.S MNEs

Japan, the United States, the European Union (EU) and the Asian NIEs are the major sources of FDI funds to Thailand. From *table 1.1*, we see that two of the most important foreign investing countries are the United States and Japan which altogether amounted for more than half of the total net inflow of FDI into Thailand each year. Other important source of FDI has been the United Kingdom, Germany and the newly industrialized economies (NIEs) of Asia such as Singapore, Taiwan and Hong Kong. These new source of FDI from the NIEs are growing in prominence as more and more investment is being drawn in the Thai economy.

**Table 1.1 Net inflow of FDI in Thailand classified by countries**

	1981	1985	1990	1997	1998	1999	2000
Total	6414.4	4441.8	62516.4	117696	209888	134592	115286
Japan	1407	1534	27820.6	42370	60477	18560	35493
U.S.A	2395.8	2387.5	5844.2	25863	51798	24137	25575
Taiwan	11.9	170.6	7155.9	4605	4072	4581	6286
Singapore	1018.8	-1121.9	5909.4	9851	22673	20048	15019
Hong Kong	323.3	649	7507.6	14817	16571	8862	13355
U.K	334.8	121.6	1100.9	3692	4816	7010	16702
Germany	179.1	166.3	1141.9	2102	4073	10973	4003
Others	743.7	534.7	6035.9	14396	45408	40421	-1147

Source: Bank of Thailand: Figures exclude investment in banking sector, all Figures in millions of Bahts.

<sup>4</sup> Bank of Thailand, Annual Economic report 2001

The United States has been a historically important source of FDI in Thailand and was the leader in terms of inflow till the early 80s, but recently it has lost ground to the Japanese investors that have invested heavily in Thailand for relocation of Japanese companies seeking cheaper production base.

The FDI from United States is an important and significant source to Thailand, but recently the trend is on the decline as more U.S FDI is flowing towards China, Cambodia and Vietnam (UNCTAD, 2001).

With respect to the origins of investors seeking and receiving BOI promotional privileges, the Japanese investors dominate, whereas the United States features in the second position with projects nearly one-third of the total Japanese projects. But in terms of total investment value the U.S still features significantly with a total investment value of 40,131.4 million Bahts in 2001. During the same period 40 U.S investment projects were approved with combined registered capital of 7,744.5 million Bahts (BOI, 2002)<sup>5</sup>.

Investments from U.S appear to complement the strategies of American MNEs and not the industry structure of Thailand. U.S MNE strategies have generally promoted investment in raw materials and in import-substituting activities in Thailand. Overall, U.S foreign investment in Thailand has been as a result of maintaining cost advantages: to make use of natural resources and gain the advantages of local demand. U.S MNEs tend to be concentrated in industries with oligopolistic market structure and high capital cum technology intensive sectors (Kintanar.A & T.Loong-Hoe, 1986).

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<sup>5</sup> Board of investment.



### 1.2.2 Characteristics of U.S MNEs

Table 1.2 shows the ownership pattern of the U.S investment projects approved by the BOI during the year 1990-2001.

Table 1.2 Ownership Pattern of US investment projects

Year	No of Investment Projects	WOS	JV
1990	72	43	29
1991	52	42	10
1992	31	17	14
1993	41	23	18
1994	56	28	28
1995	59	12	47
1996	53	12	41
1997	60	20	40
1998	62	39	23
1999	52	39	13
2000	72	51	21
2001	40	12	28
Total	650	338	312

Source: Board of investment, 2002.

From the above table its is noticed that there is no significance difference in the pattern of establishment of a WOS or a JV in Thailand, although a slight higher number of WOS is observed. Stopford & Wells (1972); Kogut & Singh (1988), in their research study of US multinational have concluded that US MNEs had a general tendency to establish a WOS.

Major sector of interest for U.S MNEs has been in chemicals, electrical appliances, oil exploration, trade, finance and transportation services. Table 1.3 shows a strong concentration of investment in the manufacturing sector, especially in

the sector classified as electric and electronics products. United State's FDI is composed of both relatively light, labor-intensive industries such as textiles, electrical appliances, agricultural products and complex capital- technological based industries such as oil exploration and chemicals (Kintanar.A & T.Loong-Hoe, 1986).

**Table 1.3 U.S investment projects classified by sector**

	1993	1994	1995	1996	1997	1998	1999	2000	2001
Agricultural products	512.2	970.4	454.6	1109.8	4645.5	2075.3	1393.3	1697.9	2410
Minerals & ceramics	4635	15215	31313.5	13813.8	0	144.2	0	6240.1	0
Light industries	1529.1	1107.2	1038.4	671.1	627	658.8	102.7	8535.1	1021
Metal products & Machinery	636.4	822.3	13669.1	20951.8	1374.2	729	4670.9	3548.9	441
Electric & Electronic products	2786.6	9624.8	6060.4	23849.7	7957.8	10574.4	35677.6	7801.2	10768
Chemicals & Paper	337.9	2355.8	9511.6	9242.2	48697.9	3384.6	4063.7	9851.6	25347
Services	308	2819.4	2297.9	465.3	24881.6	1079.2	308.9	76.9	144.3

Source: Board of Investment, 2002.

The sectoral difference of FDI discussed above reflects different motives for investing in Thailand. Of the different motives, the MNEs from US have been involved in resource-based projects. The resource-based industries that have attracted FDI are canned food, wood furniture and rubber products. These industries are export oriented and tend to be net higher foreign exchange earners.

During the late 90s, as the Thai industry became less competitive because of the relative increase in the cost of labor, real estate boomed and private investment increased, the composition of inward FDI shifted to real estates and other sectors, which included infrastructure. FDI in manufacturing sector is dominated by projects in electronics, with significantly more investment in that sector than in any other

manufacturing activity, manufacturing as a whole represents one third of the total inflows (OECD, 1999).

Recent FDI growth reflects the recapitalization of financial institutions now that FDI access to this sector is more liberal, and the easing of joint ventures restrictions has increased industrial investment. Therefore, the sectors receiving high levels of FDI in recent years include financial institutions, manufacturing industries such as machinery and transport equipment and electrical appliances.

### 1.3 Statement of Problem

The choice of entry mode into a foreign market has a major impact on the success of a firm's international operation. The managers may have to make a quick decision so as to enter the market before its competitors. Generally, firms have only one real chance to enter a foreign market (Hill, Hwang and Kim, 1990). If the first attempt fails, other firms may profit from the opportunities, which make a second attempt futile. Further, foreign entry usually requires substantial investments, which will be worthless if the entry fails.

When a firm is entering a foreign market through investment mode of market entry it is faced with the problem to either establish a wholly owned subsidiary or a joint venture. As explained earlier the choice is critical. It will prove utmost important to determine and analyze the variables that affects the choice between the two entry modes.

In the context of U.S MNEs in Thailand the main research questions can be formulated as follows:



1. What are the variables that have a significant influence on the foreign entry mode decision strategy?
2. How the knowledge of the variables will help the decision makers to adopt the right strategy?

## 1.4 Research Objectives

In Thailand's increasingly favorable environment for sound foreign investments and attractive incentives provided for by the Board of Investment, has drawn an increasing number of multinationals to invest in this region. These multinational have to decide whether to invest solo and setup a WOS or instead find a suitable local partner and thus form a JV. This process requires an understanding of the factors affecting the foreign entry decision, thus a broader understanding of the factors that influence the foreign entry decision will prove useful to investors. To achieve the goal, this study is concentrated on the following:

- To examine the choice of foreign entry mode pattern by U.S. manufacturing MNEs in Thailand.
- Test the variables that influence the choice of foreign entry mode adopted by U.S. MNEs in Thailand.

## 1.5 Scope of Research

The study focuses on the U.S. Multinationals operating in Thailand with BOI promotional privileges. The research includes only firms included in the manufacturing sector as identified by the BOI. The mode of foreign entry is restricted

to wholly owned subsidiary and joint ventures, both of which are forms of equity modes of foreign entry.

This research study is conducted to examine the strategic, competence and cost variables that determine the entry mode decision of U.S. MNEs in Thailand. Six underlying factors had been identified i.e. global strategy, diversification, international experience, relative size, firm specific asset and reputation (Ranajan & Pangankar, 2000; Bell, 1996).

## 1.6 Limitations of the Research

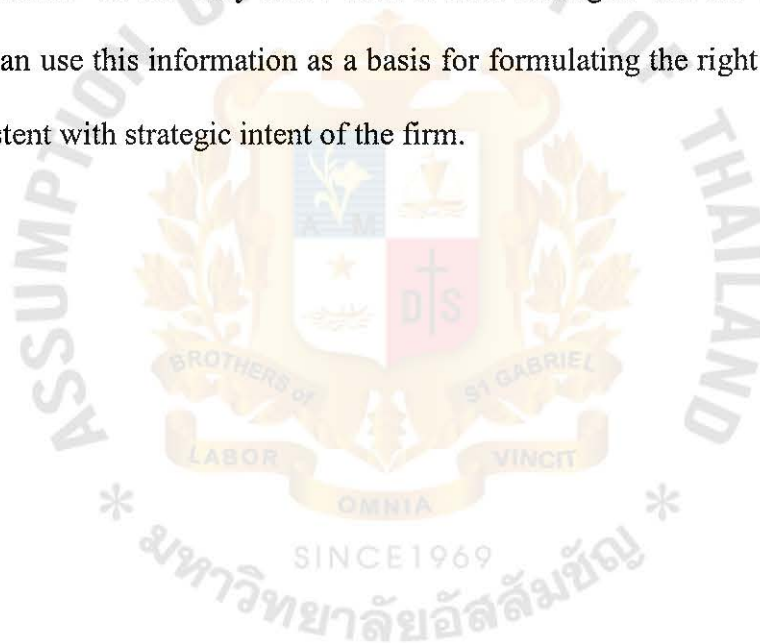
The major objective of this study was to examine the impact that strategic, competence and cost variables has on the firms' choice of foreign market entry modes. One limitation is the geographical focus of the study, on one country; the research is focused on U.S multinationals in Thailand. Hence, we need to be cautious on generalizing the results from this study. Furthermore, the focus is only on U.S. firms in manufacturing sector only and as such the results from the research cannot be interpreted to the firms engaged in the service sector.

Since this research is based on questionnaire, the responses or management perspective cannot be verified whether they were based on rational judgment of the situation or not. But this a general limitation regarding all questionnaire based research.

## 1.7 Significance of Research

This research is done to enhance the understanding of the international business in terms of factors that govern the entry mode decision and what specific strategies the decision makers should acknowledge. Furthermore, it addresses the totality of the multidimensional and complex entry mode decisions.

This research study will prove to be a guideline for potential U.S firms aiming to enter the Thai market. The results will provide the managers with a better assessment of the underlying variables in entry mode decision. They can know the impact of each factor on the entry mode choice. Thus managers and decision makers of the MNEs can use this information as a basis for formulating the right entry mode decision consistent with strategic intent of the firm.





## 1.8 Glossary

**Competence level** Competence is the mix of capabilities and resources possessed by a firm (Barney, 1991).

**Control level** The ability to influence operational and strategic decisions of the foreign operations (Porter, 1986)

**Cost level** Costs include both transaction and agency costs incurred in setting up a foreign venture (Contractor and Lorange, 1988)

**Entry mode** An institutional arrangement for organizing and conducting international business transactions (Root, 1987)

**Foreign direct investment (FDI)** is equity investment by an enterprise (parent company) in an entity (branch, subsidiary or affiliate) located in a foreign country that gives managerial control to the parent company (Root, 1994)

**Multinational enterprise (MNE)** is a corporation, which owns (in whole or in part), controls and manages income-generating assets in more than one country (Hood and Young, 1979)

**Joint venture** a joint venture is a share-equity undertaking between two or more parties, each of whom hold at least 5 percent of the subsidiary's equity (Beamish, 1987).

**Wholly owned subsidiary** An operation in which 95 percent or more of the equity is possessed by one foreign firm (Davidson and McFetridge, 1984).

## Chapter 2:

# Literature Review

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This chapter provides a review of the literature on entry mode decision. Section 2.1 will describe the entry mode choice in the firm's strategy. In section 2.2 various modes of entry will be described. Section 2.3 will discuss in detail, Wholly owned subsidiary and Joint venture as two different investment modes of entry. Section 2.4 will make an analytical review of theories on international business. Section 2.5 will present the overview of previous empirical research. Lastly, this chapter ends with the conclusion covered in section 2.6.

### 2.1 Strategy Formation for International Markets.

A firm's corporate strategy is concerned with the choice of the businesses a firm wants to operate in, and the management of different business units (Porter, 1987). Corporate strategy determines whether the firm will concentrate on a single business, will integrate vertically into another stages of value chain, or will diversify into other businesses (Hills and Jones, 2001).

The prolific growth of MNEs in the last decades has led to a shift from product-market expansion to geographical market expansion (Dunning, 1993). Internationalization of activities is becoming a prerequisite for the continuity of many firms, and should not be ignored in the process of strategy formation.

In international business, the process of strategy formation involves many decisions. Porter has acknowledged the relevance of configuration and coordination of foreign activities as an important decision in the process of strategy formation Porter (1986). The configurations of the firm's activities include, how many subsidiaries are establishes and where (i.e. the location) they are established. Coordination involves the structuring of the relationship between headquarters and various separate entities.

One very important issue of international configuration is the choice of entry mode and consequently is an essential element in the process of global strategy formulation (Porter, 1986).

### **2.1.1 Entry mode strategy**

The choice of entry mode is regarded as a key issue in international marketing and has a significant impact on the venture's success overseas (Anderson and Gatingnon, 1986; Hill et al. 1990; Kogut and Singh, 1988).

Entry strategy for international markets is a comprehensive plan (Root F.R, 1994). It sets forth the objectives, goals, resources, and policies that will guide a company's international business operations over a future period long enough to achieve sustainable growth in world markets.

After choosing the target market for operation, the mode of entry must be determined. MNEs can choose among many entry modes when entering a new product or geographical market. This choice has major consequences for other decisions in the process of strategy formation and should, therefore, be considered



very carefully. A firm may gain significant advantages *vis-à-vis* competitors when the correct entry mode is selected (Bell, 1996).

Furthermore, firms have to select the right mode of entry, in the first attempt. Often, there are no possibilities for a second chance (Root, 1994). Whenever a second best entry mode is chosen, competitors may already have taken the opportunities to serve the product market combination. In addition, many committed resources (e.g. management, time, money and various facilities) may become obsolete. Thus due to the negative consequences of an incorrect choice shows, that the mode of foreign entry should be selected correctly the first time.

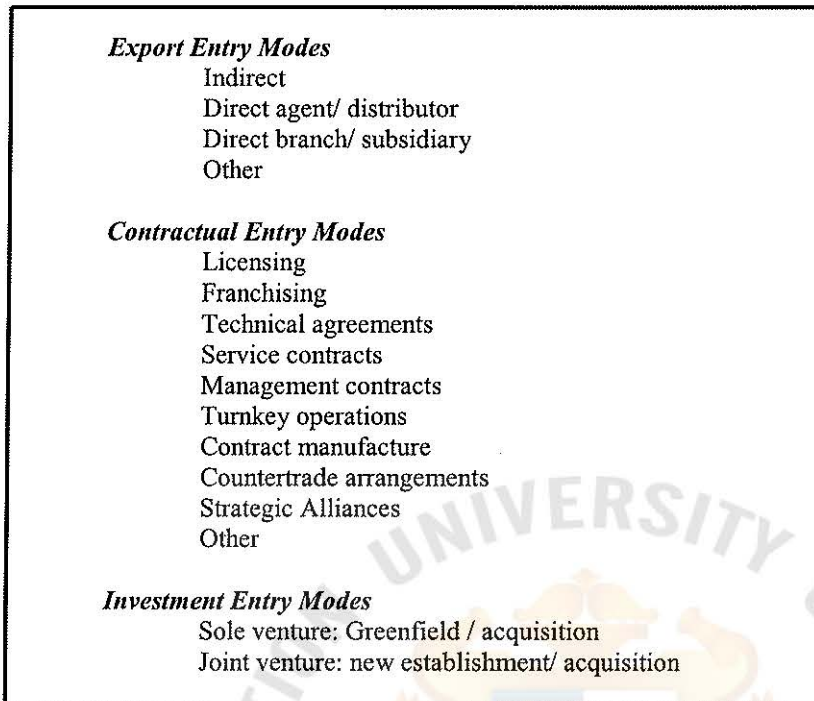
## 2.2 Alternative Modes of Entry

This section discusses briefly the various modes relevant that are relevant to foreign market entry.

From an economist perspective, a company can arrange entry into a foreign country in two ways (Root, 1994). *First*, it can export its products to the target country. *Second*, it can transfer its resources in technology, capital, human skills, and enterprise to the foreign country, where they maybe sold directly to users or combined with local resources to manufacture products for sale in local markets.

In management perspective the above two forms of entry modes are broken down into several distinctive entry modes that offer different benefits and costs to the international company. The possible modes of entry are highlighted in *Figure 2.1*

**Figure 2.1: Classification of Entry modes**



Source: Entry Strategies for International markets, F.R.Root. 1994

The above figure shows us many possible ways of international market entry. Some very important and significant modes are discussed in brief in the following paragraphs, but the investment mode of entry will be discussed in details in next section 2.3.

**Exporting:** It can take place in different ways. For example, product maybe sold in different countries via arm's-length contracts i.e. with a buy option or open market transactions (Root, 1994). This means that only one transaction takes place without the intention of establishing a relationship. Another way of exporting is using a local agent. A third option can be opening to establish a sales office, which sells the products of the exporting firm.

**Licensing agreements:** They are long-term contracts that cover the transfer of right to use specific know-how for a defined period of time in return for a royalty. Sometimes, patents are exchanged for other patents making the actual payments unnecessary. This type of arrangement is labeled cross-licensing arrangements (Root, 1994).

Licenses are becoming more and more popular vehicles for the transfer of the newest technologies to competitors. The main underlying principal for this tendency is that the firm attempts to create a global standard for technological innovations. A global standard at an early stage of development enables firms to be profitable without the threat of intensive competition.



**Franchising:** It is also called commercial licensing. It can be described as a contractual form of commercial cooperation between independent firms, where the franchisee pays for the right to use the franchiser's brand name and, possibly, other distinctive means, such as the design and layout of the shop (Brickey and Dark, 1987). Popular examples of firms using franchising as a mode of foreign entry are McDonalds, Burger King, and Pizza Hut.

**Strategic Alliances:** A strategic alliance is a long-term explicit contractual agreement pertaining to an exchange and/or combination of some, but not all, of a firm's resources with a competitor (Burgess, Hill and Kim, 1993). Alliances include various types of partnerships. Companies wanting to share technologies can cross-license their technology. If their aim is to pool research and design resources, they may form an R&D partnership (Ball *et al.*, 2002). The main aim of strategic alliances is to achieve faster market entry and startups; gain access to new products, technologies and markets; and share costs, resources and risks.

## 2.3 Market Entry through Investment

Companies invest in foreign production for three basic reasons: to obtain raw materials, to source products at lower costs, and to penetrate local markets. When a multinational company decides to establish a production base in the host country it has the option to establish the affiliate as a sole venture or as a joint venture.

Firms engage in international production for a variety of reasons. The main motive behind such production has been highlighted in *Figure 2.2*.

**Figure 2.2: Determinants of FDI**

Types of FDI classified by motives of firms	Principle economic determinants in host country
Market seeking	Market size and per capita income Market growth Access to regional and global markets Structure of markets
Resource/asset seeking	Raw materials Low cost unskilled labor Skilled labor Physical infrastructure Technological, innovative and other created assets.
Efficiency seeking	Cost of labor and assets listed above, adjusted for labor productivity. Other inputs costs such as transport and communication costs to/from the host economy. Membership of a regional integration agreement conducive to the establishment of regional corporate networks.

Source: Adapted from UNCTAD, World Investment Report 1998: table IV, p. 91.

Investment provides the company control over its production operation overseas, such that the company can fully exploit its competitive advantage in the host country. Control has a critical impact on the future of a foreign enterprise. Control signifies authority over operational and strategic decision-making (Hill et al.1990).

Control is the key to coordinate actions; carryout strategies revise strategies and resolve the disputes that invariably arise when two parties to a contract pursue their own interest (Davidson 1982). Control is also a way to earn a higher return by obtaining a larger share of the foreign enterprise's profits. Taking control includes a high price; the entrant must assume responsibility for decision-making and also

assume the responsibility to be able to carry out operations in an uncertain foreign environment.

**Wholly owned subsidiary:** A company that wishes to own a foreign subsidiary outright may (1) Start from the ground up by building a new plant (2) Acquire a going concern or purchase its distributor thus obtaining a distribution network familiar to its products.

For many firms, FDI decision is initially at least, considered in the context of 100 percent ownership. The reason may have an ethnocentric basis; i.e. management may feel that no outside entity should have an impact on corporate decision making. Alternatively it may be based on financial reasons (Czinkota et al., 2001).

When a firm's competitive advantage is based on technological competences, a wholly owned subsidiary is preferred as it reduces the risk of losing control over the competences. A WOS is essential to provide tight control over operations in different countries that is necessary to engage in global strategic coordination. A WOS is necessary in case a firm is pursuing a global strategy, i.e. it requires each subsidiary to specialize in a particular value adding function in the global production system of the MNE (Hill, Hwang and Kim, 1990).

Sometime it is not possible to setup a wholly owned subsidiary. The host government may not permit it; the firm may lack either capital or expertise to undertake the investment alone, or there maybe tax and other advantages that favor another form of investment, such as a joint venture (Hill, 2001).



**Joint Venture:** A joint venture can be defined, as the participation of two or more companies in an enterprise in which each party contributes assets, owns the entity to some degree, and share risk (Czinkota et al., 2001). The reasons for establishing a JV can be divided into three groups: (1) government suasion or legislation; (2) one partner's needs for other partner's skill; and (3) one partner's need for other partner's attributes or assets.

The most typical type of joint venture is a 50/50 venture, in which there are two parties which holds a 50 percent ownership stake and contribute a team of managers to share operating control. Some firms, however, have sought joint ventures in which they have a majority share and thus tighter control.

The key to joint venture is the sharing of common business objective. JV are valuable when the pooling of resources results in a better outcome for each partner than if each were to conduct its activities individually. This is particularly the case when each partner has a specialized advantage in areas that benefit the venture.

Joint ventures also permit better relationships with local government and other organizations, such as labor unions. Government-related reasons are the major rationale for joint ventures in less developed countries four times more frequently than in the developed countries (Czinkota et al., 2001). Relationship of the local partner, with the government may make the venture eligible to tax incentives, grants and government support; with the local financial establishments may enable the venture to tap in the local capital markets. The greater experience with the local culture may enable the venture from greater insights into changing market conditions and needs.

## 2.4 The BOI Criteria for Shareholding by Foreign Investors

To relax the limitation of foreign shareholding in manufacturing activities and to facilitate investors on their investment, the following criteria are used as of august 2000:

1. For a project in agriculture, animal husbandry, fishery, mineral exploration and mining and service business under Schedule One of the Foreign Business Act B.E. 2542, Thai nationals must hold shares totaling not less than 51 per cent of the registered capital;
2. For manufacturing projects, in all zones, foreign investors may hold a majority or all shares in promoted projects; Previously, investment projects in Zone 1 or 2 required Thai nationals to be majority shareholders unless at least 80 percent of sales were from exports.
3. The Board may specifically fix the shareholding of foreign investors on some promoted projects when it is deemed appropriate (BOI, 2000: Board of Investment Announcement).

## 2.5 Theories on International Business

In international business, the theory of internalization has been divided into two broad groups: static and dynamic approaches.

Static approach compare different states instead of processes, and try to find the best solution (e.g. the best ownership structure) for a certain state. These static approaches have an economic background, which means that they evaluate firms' involvements in foreign countries based on their costs and benefits. Whereas,

dynamic approaches consider internalization as a sequential process. They attempt to explain and predict the firms' involvement in the international environment over time.

Following the aim of this study, namely to study the factors that affect the choice for a JV and a WOS in foreign entry decisions, static approaches are more appropriate than dynamic ones (Bell, 1996). However the study will focus only on theories that provide micro-level explanations for the existence of MNEs.

Hymer (1960) was the first to explain foreign direct investment as an international extension of industrial organization theory. According to Hymer, local firms are better informed about the local economic situation than foreign firms. In order to be able to provide an explanation for the existence of FDI, two conditions must be fulfilled: first, MNEs that own and control foreign subsidiaries must possess firm-specific advantages that outweigh the disadvantages of being a foreign firm, and second, the market for selling these advantages must be imperfect. These market imperfections, which Hymer called monopolistic advantages, imply the existence of structural market imperfections. Hymer's market imperfections theory of FDI postulates that WOSs are the best alternatives in the case of monopolistic advantages, while arm's length transaction are the best alternatives in the absence of these advantages.

### 2.5.1 Transaction Cost Economies

A transaction is defined as the transfer of a good or service across a technological separable interface (Williamson, 1975) a most efficient governance structure means that the total production and transaction costs, in the long run are



less. These transaction cost are determined by three characteristics such as asset specificity, uncertainty and frequency.

Different combinations of the three characteristics of transactions will lead to different optimal governance structures. Firms prefer to internalize transactions (creating a WOS) in case of highly specific assets, high uncertainty and recurrent transaction. JVs however, can only exist if the markets for intermediate inputs are inefficient (Hennart, 1988). Then, JVs will be the most efficient governance structure when transactions are characterized by a moderate level of asset specificity, uncertainty and frequency. In order to remain the most important alternative, it is important that effective safeguard s exists against the risks of opportunistic behaviors of partners. Kogut (1988) distinguished two critical issues, namely the rules concerning the division of control and the sharing of gains and losses ad the mutual commitment of resources. Anderson and Gatignon (1986) had focused on the preeminent role of control as the factor of governance.

### 2.5.2 Internalization Theory

Internalization theory was developed to provide an economic rationale for the existence of MNEs. The firm is the unit of analysis. This theory rests on two general axioms (Buckley, 1988): firms choose the least cost location for each activity they perform and, second, firms grow by internalizing markets up to the point where benefits of further internalization are outweighed by the costs. Casson (1982) provided additional assumptions about transaction costs for particular products and trade between particular locations. For example, the market for know-how is

imperfect, long-term contracts are difficult to specify and to enforce, and tariffs and other financial burdens cause internal transfer pricing. MNEs arise when markets across national borders are internalized.

According to original internalization theory, MNEs always avoid JVs since they are inferior to WOSs, which allow the firm to maximize the returns on owner-specific advantages (Caves, 1982). Beamish and Banks (1987), however, extended internalization theory by providing an economic rationale for JVs. They argued that in situations where a JV is established in a spirit of mutual trust and commitment to its long-term success, problems regarding uncertainty, opportunism, and small numbers could be effectively dealt with. Then, the benefits of a JV will more than offset the costs.

### 2.5.3 Dunning's Eclectic Paradigm

The eclectic paradigm (Dunning, 1988) recognizes that both structural and transaction costs market imperfection are important in explaining MNEs. The eclectic paradigm of international production states that firms will become MNEs if three conditions are satisfied simultaneously: firms have ownership-specific advantages, which can be profitably exploited outside the firms domestic markets, location-specific advantages, and internalization of these advantages obtains the best value.

Ownership-specific advantages (O) involve the ownership specific assets by MNEs that other firms do not own. These assets may be tangible such as natural endowments or human capital or can be intangible such as technological know-how or marketing skills.

In addition to ownership-specific advantages, locations specific advantages (L) are essential to determine which firms will engage in cross-border value-adding activities. These locations specific advantages includes for instance, low transport costs, availability of resources, infrastructure, economic and political stability etc.

The last strand of OLI paradigm comprises the internalization advantages (I) that MNEs have in transferring assets within the organization rather than through the market. The greater the perceived costs of transactional costs, the more likely the MNE will exploit the Ownership-specific advantages within the firm. Some possible internalization advantages are high search and negotiation costs, possible lock in situation and high cost of enforcement.

#### 2.5.4 Resource Based Theory.

The resource based theory attempts to explain the success and failure of individual firm by concentrating on the heterogeneous nature of the firm specific resources. The term heterogeneous means that the resources are unique. A well-accepted practice in the resource-based theory is to differentiate between capabilities and resources, also labeled as tangible and intangible resources (Hall, 1992), or assets or core competencies (Prahalad and Hamel, 1990). This distinction acknowledges the difference between tangible resources (e.g. land, machines and manufacturing facilities), which can be easily traded between firms and tacit capabilities (e.g. technological know-how, managerial know-how, brandname), which are hardly transferable among firms. Typical features of capabilities are that they are firm



specific, difficult to imitate and developed over time. Firms are expected to gain super-normal profits when they exploit their firm-specific resources.

According to the resource-based approach, the selection of the mode of entry depends on the demands on the firm's capabilities. An increase in capabilities is time consuming and a gradual process. In such cases, a JV is the optimal mode of entry as JVs alleviate the acquisition of the lacking capabilities. In contrast, a WOS is the appropriate mode of entry if the firm's current capability stock is sufficient to gain the potential rents in a foreign market.

#### 2.5.5 Eclectic Theory of Foreign Entry Mode choice

Hill, Hwang and Kim (1990) developed a framework to describe the entry mode pattern. They contended that the transaction cost economics alone is not able to explain foreign entry mode choices. For example, strategic management issues, such as the role of global competition and global strategy, are completely ignored in the studies using transaction cost frameworks. Therefore Hill, Hwang and Kim (1990) stressed the need to incorporate strategic variables in an eclectic theory of the choice of international entry modes.

They argued that the entry modes could be characterized by three constructs: the level of control, resource commitment and dissemination risk. The level of control involves the amount of authority over operational and strategic decision-making. Certain modes of entry provide the parent firm with more control than others. For example, a WOS the parent firm has more influence in the decision making process than in a licensing agreement.

Resource commitment it means dedicated assets that cannot be redeployed to alternative uses without costs. These assets maybe tangible or intangible (Hill *et al.* 1990). In case of wholly owned subsidiary, the MNE has to bear all the costs of opening up and serving the foreign market. The MNE owns all of the revenue-generating assets. Thus the level of resource commitment is high. The level of resource commitment in a joint venture will depend on the level of ownership split and resource sharing between the partners. WOSs entail more commitment to resources than a JV.

Dissemination risks refer to the risk that firm-specific advantages in know-how will be expropriated by another firm (Agarwal and Ramaswami, 1992). Technological and marketing know-how constitutes the basis of the competitive advantage if many MNEs. The MNE will not want to see firm-specific know-how disseminated, since that would reduce the quasi-rents that could be earned from the know-how. The risk of dissemination of know-how is likely to be the lowest in a wholly owned subsidiary than comparing to a joint venture.

Furthermore, Hill, Hwang and Kim (1990) distinguished three broad groups of variables that influence the entry mode decision. First, the strategic variables, being the type of strategy and the concentration in the global economy, primarily affect the mode of entry by the level of control they require. Second, the environmental variables (host-country risk, location familiarity and the demand conditions etc) are closely related with the commitment of resources. Third, transaction-specific variables, such as the value of the firm-specific know-how and the tacitness of know-how, influences the choice of entry mode through its impact in the dissemination risk.

Bell (1996) has built upon the eclectic framework of entry mode and has added the resource-based theory to the framework. It is focused in ownership-specific advantages like the utilization and enlargement of the firm's stock of resources and capabilities. He identified international experience, host country experience, and product experiences as competences of the firm.

## 2.6 Previous Empirical Studies

Many empirical studies have examined the incidence of foreign entry modes such as licensing, JVs, acquisitions, Greenfield investments, franchising and exporting. These studies have tested hypothesis on a large number of variables expected to influence the choice of entry mode. Some examples are the familiarity with the host country, cultural distance, asset specificity, and firm's experiences international entry modes etc.

As this research focuses on the choice between JVs and WOSs, only empirical studies concerning this choice will be reviewed. *Table 2.1* contains an overview of the findings of these empirical studies.

Stopford and Wells (1972) developed one of the first international entry mode models when they argue that entry mode selection was contingent upon the firm's international experience and product diversification. They analyzed data on foreign entries of 155 US MNEs and found a higher propensity to establish WOSs when a marketing, product innovation and product standardization are important. In contrast, JVs are preferred when the investment is a diversification.



**Table 2.1: Overview of the findings of the empirical studies**

Variables	1	2	3	4	5	6	7	8	9
Cultural distance	+						+	-	-
Host country risk	+					Ns	Ns		
Host government restrictions	+		+	+					+
R&D intensive industry		+	Ns	Ns					
Level of competition		Ns		+	Ns				
Firm size				-		-	-		Ns
Relative size		+			Ns				
International experience	-					-		-	Ns
Host-country experience			-	-	-				-
Diversification			+	+	+			Ns	Ns

Source: Bell, 1996

+ = Increased probability of JVs  
 - = Decreased probability of JVs  
 Ns = not significant.

1. Gatignon and Anderson, 1988  
 4. Gomes-Casseres, 1990  
 7. Erramilli and Rao, 1993

2. Kogut and Singh, 1988  
 5. Hennart, 1991  
 8. Madhok, 1994

3. Gomes-Casseres, 1989  
 6. Aggrawal & Ramaswami, 1992  
 9. Padmanabhan and Rao, 1994

Gatignon and Anderson (1988) tested eight hypothesis based on transaction cost economies regarding the level of control on establishing a foreign mode of entry. They considered the entry mode decision to be a two-stage decision. In the first stage, firms determine whether they will cooperate or not, while in the second stage the level of control in the JV needs to be chosen. Their analysis was based on 1,267 observations of MNEs from the Harvard Multinational Enterprise database. They concluded that the propensity to setup WOSs increase with the level of specific know-how, the MNEs experience and advertising intensity. And the likelihood of a JV grows in proportion with country risks, legal restrictions and the cultural distance.

Kogut and Singh (1988) particularly focused on testing the strategic behavior approach. They distinguished the following variables: type of industry that it enters

into, the growth, and degree of concentration in that industry and the relative size of the foreign subsidiary. The result for the logit analyses revealed that only two variables have a significant effect in the foreign entry mode selection: the R&D intensity of the industry and the relative size if the investment have a positive impact to form JVs.

Gomes-Casseres (1989) found that the strategic motivation for cooperation, transaction costs and organizational costs jointly determine the costs and benefits of ownership structures. According to Gomes-Casseres MNEs determine their own preference with respect to entry mode in the first stage, while MNE negotiate with the host government in the second stage. The analysis revealed that MNE prefer JVs when they rely on inputs of raw materials, when the host government is restrictive and when local firms contribute skills to JV. WOSs are preferred when the MNE has much experience in the host country or industry.

Based on transaction costs economics, Hennart (1991) examined whether Japanese manufacturing MNEs choose a WOS or a JV when entering the United States. He concentrated on the costs and benefits of shared equity. His analysis on basis of 158 observations revealed that JVs are preferred if the subsidiary is in a different industry than the Japanese MNE, the subsidiary is in a resource-based industry or the Japanese MNE is entering a high-growth industry. Whenever the Japanese MNE's foreign experience increases or the subsidiary is older WOSs are more likely.

Aggrawal and Ramaswami (1992) explored the choice between WOSs and JVs from a transaction cost perspective. The main study was the external and internal uncertainty the firms encounter. External uncertainty concerned the host country

politics and economic risks and internal uncertainty involved the cultural distance between the host and the home countries. Hypothesis was tested from the data of United States (US) manufacturing firms. The logit analyses revealed an increased propensity towards WOSs in case of higher external and lower internal uncertainty.

Brouthers et al. (1993) placed a number of variables that were examined previously by various researchers into two categories: the desire for direct control and market complexity. They hypothesized that WOSs are more likely than JVs and contractual agreement in the case of higher desire for direct control. ANOVA test was done on 72 valid observations from survey, which confirmed both hypotheses.

Madhok (1994) based his analyses on two important streams: transaction cost economies and the organizational capability approach, which is comparable to resource-based perspectives. Survey was done with top executives of manufacturing MNEs. Logit analysis showed that WOSs were favored when firms are highly experienced in operating in international setting and when the host and home countries had different cultures.

Erramilli and Rao (1993) modified the transaction cost economies to make it suitable for explaining the entry mode choice of service firms. He claimed that service firms always prefer maximum control when establishing a foreign entry mode. They added some strategic behavior factors such as global integration and market power, to the transaction cost factors.

Padmanabhan and Cho (1996), used data on 839 foreign subsidiaries of Japanese firms. The result of the logit analysis revealed that only four variables have a significant impact on Japanese foreign entry mode selection. Host-country



experience, R&D intensity if the investing firms and the cultural distance turned out to increase the odds that a WOS is set up. JVs are more favored when the host government follows a restrictive policy.

Bell (1996) examined the entry mode on the basis of an eclectic framework. He recognized fourteen different variables that had an impact on the entry mode decision. His analysis revealed that the propensity to set up WOSs increased with the increase in competition in the industry, firm's international experience, presence of firm-specific assets and higher brandname enjoyed by the firm.

## 2.7 Review of Statistical Technique

As we have seen, logit model as the main statistical technique applied by previous researchers. This model enables in estimating the probability that an event occurs rather than another.

This research study has based the statistical analysis on the chi-square method, i.e. Pearson's Chi-square and Cramer's V, which are forms of a non-parametric test for unordered categories. The main advantages of these methods are, that there are no assumptions about the underlying distribution of the data. This method allows the researcher to measure the association between the dependent variable and the independent variables individually.

The statistical technique and its interpretation will be discussed in details in the following chapter 4, under the section 4.4 Data Analysis.

## 2.8 Conclusions

This chapter discussed that the entry mode strategy is contingent upon many factors. Firms should choose the right mode of entry, since they have only one real opportunity to become successful in the host country. Although many different modes have been discussed earlier in the chapter, the focus is on the investment mode of entry only i.e. JVs and WOSs.

Theories such as transaction cost economies, the strategic behavior approach, resource-based theory, internalization theory and eclectic theory provide interesting viewpoints on the choice of JVs and WOSs. Elements of these theories are supported by empirical studies, but the statistical analyses have produced mixed results.

The applications of these theories in the conceptual framework will be considered in the next chapter. The framework will serve as a basis for the formulation of the hypotheses.

## Chapter 3:

# Research Framework

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This research study focuses on the choice of market entry mode in the manufacturing sector and includes a broad range of manufacturing activities. The research has been explicitly designed to focus on equity mode of foreign entry i.e. wholly owned subsidiary and joint ventures. Analysis has been done on three different variables i.e. strategic variable, competence variables and cost variables on the choice of modes of entry adopted by U.S manufacturing MNEs in the context of Thailand.

### 3.1 Theoretical Framework

There have been various theories explaining the entry mode pattern, such as the internalization theory, transaction cost theory and the eclectic framework. It is necessary to understand that the eclectic approach is essential for this research, as the framework captures all the factors that affect the choice of appropriate entry mode.

The main premises of this research have been drawn from the framework put forward by K.S.Ranjan and N. Pangarkar (2000). In their study of entry mode they concluded that entry mode was contingent upon three variables namely strategic, competence and cost variables. Their framework is built on the basis of the eclectic framework of entry mode put forward by Hill et al., (1990) and later by Bell (1996) who added the resource-based approach to the model.



The strategic variable understudy in this research is explained by the strategic behavior approach of entry mode decisions. This behavior approach works at the level of choosing the appropriate set of activities in the value chain with the strategic goal of delivering better value and enhancing competitive advantage (Porter 1986; Kim and Hwang, 1992; Kogut and Singh, 1988).

The resource based approach provides the justification of the competence variables namely, international experience, diversification and relative size. The resource based theory, focuses on resources and capabilities, which constitute the competencies of a firm and how a firm can utilize this bundle to gain competitive advantage. (Bell, 1996).

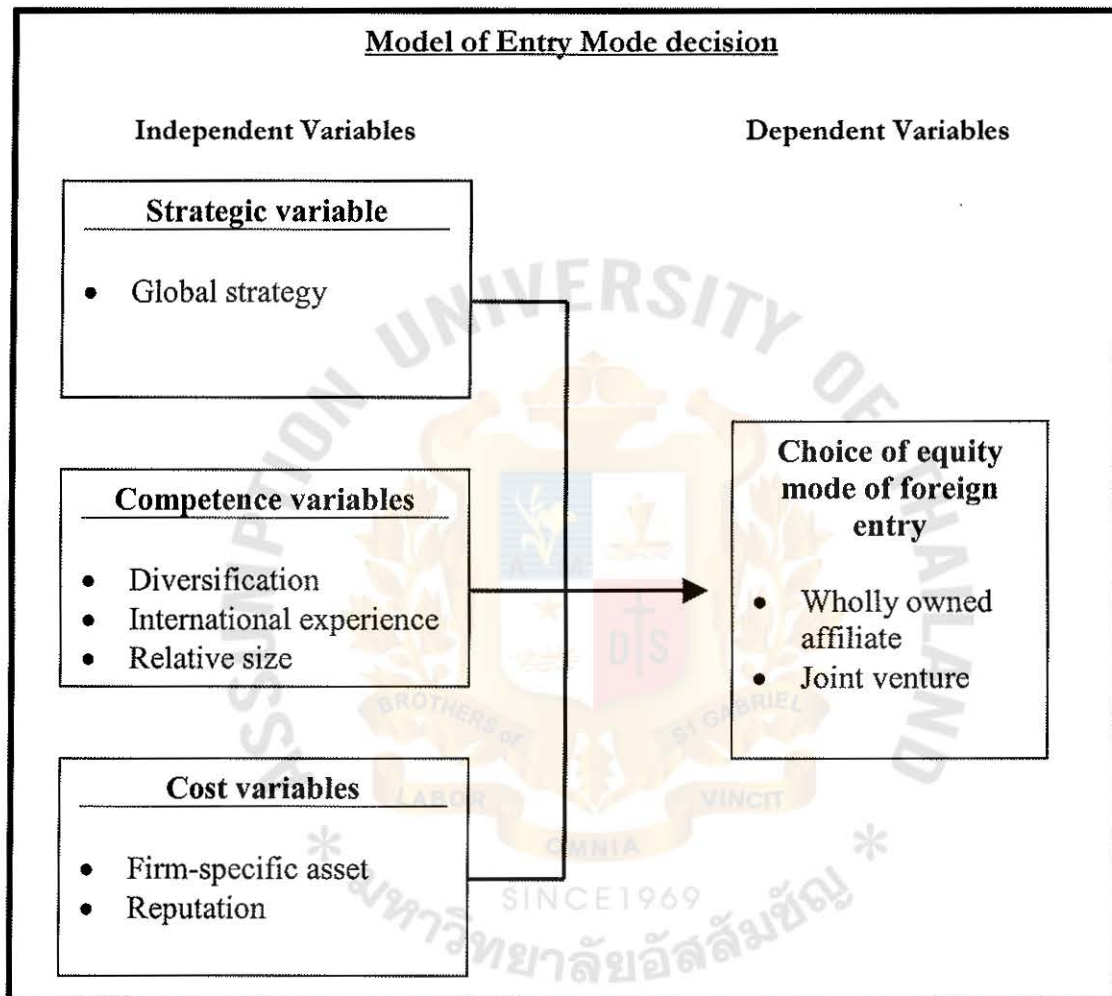
Finally the cost variables are well described by the transaction cost theory and internalization theory which determine the point at which a firm should internalize the activities in the value chain so as to maximize the revenue earning power of its competencies such as technology, marketing skill, patent and trademarks (Gatignon and Anderson 1988).

Thus, drawing from the literature reviewed in chapter 2 and on basis of above theoretical framework, the following hypotheses have been drawn to test their impact on wholly owned subsidiary and joint venture as an alternative mode of market entry.

### 3.2 Conceptualization

The model represented in *figure 3.1* depicts the research framework identifying the specific variables that has an impact on the choice of entry mode.

Figure 3.1 Diagram of Framework



#### 3.2.1 Dependent Variables

This research focuses on equity mode decision of foreign entry with a clear distinction between **Wholly owned subsidiary** and a **Joint Venture**. They both are equity modes of foreign entry, which had been discussed earlier.

The researcher tries to explain the significance and impact of strategic, competence and cost variables on the dependent variable i.e. the entry mode decision, namely wholly owned subsidiary and Joint venture which are two forms of investment based market entry modes.

### 3.2.2 Independent Variables

Global strategy will be analyzed under the strategic variable. International experience, diversification and relative size of the firm will be analyzed under competence variables and finally firm-specific assets and reputation effects will be tested under the cost variables.

**Global strategy** implies that an MNE attempts to gain economies of scale by concentrating production in one country (or a limited number of countries) and by exporting its products worldwide (Ghoshal, 1987). A certain degree of centralized coordination is required to take maximum advantage of the economies of scale.

**International experience** implies the learning curve of the MNE; a firm with more international experience is able to better assess risks and returns and will be more confident to assume control. International experience is measured by the number of countries the parent company is operating at the time of entry in the host country.

**Diversification** implies the firm pursuing a diversified strategy. The affiliate's product does not constitute the main line of product of the parent.



**Relative size** represents the size of the foreign affiliate. If the foreign affiliate is large the parent may lack the resources to manage the affiliate on its own. In that case the MNE would prefer to go in for a local partner.

**Firm specific asset** represents the firm specific assets possessed by the firm such as proprietary technological and marketing know-how. Anderson and Gatignon (1986) have found that R&D intensity, as an accepted measure of firm-specific asset.

**Reputation** represents the valuable brand name of a firm and the goodwill it has accumulate. Anderson and Gatignon (1986) have concluded that advertising intensity increases as the value of brand name increases.

### 3.3 Rational and Hypothesis Development

On the basis of the theoretical framework the following hypothesis has been presented.

#### Global Strategy

Today, with new modes of communication and transport technologies have converged the tastes and preferences of consumers from different nations (levitt, 1983). The result is the emergence of enormous global markets for standardized products. The MNE is able to realize substantial scale economies by centralizing production and marketing a standardized product to a global market place. A global strategy involves configuring the firm's value chain in such a way that the value

added at each stage is maximized (Hill *et al.*, 1989). Thus a national subsidiary may specialize in manufacturing only part of the end product, exchanging parts and products with other subsidiaries in the MNE's global system. These global economies of scale form the firm's non-location-bound firm-specific advantages.

A certain degree of centralized coordination is required to take maximum advantage of economies of scale. Only then, MNEs are able to avoid that subsidiaries maximize their own performance at the expense of the performance of other subsidiaries. Suboptimization may harm the MNE's competitive position and overall position. Hence full control is required in the case of a global strategy to minimize the risk of cannibalism and Suboptimization (Hill *et al.*, 1989).

**Hypothesis 1:** *MNEs exercising global strategic motivation prefers a wholly owned subsidiary.*

### **International Experience**

There is a learning curve in dealing with foreign norms and values, foreign legislation and other foreign requirements. With increasing international experience, a firm will move down the learning curve and will thus be able to reduce uncertainty and risk induced costs (Madhok, 1994). With increasing experience, however, firms acquire knowledge of foreign markets, perceive less uncertainty, and become more confident of their ability to correctly estimate risks and returns and manage foreign operations. As a result, they become more aggressive in committing resources and assuming control (Anderson and Gatignon, 1988).

**Hypothesis 2:** *MNEs with higher international experience is likely to choose a wholly owned subsidiary.*

### **Diversification**

The need to joint venture is particularly strong when the foreign affiliate represents a diversification for the parent. A firm entering a new product areas which does not constitute the parent's core operations, lacks the knowledge and capabilities such as technology, marketing know how and distribution etc. The parent may find that the intermediate inputs needed to venture into a new industry (such as, product-specific knowledge, or access to distribution) are held by another firm, are difficult to acquire by contract, are costly to replicate, and are therefore most efficiently obtained through a joint venture (Stopford and Wells, 1972; Padmanabhan and Cho, 1996).

**Hypothesis 3:** *MNEs representing a diversification from the parent prefers a joint venture.*

### **Relative size**

If the affiliate is large compared to the parent MNE, the MNE presumably lacks financial and managerial resources to run the subsidiary on its own (Contractor and Lorange, 1988). In such cases the MNE must seek a partner firm. The partner may provide the money, time and personnel to ensure the necessary fit between needs and resources. Many, medium-sized U.S firms might lack the resources so they must find a partner to invest in the foreign market. Kogut and Singh (1988) found that there



is a propensity to form a joint venture when the size of the affiliate is relatively large to the parent MNE.

**Hypothesis 4:** *Relatively large affiliates of the MNEs increase the preference for joint venture.*

### **Firm-Specific Assets**

When a firm transfers firm specific know-how, such as proprietary technology or marketing know-how, or specific skills regarding quality control, it will be concerned about dissipation of this know-how to its venture partner. Hence, if there is risk of opportunistic behavior, the firm will prefer to incur higher agency costs rather than incur transaction costs due to possible opportunistic behavior by a partner. Thus, will lead to preference of a wholly owned subsidiary.

**Hypothesis 5:** *Transfer of firm specific asset to the foreign venture will lead to preference of wholly owned subsidiary by the MNEs.*

### **Reputation**

Firms often invest heavily to develop a good reputation. The process of reputation building is time consuming and uncertain. Opportunistic partners might get a free ride on the brand name and reputation of multinational firms therefore, dilution of reputation due to opportunistic behavior of a local partner and the resultant dissipation of previous investments in reputation can be considered as a major

transaction cost (Bell, 1996). In such circumstances high control entry modes might prove to be the most appropriate governance structure as demonstrated by Gatignon and Anderson (1988).

**Hypothesis 6:** *The stronger the reputation of the MNEs, will lead to preference of wholly owned subsidiary.*

**Table 3.1** Conceptual framework and hypothesis summarized

Variables	Expected outcome (- JV, + WOS)
<b>Strategic Variable</b>	
Global strategy (GSTRAT)	+
<b>Competence Variables</b>	
International experience (IEXEP)	+
Diversification (DIVER)	-
Relative size (RSIZE)	-
<b>Cost Variables</b>	
Firm-specific assets (FSASET)	+
Reputation (REPT)	+

## Chapter 4:

# Research Methodology

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This chapter describes the methodology that is used to test the hypothesis developed in chapter 3. The process of sampling procedure and data collection and the Operationalization of variables are explained. A description of the questionnaire used for the survey in this research is discussed, finally concluding by the analytical description of the statistical techniques used to process the data.

### 4.1 Data Source

Many past researchers in this topic of entry mode decision have based their study on survey techniques. Based on the works of Kim and Hwang 1992, Bell 1996 and K.S.Ranjan and N. Pangarkar 2000, this research has also incorporated survey techniques for the data.

#### 4.1.1 Target population and sampling frame

This study examines the entry mode pattern of the U.S MNEs operating in Thailand with BOI privileges. Thus, the population of this research is the U.S MNEs operating as a Joint venture or a wholly owned subsidiary in Thailand and registered with the Board of Investment.



The sampling frame used to select respondents for this research was obtained from the directory “Thailand investment 2001: a directory of companies promoted by the Board of Investment” provided by the board of investment of Thailand (BOI).

The sampling frame was built consisting of 198 manufacturing U.S. firms operating in Thailand either as a wholly owned subsidiary or as a joint venture.

#### **4.1.2 Sampling Method and sample size**

Since, the total population of U.S. MNE's registered with the BOI is small as discussed earlier it is beneficial to include the whole population as the target sample in this research study. Thus the sample size was constructed consisting of 198 firms operating in Thailand under the BOI promotional privileges.

#### **4.1.3 Target Respondents**

Senior level management and Managers are selected as the respondents. This is according to the work of John (1984), who has outlined the importance of selecting knowledgeable informants. The choice of exclusive respondents group is based on the belief that people at these sensitive positions are knowledgeable on international investment projects and overall foreign entry decision process (Kim and Hwang, 1992).

### **4.2 Data Collection**

Many previous empirical studies on foreign entry mode choice have used secondary data for testing hypotheses (Gatignon and Anderson, 1988; Cho and Padmanabhan, 1995). Although using existing data is popular in this field, recent

studies have acknowledged the importance of survey data. Surveys offer the opportunity to gain insight into the management perspective and the factors that influence the mode selection. This research will incorporate survey techniques following the works of Kim and Hwang (1992), Bell (1996), K.S.Ranjan and N. Pangarkar (2000) in the study of entry mode.

The survey will use structured questionnaire, a question that imposes a limit on the number of allowable responses, to collect the primary data from respondents and bring to results of questionnaire to prove hypotheses (Zigmund, 2000).

Surveys are very convenient and inexpensive when a large-scale study is done. The survey questionnaire will be distributed, through direct mail and E-mail and subsequent follow-ups through another mail and telephone interviews if necessary.

### 4.3 Data measurement

This section will explain the operationalization of the various variables and how these variables have been used in the questionnaire.

#### 4.3.1 Research Instrument/ questionnaire

The research instrument/questionnaire was designed based on the works of previous researchers in the current topic of entry mode, namely Kim and Hwang, 1992; Bell, 1996; K.S.Ranjan and N.Pangankar, 2000. The questions are formulated on the design set by Farge & Wells, (1982).

The questionnaire contained questions about the firm and specific questions to measure each variable in this research study. The questionnaire is attached in the *appendix A*.

#### **4.3.2 Operationalization of variables**

The dependent variable is the mode of entry either a Joint venture (JV) or a wholly owned subsidiary (WOS).

**Global strategy:** A proxy variable, export volume of the firm is used to measure this variable. A firm with a global strategy will export its product to be sold worldwide or will export its products to be exchanged with other affiliates of the parent worldwide (Hill et al., 1990). Higher export of the firm signifies a higher level of intrasystem sales, which in turn signifies the existence of a vertical link with the parent firm. Since firms with global strategy attempt to economize on their value-chain activities by gaining economies of scale and scope. Many intrafirm deliveries will take place.

**Diversification** The management's perspective on the difference in the core activities of the firm as compared to the parent company is used to judge the diversification of the firm (Kogut and Singh, 1998).

**International experience:** This variable is measured by the perceived multinational experience (in terms of the number of years of international experience) of the firm (Kogut and Singh, 1992).



**Relative size:** This variable is measured by the respondent's judgment of the size (measured by invested capital) of the firm relative to the parent firm (Kogut and Singh, 1992).

**Firm-specific asset:** The research & development (R&D) expenditure (on sales) of the firm is a good indicator of the contribution of firm-specific asset to the firm (Gatignon and Anderson, 1988). This proxy variable is used to measure the firm specific asset of the MNE.

**Reputation:** The reputation is assessed by the advertising intensity (advertising expenditure on sales) of the firm (Gatignon and Anderson, 1988). The proxy variable advertising intensity of the firm is used to measure the perceived reputation of the firm.

The operationalization of the variables are summarized in *table 4.2*

Table 4.1 Operationalization of the variables

Concept	Conceptual Definition	Operational Component	Type of Measurement	Question in Questionnaire
1. Entry modes	An institutional arrangement for organizing and conducting international business transaction.	<ul style="list-style-type: none"> <li>Joint venture</li> <li>Wholly owned affiliate</li> </ul>	Nominal	Q.2
2. Global Strategy	It implies the strategy to gain advantages of international economies of scale.	The export volume of the firm. Higher the export the more the firm is vertically linked with parent firm.	Ordinal	Q.6
3. International experience	The international experience of the firm to operate in foreign countries.	Perceived level of international experience of the parent firm, based on number of years of international operation.	Ordinal	Q.3
4. Diversification	The extent to which the foreign affiliate manufactures products, different from the parent.	Perceived level of diversification from the parent's core activities	Ordinal	Q.4
5. Relative size	The size of the affiliate relative to the parent firm.	Perceived level of difference in size relative to the parent on basis of invested capital	Ordinal	Q.5
6. Firm-specific assets	The involvement of firm specific asset, such as technology.	The level of research and development intensity.	Ordinal	Q.7
7. Reputation	Reputation of the firm.	The level of advertising intensity of the firm.	Ordinal	Q.8

## 4.4 Data Analysis

### 4.4.1 Statistics used

The Statistical Package for Social Science (SPSS 11.0) will be used to analyze the data. All statistical manipulation of the data will follow commonly accepted research practices.

In order to predict values for the criterion variable (dependent) from the values for the several predictor variables (independent), the Chi-square test will be used to test each hypothesis.

- The first step in data analysis is to describe or summaries the data using descriptive statistics, descriptive statistics permit the researcher to describe meaningfully a set of data consisting of many figures with a small number of indices (Gay & Diehl, 1996)
- The second step involves inferential statistics involving analysis in three stages. First, Chi-square test of independence is done to find out if the sets of dependent variable and independent variable are independent or not. Secondly, if the sets of variables are statistically significant, Cramer's V is calculated to measure the strength of association between the variables and lastly, the contingency table generated from the cross-tabulation from the SPSS 11.0 will be analyzed to determine the influence of each variable on the dependent variable i.e. mode of foreign entry.



Table 4.2: Table of Hypotheses and statistics

Hypothesis	Statistics
H1: MNEs exercising global strategy prefers a wholly owned subsidiary.	Chi –square test
H2: MNEs with higher international experience is likely to choose a wholly owned subsidiary.	Chi –square test
H3: MNEs representing a diversification from the parent prefers a joint venture.	Chi –square test
H4: Relatively large affiliates of the MNEs increases the preference for joint venture.	Chi –square test
H5: Transfer of firm specific asset to the foreign venture will lead to preference of wholly owned subsidiary by the MNEs.	Chi –square test
H6: The stronger the reputation of the MNEs, will lead to preference of wholly owned subsidiary.	Chi –square test

4.4.2 Statistical Interpretation

The Chi-square test of independence is useful to study the underlying relationship between two variables. The test creates a table of contingency for the variables, row wise and column wise. The chi-square test is based on calculation of the expected cell counts and the actual observed cell counts.

The expected cell count of cell (ij) is calculated by multiplying the probability under independence if an observation falling into cell (ij) by the total sample size.

$$E_{ij} = N * \frac{\text{count in row } i}{N} * \frac{\text{count in row } j}{N}$$
$$= \frac{(\text{count in row } i) (\text{count in row } j)}{N}$$

To measure the independence among the variables tested in this research *Pearson Chi-square* is calculated. It is calculated by summing over all cells the squared residuals divided frequencies.

$$\chi^2 = \sum_i \sum_j \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

The calculated chi-square is compared to the critical points of the theoretical chi-square distribution to produce an estimate of how likely (or unlikely) this calculated value is if the two variables are in fact independent.

In this research study the hypothesis that the two variable compared are independent will be rejected if the test is significant at the 5 percent level of significance.

Cramer's *V* is a good measure of the degree of association between two variables. It is based on chi-square statistics. It tells whether or not two variables are related to each other. Cramer's *V* ranges in value from 0 to 1.0, the higher the number the more strongly two variables are related to each other. It compares the observed table with the one expected under no relationship and standardizes this comparison eliminating the effect of sample size (*N*) and the size and shape of the table (Norusis, M.J, 1999).

$$V = \sqrt{\frac{\chi^2}{N(k-1)}}$$

Where *k* is the smaller of the number of rows and columns and;

$$\chi^2 = \sum_i \sum_j \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

The calculated Cramer's  $V$  is tested at 5 percent level of significance to find out if there is any association between the variables and if any, how strong is the association between the variables compared.

In this research study the hypothesis that there is no association between the two variables will be rejected if the test is significant at the 5 percent level of significance, i.e. there is an association between the variables.





## Chapter 5:

### Data Analysis

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The purpose of this study was to analyze the influence of strategic, competence and cost variables on the foreign entry mode. This chapter discusses the descriptive analysis of the sample in section 5.1 and then the inferential analysis of the data using Chi-square test will be presented in the following section 5.2.

#### 5.1 Profile of the Sample

The initial mailing of the questionnaire to the 198 companies identified in the sample resulted in 69 (34.84%) sets of responses. A second set of questionnaires was mailed to the all non-responding companies. A telephone call was made in advance to each of the individual non-responding companies in order to give them the information about the questionnaire.

The second attempt resulted in an additional 71 responses. Thus, a total of 140 (70.7%) sets of filled questionnaires were received, which was used in the analysis of the data.

A Chi-square goodness of fit test was run to determine if the responses received were representative of the total population. Industry/sector wise distribution was used in the analysis in order to avoid an over representation of any particular industrial sector.

The Chi-square analysis of the proportions of respondents by industry sector resulted in a value of 5.429 at the .05 level of significance with a critical value of 9.49. The null hypothesis was retained as the computed chi-square value did not exceed the critical value of 9.49 (*refer appendix B*). Thus, the balance of the proportion was achieved industry-wise.

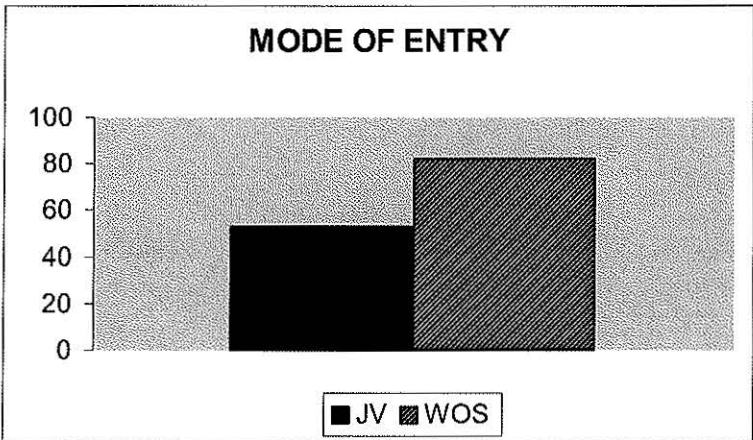
The sectors with the largest and the smallest percentage of respondents respectively were machinery and equipments (25%) and food and consumer goods (15%).

**Table 5.1 Distribution of Respondents by Industry sector**

Industry sector	Respondents	
	N	%
Food and Consumer goods	21	15.0
Minerals and Chemicals	25	17.9
Machinery and Equipment	35	25.0
Electric and Electronic products	34	24.2
IT, Software and Networking	25	17.9
<b>TOTAL</b>	<b>140</b>	<b>100.0</b>

The entire population of 198 U.S. companies promoted by the BOI was surveyed in this study. Statistical results were analyzed using the 140 response sets. Of that number, 53 (37.9%) were joint ventures and 87 (62.1%) were wholly owned subsidiaries as illustrated in *figure 5.1*. Thus, it was noticed that U.S firms had higher probability to setup wholly owned subsidiary than a joint venture.

Figure 5.1 Distribution of Respondents by Modes of Foreign Entry



5.2 Results of the Hypotheses Test

The central question of this study was concerned with measuring the nature and extent of association between the three variables namely, strategic, competence and cost and the foreign entry mode decision. For testing the entire hypotheses, Pearson’s chi-square and Cramer’s V was used.

Hypothesis 1 stated: MNEs exercising global strategy prefers a wholly owned subsidiary.

Data were analyzed using a proxy variable; export volume, to measure the strategy of the company. As discussed in previous chapters, an affiliate with a high export volume signifies a high level of vertical integration with the parent company. Thus, it means that affiliates with high export volume are pursuing a global strategy of the parent firm.



The export volume was expressed in percentage, in four categories labeled “none” “1-15” “15-40” and “40 and over”. The computed chi-square value was 26.665 (*table 5.2*) at the 0.05 level of significance with a critical value of 7.82. Thus, the null hypothesis was rejected, signifying that foreign entry mode and global strategy are statistically significant. Global strategy influenced the preference between WOS and JV as alternative modes of foreign entry.

**Table 5.2 Chi square values for Global Strategy by Mode of Foreign Entry**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.665 <sup>a</sup>	3	.000
Likelihood Ratio	27.303	3	.000
Linear-by-Linear Association	16.483	1	.000
N of Valid Cases	140		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.19.

To measure the strength of association between the variables Cramer’s V statistics was calculated. The computed value of 0.436 (*table 5.3*) shows a rather strong association between the two variables.

**Table 5.3 Cramer’s V value for Mode and Global Strategy**

	Value	Approx. Sig.
Nominal by Phi	.436	.000
Nominal Cramer’s V	.436	.000
N of Valid Cases	140	

The global strategy of the MNE had an influence on the choice between a wholly owned subsidiary and a joint venture. *Table 5.4* provides a contingency table of the variables: mode of foreign entry and global strategy, with the expected and the

observed counts. Out of 78 cases that scored under export volume of “40 and over”, 63 (80.77%) were wholly owned subsidiaries exceeding the expected counts of 48.5 generated by the statistical analysis. Thus, it is observed that there is a higher probability for the MNEs to setup wholly owned subsidiary when the parent is pursuing a global strategy.

**Table 5.4 Contingency table for Entry Mode and Global strategy**

			Global Strategy				Total
			None	1-15	15-40	40 and over	
MODE	JV	Count	12	11	15	15	53
		Expected Count	8.0	7.2	8.3	29.5	53.0
	WOS	Count	9	8	7	63	87
		Expected Count	13.1	11.8	13.7	48.5	87.0
Total		Count	21	19	22	78	140
		Expected Count	21.0	19.0	22.0	78.0	140.0

Explanation: the results from the analysis are in line with the findings of Kim & Hwang (1992). From the results we see that there is a higher tendency for establishing wholly owned subsidiary when a firm is pursuing a global strategy. Centralized coordination is required to take the maximum advantage of the economies of scale. Thus, the reason for the preference of a wholly owned subsidiary in case of a global strategy is that, the wholly owned subsidiary provides the parent company with full control over the affiliate, so it will enable the parent to maintain the desired control and influence over the operations of the affiliate.

Hypothesis 2 stated: MNEs with higher international experience is likely to choose a wholly owned subsidiary.

The international experience of the parent companies were measured in number of years, four different categories were identified “ less than 1 yr” “1-5 yrs” “5-10 yrs” and “over 10 yrs”. The respondents did not score on the first category i.e. “less than a yr”; as a result to maintain the internal validity of the analysis, the category was omitted from the analysis and a new category was created “0-5 yrs”. Thus the Chi square analysis was made on the three categories “0-5 yrs”, “5-10yrs” and “over 10 yrs”.

The Chi-square analysis resulted in a value of 37.122 (*table 5.5*) at the 0.05 level of significance with a critical value of 5.99. The null hypothesis was rejected signifying that foreign entry mode and international experience are statistically significant. International experience influenced the preference between wholly owned subsidiary and joint venture as alternative modes of foreign entry.

**Table 5.5 Chi square values for International Experience by Mode of Foreign Entry**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.122 <sup>a</sup>	2	.000
Likelihood Ratio	39.200	2	.000
Linear-by-Linear Association	35.441	1	.000
N of Valid Cases	140		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.09.

The computation of Cramer’s V resulted in a value of 0.515 (*table 5.6*) significant at the 0.05 level. It shows that there is a strong association between the two sets of variables.



**Table 5.6 Cramer's V value for Mode and International Experience**

		Value	Approx. Sig.
Nominal by Nominal	Phi	.515	.000
	Cramer's V	.515	.000
N of Valid Cases		140	

Years of international experience have an effect on the preference between a wholly owned subsidiary and a joint venture. From the *table 5.7* we see, that firms with higher international experience tend to set up wholly owned subsidiary and prefer a joint venture in case of low international experience.

Out of 71 cases that scored in the category “over 10 yrs” 61 (85.9%) were wholly owned subsidiaries. The observed count (61) for wholly owned subsidiary is more than the expected count (44.1). Whereas, 18 (75%) companies scored under the category “0- 5 yrs” were joint ventures. Thus it can be concluded that firms with higher international experience prefer a wholly owned subsidiary, whereas if the experience is less they prefer a joint venture.

**Table 5.7 Contingency table for Entry Mode and International Experience**

			International Experience			Total
			0-5 yrs	5-10 yrs	Over 10 yrs	
MODE	JV	Count	18	25	10	53
		Expected Count	9.1	17.0	26.9	53.0
	WOS	Count	6	20	61	87
		Expected Count	14.9	28.0	44.1	87.0
Total		Count	24	45	71	140
		Expected Count	24.0	45.0	71.0	140.0

Explanation: the reason for firm’s preference for a wholly owned subsidiary when the firm is highly experienced is that, over time and experience, firms learn how to deal

with unknown situations. They gain experience in managing external and internal uncertainties when operating in foreign countries. Experienced firms are better placed to assess the foreign norms and values, foreign legislations and other foreign requirements. Thus, they are better placed to negotiate with the host government. An experienced firm is able to commit more resources without the risk of loss. On the contrary, a joint venture provides the company with a partner firm who has all the knowledge to operate in the local context. Many previous empirical studies have confirmed these findings (Aggrawal and Ramaswami, 1992; Gatignon and Anderson, 1988).

Hypothesis 3 stated: MNEs representing a diversification from the parent prefers a joint venture.

The respondents were asked to identify if the company were diversified from the parent or not. The perceived levels of diversification were determined in three categories: “not at all”, “some” and “very much”.

From *table 5.8*, we see that the chi-square resulted in a two by three matrix with 16.7% of the cells with expected frequencies less than five. A rate of over 20.0% threatens the validity of the analysis (Norusis, 1999). Since the results were within the safe zone of under 20%, the results have been analyzed.

Table 5.8 Chi square values for Diversification by Mode of Foreign Entry

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.263 <sup>a</sup>	2	.000
Likelihood Ratio	17.760	2	.000
Linear-by-Linear Association	16.317	1	.000
N of Valid Cases	140		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.79.

The calculated chi-square value of 17.263 (table 5.8) exceeds the critical value of 5.99 at the 0.05 level of significance. Thus, the null hypothesis was rejected, implying that diversification and the mode of foreign entry are statistically significant.

The value of 0.351 for the calculated Cramer's V (table 5.9) signifies a mild relationship between the two variables. Diversification influenced the preference between a wholly owned subsidiary and a joint venture as alternative modes of foreign entry.

Table 5.9 Cramer's V value for Mode and Diversification

	Value	Approx. Sig.
Nominal by Phi	.351	.000
Nominal Cramer's V	.351	.000
N of Valid Cases	140	

From table 5.10, we see that out of the 9 companies that scored under "very much" diversified, 8 companies were joint venture and only 1 is a WOS. There is preference for joint ventures when the company represents diversification from its parent firm. 37 companies scored under the category "some" diversification and it



was evenly distributed with 19 companies as wholly owned subsidiaries and 18 as joint ventures. Out of 93 companies that scored on the category “ not at all” diversified, 67 (72%) companies were wholly owned subsidiaries Thus, it can be concluded that there is a higher probability to setup joint ventures when the affiliate is diversified from the parent firm.

**Table 5.10 Contingency table for Entry Mode and Diversification**

			Diversification			Total
			Not at all	Some	Very much	
MODE	JV	Count	26	18	9	53
		Expected Count	35.2	14.0	3.8	53.0
	WOS	Count	67	19	1	87
		Expected Count	57.8	23.0	6.2	87.0
Total	Count		93	37	10	140
	Expected Count		93.0	37.0	10.0	140.0

Explanation: the results are as predicted, there are more probability to setup joint ventures when the firms are diversified, but a concrete conclusion cannot be made because the counts for diversified firms are very few (only 10 firms). Regardless, it confirms the findings of Padmanabhan and Cho (1996), that diversification increases the probability for a joint venture. The reason being that a diversified firm will not have the sufficient knowledge and expertise to operate in areas outside it core activities. The time and costs involved in developing knowledge and expertise in new activities are costly and time consuming, thus, it is beneficial for a firm to locate a local partner which will provide the firm with all the lacking knowledge or complementary resources, such as product specific know-how or access to distribution etc.

Hypothesis 4 stated: Relatively large affiliates of the MNEs increase the preference for joint venture.

The perceived difference in the relative size of the affiliate with the parent firm was measured in three different categories, i.e. “small”, “medium” and “large”.

The computed value of Chi Square was 5.885 (*table 5.11*), which did not exceed the critical value of 5.991 at 0.05 level of significance. Thus, the null hypothesis was retained, signifying no significant relationship between the mode of foreign entry and the relative size of the affiliate.

**Table 5.11 Chi square values for Relative size by Mode of Foreign Entry**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.885 <sup>a</sup>	2	.053
Likelihood Ratio	5.737	2	.057
Linear-by-Linear Association	5.652	1	.017
N of Valid Cases	140		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.54.

Hypothesis 5 stated: Transfer of firm specific asset to the foreign venture will lead to preference of wholly owned subsidiary by the MNEs.

A proxy variable R&D expenditure was used to measure the firm specific asset of the firm. Respondents were asked to measure the perceived level of R&D expenditure expressed in percentage to sales. Four different categories were recognized, “0-2.5”, “2.5-5”, “5-10” and “10 and over”.

Running the chi square analysis resulted in a two by four matrix with a range of 25% to 33.3 % of the cells with expected frequencies less than five. A rate of over 20% threatens the validity of the analysis (Norusis, 1999). Thus, to maintain the

validity of the analysis the category “5-10” and “10 and Over” were merged to form a new category “5 and over”. Hence, the analysis was run again leading to the following findings: the chi square value was computed to be 21.818 (*table 5.12*), which exceeded the critical value of 5.99 at the 0.05 level of significance. The null hypothesis was rejected, implying that firm specific asset and the foreign entry mode are statistically significant.

**Table 5.12 Chi square values for Firm-specific Asset by Mode of Foreign Entry**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.818 <sup>a</sup>	2	.000
Likelihood Ratio	26.554	2	.000
Linear-by-Linear Association	21.167	1	.000
N of Valid Cases	140		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.60.

The calculated Cramer’s V value of 0.395 (*table 5.13*) shows a relatively strong association between the two variables, signifying that transfer of firm-specific asset has an influence on the preference between a wholly owned subsidiary and a joint venture as alternative modes of foreign entry.

**Table 5.13 Cramer’s V value for Mode and Diversification**

	Value	Approx. Sig.
Nominal by Phi	.395	.000
Nominal Cramer's V	.395	.000
N of Valid Cases	140	

From *table 5.14* we see that there was an almost equal case of joint ventures and wholly owned subsidiaries in the first category representing the least transfer of



assets. And as the R&D expenditure increases, more counts for wholly owned subsidiaries are noticed than for joint ventures. 27 (96.42%) companies that scored under the category “over 5” percent were wholly owned subsidiaries. Thus, it implies that a higher transfer of firm-specific asset to the subsidiary will lead to the preference for a wholly owned subsidiary.

**Table 5.14 Contingency table for Entry Mode and Firm-specific Asset**

			Firm-specific Asset			Total
			0-2.5 Percent	2.5-5 Percent	Over 5 Percent	
MODE	JV	Count	35	17	1	53
		Expected Count	24.2	18.2	10.6	53.0
	WOS	Count	29	31	27	87
		Expected Count	39.8	29.8	17.4	87.0
Total	Count	64	48	28	140	
	Expected Count	64.0	48.0	28.0	140.0	

Explanation: the results are as predicted, there is a high proportion of wholly owned subsidiary when there is a greater degree of transfer of firm-specific asset. The reason being that a firm will prefer full control over its affiliate if it perceives high risks of opportunism from the potential partners. Previous empirical studies have confirmed the findings (Gatignon and Anderson, 1988) that have made similar analysis using advertising intensity as a proxy to measure the transfer of firm-specific asset.

Hypothesis 6 stated: The stronger the reputation of the MNEs, will lead to preference of wholly owned subsidiary.

A proxy variable advertising expenditure in percentage of sales was used to measure the reputation of the firm. The respondents perceived level of reputation of the firm was measured using four categories, namely, “0-1”, “1-7”, “7-15” and “15 and over”.

The chi square analysis resulted in a matrix with a range of 25%-33.3% cells with expected frequencies less than five. Thus to maintain the validity, the category “7-15” and “15 and over” were merged to form a new category “7 and over”, thus, analysis were run using the three set of categories only.

Again, the computed chi square had ranges of 16.75 of cells with frequencies less than five, but since it was within the acceptable limit. The results were deemed to be valid. The chi square value was computed to be 10.650, which exceeded the critical value of 5.991 (*table 5.15*) at the 0.05 level of significance. The null hypothesis was rejected, implying that reputation and the foreign entry mode are statistically significant.

**Table 5.15 Chi square values for Reputation by Mode of Foreign Entry**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.650 <sup>a</sup>	2	.005
Likelihood Ratio	15.060	2	.001
Linear-by-Linear Association	9.771	1	.002
N of Valid Cases	140		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.92.

The calculated Cramer’s V value of 0.276 (*table 5.16*) shows an association between the two variables, but a rather weak one as represented by the value, which is closer to zero.

**Table 5.16 Cramer’s V value for Mode and Reputation**

		Value	Approx. Sig.
Nominal by Nominal	Phi	.276	.005
	Cramer's V	.276	.005
N of Valid Cases		140	

*Table 5.17* shows that there is concentration of the responding companies in the category “0-1” percent with a slight higher number of counts for wholly owned subsidiaries. Whereas, a remarkable concentration of wholly owned subsidiaries are noticed as the advertising level increases, or in other words as the companies are investing more to improve or maintain their reputation. 13 (100%) companies scored under the category “over 7” percent. Thus, from the analysis it can be concluded that as the firms invest more on reputation, they prefer to establish a wholly owned subsidiary than a Joint venture.

**Table 5.17 Contingency table for Entry Mode and Reputation**

			Reputaion			Total
			0-1 Percent	1-7 Percent	Over 7 Percent	
MODE	JV	Count	41	12	0	53
		Expected Count	34.1	14.0	4.9	53.0
	WOS	Count	49	25	13	87
		Expected Count	55.9	23.0	8.1	87.0
Total		Count	90	37	13	140
		Expected Count	90.0	37.0	13.0	140.0



Explanation: the results are as predicted, firm spending more on building a good reputation shows more probability of setting up wholly owned subsidiary rather than a joint venture. Joint venture creates a potential risk of free riding from the local partner i.e. the firm may take advantages of the reputation of the partner firm without bearing any costs (Anderson and Gatignon, 1986). The firm may gain short-term profits by making low-quality products, and sell them under the brandname of the latter firm. As a result it will deteriorate the firm's reputation. Thus, when there is high perceived potential for free ridings, then wholly owned subsidiaries are preferred more as it provides the firms with full control over its operations.



**Table 5.18 Summary of Results from Hypothesis Testing**

Hypothesis	Statistical Test	Value	Result
H1: MNEs exercising global strategy prefers a wholly owned subsidiary.	<ol style="list-style-type: none"> <li>1. Pearson's Chi-square</li> <li>2. Cramer's V</li> <li>3. Analysis of contingency table</li> </ol>	<ol style="list-style-type: none"> <li>1. 26.665 (greater than critical value of 7.82)</li> <li>2. 0.436</li> </ol>	<ol style="list-style-type: none"> <li>1. Reject null hypothesis (foreign entry mode and global strategy are statistically significant)</li> <li>2. Strong association between variable</li> <li>3. Higher probability for wholly owned subsidiary when the firms are pursuing a global strategy.</li> </ol>
H2: MNEs with higher international experience is likely to choose a wholly owned subsidiary.	<ol style="list-style-type: none"> <li>1. Pearson's Chi-square</li> <li>2. Cramer's V</li> <li>3. Analysis of contingency table</li> </ol>	<ol style="list-style-type: none"> <li>1. 37.122 (greater than critical value of 5.99)</li> <li>2. 0.515</li> </ol>	<ol style="list-style-type: none"> <li>1. Reject null hypothesis (foreign entry mode and international experience are statistically significant)</li> <li>2. Strong association between variables</li> <li>3. Higher probability for wholly owned subsidiary when the firm are highly experienced.</li> </ol>
H3: MNEs representing a diversification from the parent prefers a joint venture.	<ol style="list-style-type: none"> <li>1. Pearson's Chi-square</li> <li>2. Cramer's V</li> <li>3. Analysis of contingency table</li> </ol>	<ol style="list-style-type: none"> <li>1. 17.263 (greater than critical value of 5.99)</li> <li>2. 0.351</li> </ol>	<ol style="list-style-type: none"> <li>1. Reject null hypothesis (foreign entry mode and diversification are statistically significant)</li> <li>2. Mild association between variables</li> <li>3. Higher probability for joint ventures, when the firms are diversified from the parent firm.</li> </ol>

Hypothesis	Statistical Test (3 stage)	Value	Result
H4: Relatively large affiliates of the MNEs increases the preference for joint venture.	<ol style="list-style-type: none"> <li>1. Pearson's Chi-square</li> <li>2. Cramer's V</li> <li>3. Analysis of contingency table</li> </ol>	<ol style="list-style-type: none"> <li>1. 5.885 (less than critical value of 5.991)</li> <li>2. N/A</li> </ol>	<ol style="list-style-type: none"> <li>1. Accept null hypothesis (foreign entry mode and relative size of affiliate are not statistically significant)</li> </ol>
H5: Transfer of firm specific asset to the foreign venture will lead to preference of wholly owned subsidiary by the MNEs.	<ol style="list-style-type: none"> <li>1. Pearson's Chi-square</li> <li>2. Cramer's V</li> <li>3. Analysis of contingency table</li> </ol>	<ol style="list-style-type: none"> <li>1. 28.818 (greater than critical value of 5.99)</li> <li>2. 0.395</li> </ol>	<ol style="list-style-type: none"> <li>1. Reject null hypothesis (foreign entry mode and firm specific asset are statistically significant)</li> <li>2. Relatively strong association between variables</li> <li>3. Higher probability for wholly owned subsidiary when there is high degree of transfer of firm specific asset.</li> </ol>
H6: The stronger the reputation of the MNEs, will lead to preference of wholly owned subsidiary.	<ol style="list-style-type: none"> <li>1. Pearson's Chi-square</li> <li>2. Cramer's V</li> <li>3. Analysis of contingency table</li> </ol>	<ol style="list-style-type: none"> <li>1. 10.650 (greater than critical value of 5.99)</li> <li>2. 0.276</li> </ol>	<ol style="list-style-type: none"> <li>1. Reject null hypothesis (foreign entry mode and Reputation are statistically significant)</li> <li>2. Relatively weak association between variables</li> <li>3. Higher probability for wholly owned subsidiaries, when the firms are investing more on reputation.</li> </ol>



## Chapter 6:

# Conclusions & Recommendations

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This last chapter has covered the summary of findings of this study in section 6.1. The conclusion of the study is presented in section 6.2. The conclusions form the basis for the discussions and recommendations, presented in section 6.3. Finally, section 6.4 has focused on some suggestions for further research.

### 6.1 Summary of Findings

The first hypothesis that firms with global strategy prefer a wholly owned subsidiary to a joint venture when entering a foreign market is supported by the results in the analysis. The analysis revealed that a higher control (WOS) would be preferred to a less control in case global synergies can be achieved. Global strategy of the firm can be attained only if the parent firm is able to make some centralized decisions, and this is possible if the parent firm has high control over its affiliates. Thus, these results support the picture presented by Kim and Hwang (1992) where they suggested higher control modes in case of a global strategy.

A significant relationship was found to exist between years of international experience and the mode of foreign entry (hypothesis 2). As expected, firms with higher international experience tend to setup wholly owned subsidiary rather than a joint venture. Experienced firms are familiar with operating in a foreign environment and to adapt to the local contingencies. Thus, firms with higher international experience are willing to assume more risk and setup wholly owned subsidiaries.

These findings are comparable to the findings of previous studies (Gatignon and Anderson, 1988; Madhok, 1994; Bell, 1996).

Hypothesis 3 was also established, firms representing diversification from the parent firm preferred to setup joint ventures than wholly owned subsidiaries. There were more instances of a joint venture when the respondents scored that the firm is diversified from the parent firm. It is in line with the study by Padmanabhan and Cho, (1996), where they found that an affiliate diversified prefers to be a joint venture and share their resources and capabilities such as to benefit from the venture and minimize the agency costs for establishing a wholly owned subsidiary.

Unexpectedly the relative size of the affiliate (hypothesis 4) was insignificant. For both joint ventures and wholly owned subsidiaries the relative size of the subsidiaries may be much smaller than the U.S. parent firms thus implying that managing the subsidiary, either on a shared basis or a sole basis was feasible for the parent.

The hypothesis 5, that the specificity of the assets increases the probability for WOSs is also supported. It shows that WOSs are better mechanisms than JVs to prevent the misappropriation of the specific know-how. The results support the finding of Bell (1996), where he concluded that wholly owned subsidiaries are better preferred when there is high transfer of firm-specific asset to the subsidiary by the parent firm.

As expected in hypothesis 6, the firm's reputation has a significant effect on the choice of entry mode. The analysis showed higher probability for establishing a wholly owned subsidiary when there is reputation at stake. Firms that have a good

image and reputation attempt to protect themselves from opportunistic behavior of the partners firm. To prevent these negative externalities of cooperation, firms that have invested heavily in building reputation, prefer to have a wholly owned subsidiary. This result supports the finding made by Anderson and Gatignon (1986) and Bell (1996).

## 6.2 Conclusions

This study investigated the foreign entry mode choice of U.S multinationals in Thailand. More specifically, it focused on factors that affect the choice between two forms of equity modes of foreign market entry: Joint venture and wholly owned subsidiary. The selection of the mode used to enter a foreign country is an important, but complex strategic decision. Many factors influence this selection process. This research study has analyzed three specific groups of variables as described earlier in section 3.2.2.

The analysis for the possible impact of the factors relevant to the foreign entry mode choices was built on, first, the literature, both the theoretical and empirical, was reviewed. Second, an empirical study was conducted to test the hypotheses that were formulated based on the literature review.

A survey was done among U.S. MNEs, who had setup operations in Thailand with the BOI promotional privileges. The response to this study resulted in a total of 140 observations (53 JVs and 82 WOSs). These findings of higher number of wholly owned subsidiaries compared to joint ventures setup by the U.S. MNEs suggest that the U.S. MNEs prefer to setup wholly owned subsidiaries than joint ventures. This



finding was also concluded by Stopford and Wells (1972), where he found that the U.S. multinationals preferred to establish WOS rather than a JV when feasible.

Data collected from the survey was used to analyze the impact of six variables on the foreign entry mode decision. The hypotheses were tested using the chi-square test: Pearson's chi-square and Cramer's V as a basis for interpretation. All the results except for relative size of the affiliate were as per predicted.

The choice of foreign entry mode is a crucial decision for the success of the operation overseas. Thus, it is utmost important to invest time and money to investigate and evaluate the relevant variables before making the choice of the foreign entry mode. Every situation has a unique attribute, thus the results should be interpreted adjusting to a particular situation. More attention should be given to the variables that are most relevant to a particular situation and divide the time on less important ones. This research study will be a useful guideline for selecting the right mode of entry.

## 6.3 Discussions & Recommendations

### Discussions

From the analysis present in the previous chapter, it has been seen that the U.S. MNEs prefer to invest in Thailand more by the means of a wholly owned subsidiaries. One reason maybe that U.S companies are big and financially strong, so they are not least concerned about the financial aspect of setting up a wholly owned subsidiary, as it provides full control over the affiliate.

The U.S firms are presumably rich in technological base. Thailand, on the other hand is suffering from low transfer of technology. The reason being that the U.S MNEs try to setup wholly owned subsidiaries when the government allows, because they want to protect their firm-specific asset from the perceived high level of opportunism from the potential partners.

On the other hand, when there is marginal transfer of firm-specific asset to the affiliate, implying that the U.S firms are investing in Thailand to utilize the local resources and labor, it is seen that that the joint ventures provide more benefits to the MNEs.

### **Recommendations to the managers**

In this new era of global economies and sophisticated technologies, the theme proves to be the minimization of risk and costs and the long-term efficiency of the firm and its survival. This research has concluded that the most important factors that influence the choice of the entry mode are the global strategy of the firm, firm-specific asset and the reputation of the firm. Managers are thus, advised to evaluate each of these factors thoroughly before making their choice of the foreign entry mode.

In cases where firms have new products or have benefited from product patents, the retention of control may be a prime objective in choosing a foreign entry mode. In such cases, control overrides concerns regarding market share and profits. For example, Pharmaceutical and technology based firms are intensive users of product patents. The firm may wish to protect a new technology by restricting its use to certain applications that the firm can control, and this is only possible through high

degree of control over the affiliate. Thus, the results of this research advises the managers that wholly owned subsidiary as the ideal choice because it provides the firm with full control over the affiliate

Transaction costs also influence the choice of entry modes. In situations where firms have invested heavily in R&D activity to develop technically sophisticated products are keen to protect their investment, and particularly more in foreign markets. Elimination of the transaction costs will ensure that these firms obtain acceptable returns on their investment in manufacturing and marketing. In such situations, managers are advised that wholly owned subsidiaries are the best choice of mode of entry as they reduce the transactions costs involved.

### **Recommendations to the policy makers**

This study shows that firms engaged in high technology and high advertising intensive sectors are sensitive to investment/contractual risks related attributes. Thus, the Thai government and the BOI should develop policies that make it attractive for foreign firms to invest in the Thai market. More importantly, the government should reduce the risk perceptions through regulations that permit majority ownership and control, patent protection for technology and enforcement of contracts. From the Thai government's perspective, it should be noted that, regardless of the stage of economic development of the country, policy variables that reduce the risk would have a positive impact on inward foreign direct investment and technology transfer.



## 6.4 Suggestions for Further Research

Like all researches, this research also possesses some limitations to the study. These limitations are very interesting to investigate, but are beyond the scope of this study. Thus, these issues will be presented as suggestions for future research in this section.

First, this research focuses on firms from only one country of origin i.e. United States of America and their investments in Thailand. Thus, it would be highly interesting to test this study for firms from different home countries and investing in Thailand. Furthermore, study on different or multiple host country would be an interesting extension to the study as every country differs in policy for foreign investments, which might have a different impact on the choice of foreign entry mode.

Secondly, this study is focused only on joint venture and wholly owned subsidiary as alternative modes of entry. It would be an interesting extension if the study could include different levels of joint ventures such as majority and minority participation or study based on the level of equity participation.

Finally, this research could be extended by including more variables to the study. For example, host country related factors, such as the government policy, host country risks, level of welfare etc, and the cultural diversity between the host and the home country.

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# *Appendices*



# Questionnaire

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**Name of firm:**

**Number of employees:**

**Name of parent firm:**

**1. Industry/sector of operation:**

- ☐ Minerals and Chemicals
- ☐ Food and Consumer goods
- ☐ Metal Products and Machinery
- ☐ Electric and electronic products
- Others (please specify) \_\_\_\_\_

**2. What best explains the type of your firms' establishment in Thailand?**

- ☐ Joint venture
- ☐ Wholly owned subsidiary
- Others (please specify) \_\_\_\_\_

**3. How much experience does your parent firm have with international operation (measured by years of international operation)?**

- ☐ Less than 1 yr
- ☐ 1-5 yrs
- ☐ 5-10 yrs
- ☐ Over 10 yrs

**4. To what extent the core activities of your firm differ from your parent firm?**

- ☐ Not at all
- ☐ Some
- ☐ Very much

5. What is the perceived relative size (measured by invested capital) of your firm, compared to the parent firm?

- ☐ Small
- ☐ Medium
- ☐ Large

6. What percentage of the products manufactured by your firm is exported out of Thailand?

- ☐ None
- ☐ 1 –15 percent
- ☐ 15 --40 percent
- ☐ 40 percent and over

7. To what extent does your firm invest in Research and development (measured by percent of R&D expenditure on sales)?

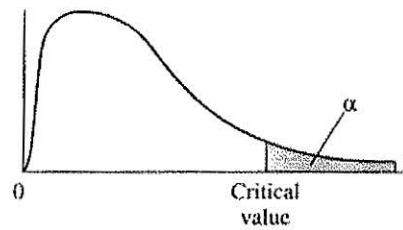
- ☐ 0 – 2.5
- ☐ 2.5 –5
- ☐ 5 --10
- ☐ 10 and over

8. How much does your firm spend on Advertising expenditure (measured by percent of advertising expenditure on sales)?

- ☐ 0--1
- ☐ 1--7
- ☐ 7--15
- ☐ 15 and over

**Thank you for your cooperation.**

EXHIBIT F-3 Critical Values of the Chi-Square Distribution



d.f.	Probability Under $H_0$ that $\chi^2 \geq$ Chi Square				
	.10	.05	.02	.01	.001
1	2.71	3.84	5.41	6.64	10.83
2	4.60	5.99	7.82	9.21	13.82
3	6.25	7.82	9.84	11.34	16.27
4	7.78	9.49	11.67	13.28	18.46
5	9.24	11.07	13.39	15.09	20.52
6	10.64	12.59	15.03	16.81	22.46
7	12.02	14.07	16.62	18.48	24.32
8	13.36	15.51	18.17	20.09	26.12
9	14.68	16.92	19.68	21.67	27.88
10	15.99	18.31	21.16	23.21	29.59
11	17.28	19.68	22.62	24.72	31.26
12	18.55	21.03	24.05	26.22	32.91
13	19.81	22.36	25.47	27.69	34.53
14	21.06	23.68	26.87	29.14	36.12
15	22.31	25.00	28.26	30.58	37.70
16	23.54	26.30	29.63	32.00	39.29
17	24.77	27.59	31.00	33.41	40.75
18	25.99	28.87	32.35	34.80	42.31
19	27.20	30.14	33.69	36.19	43.82
20	28.41	31.41	35.02	37.57	45.32
21	29.62	32.67	36.34	38.93	46.80
22	30.81	33.92	37.66	40.29	48.27
23	32.01	35.17	38.97	41.64	49.73
24	33.20	36.42	40.27	42.98	51.18
25	34.38	37.65	41.57	44.31	52.62
26	35.56	38.88	42.86	45.64	54.05
27	36.74	40.11	44.14	46.96	55.48
28	37.92	41.34	45.42	48.28	56.89
29	39.09	42.56	46.69	49.59	58.30
30	40.26	43.77	47.96	50.89	59.70

SOURCE: Abridged from Table IV of Fisher and Yates, *Statistical Tables for Biological, Agricultural, and Medical Research*, 6th ed., published by Oliver and Boyd Ltd., Edinburgh, 1963. By permission of the publishers.



Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MODE * GSTRAT	140	100.0%	0	.0%	140	100.0%
MODE * IEXEP	140	100.0%	0	.0%	140	100.0%
MODE * DIVER	140	100.0%	0	.0%	140	100.0%
MODE * RSIZE	140	100.0%	0	.0%	140	100.0%
MODE * FASSET	140	100.0%	0	.0%	140	100.0%
MODE * REPT	140	100.0%	0	.0%	140	100.0%

MODE \* GSTRAT

Crosstab

			GSTRAT				Total
			NONE	1-15	15-40	40 ANDOVER	
MODE	JV	Count	12	11	15	15	53
		Expected Count	8.0	7.2	8.3	29.5	53.0
	WOS	Count	9	8	7	63	87
		Expected Count	13.1	11.8	13.7	48.5	87.0
Total		Count	21	19	22	78	140
		Expected Count	21.0	19.0	22.0	78.0	140.0

Chi-Square Tests

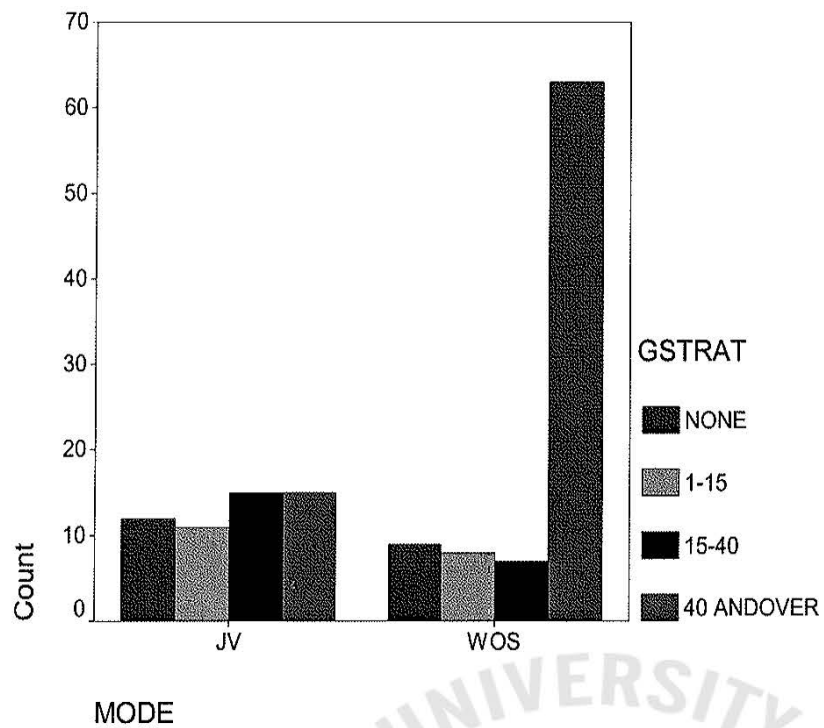
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.665 <sup>a</sup>	3	.000
Likelihood Ratio	27.303	3	.000
Linear-by-Linear Association	16.483	1	.000
N of Valid Cases	140		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.19.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.436	.000
	Cramer's V	.436	.000
N of Valid Cases		140	

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.



## MODE \* IEXEP

Crosstab

			IEXEP			Total
			0-5 YRS	5-10 YRS	OVER 10 YRS	
MODE	JV	Count	18	25	10	53
		Expected Count	9.1	17.0	26.9	53.0
	WOS	Count	6	20	61	87
		Expected Count	14.9	28.0	44.1	87.0
Total	Count	24	45	71	140	
	Expected Count	24.0	45.0	71.0	140.0	

## Chi-Square Tests

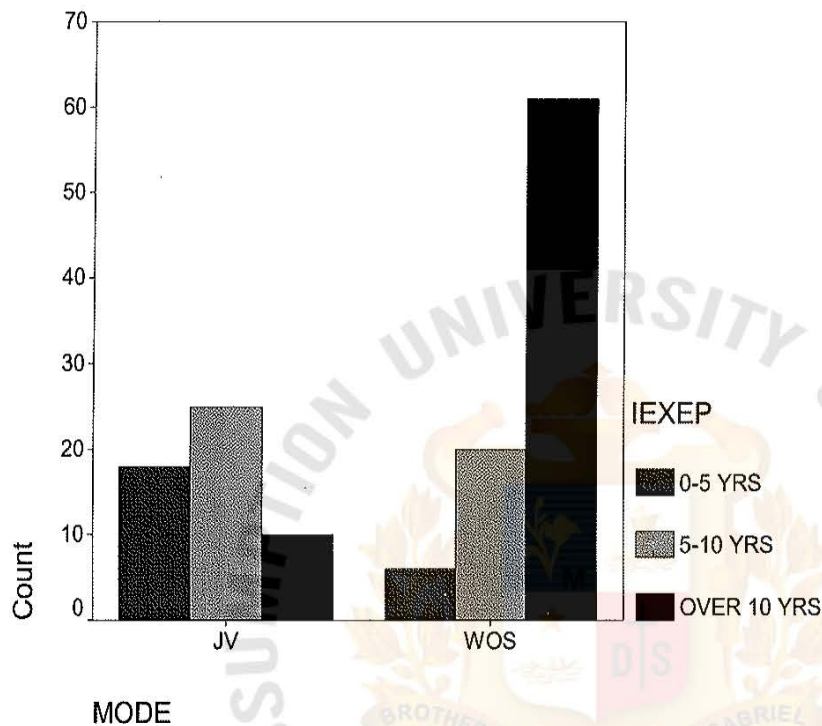
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.122 <sup>a</sup>	2	.000
Likelihood Ratio	39.200	2	.000
Linear-by-Linear Association	35.441	1	.000
N of Valid Cases	140		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.09.

### Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.515	.000
	Cramer's V	.515	.000
N of Valid Cases		140	

- Not assuming the null hypothesis.
- Using the asymptotic standard error assuming the null hypothesis.



**MODE \* DIVER**

**Crosstab**

			DIVER			Total
			NOT AT ALL	SOME	VERY MUCH	
MODE	JV	Count	26	18	9	53
		Expected Count	35.2	14.0	3.8	53.0
	WOS	Count	67	19	1	87
		Expected Count	57.8	23.0	6.2	87.0
Total		Count	93	37	10	140
		Expected Count	93.0	37.0	10.0	140.0



Chi-Square Tests

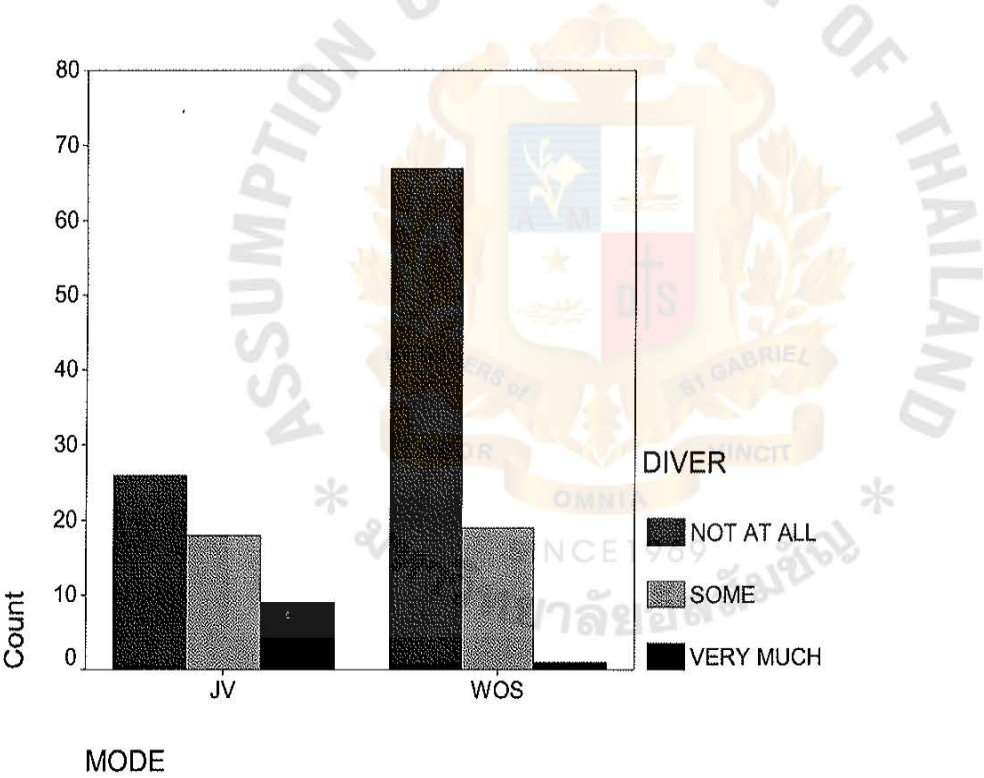
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.263 <sup>a</sup>	2	.000
Likelihood Ratio	17.760	2	.000
Linear-by-Linear Association	16.317	1	.000
N of Valid Cases	140		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.79.

Symmetric Measures

	Value	Approx. Sig.
Nominal by Nominal Phi	.351	.000
Nominal by Nominal Cramer's V	.351	.000
N of Valid Cases	140	

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.



MODE \* RSIZE

Crosstab

			RSIZE			Total
			SMALL	MEDIUM	LARGE	
MODE	JV	Count	33	12	8	53
		Expected Count	38.2	10.2	4.5	53.0
	WOS	Count	68	15	4	87
		Expected Count	62.8	16.8	7.5	87.0
Total		Count	101	27	12	140
		Expected Count	101.0	27.0	12.0	140.0

Chi-Square Tests

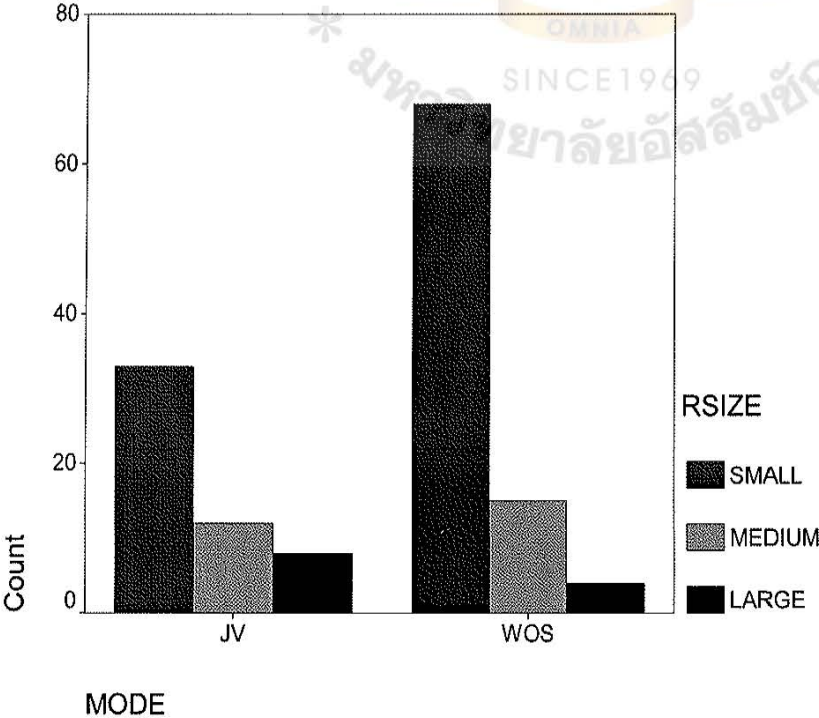
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.885 <sup>a</sup>	2	.053
Likelihood Ratio	5.737	2	.057
Linear-by-Linear Association	5.652	1	.017
N of Valid Cases	140		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.54.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.205	.053
	Cramer's V	.205	.053
N of Valid Cases		140	

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.



MODE \* FASSET

Crosstab

			FASSET			Total
			0-2.5 PERCENT	2.5-5 PERCENT	OVER 5 PERCENT	
MODE	JV	Count	35	17	1	53
		Expected Count	24.2	18.2	10.6	53.0
	WOS	Count	29	31	27	87
		Expected Count	39.8	29.8	17.4	87.0
Total	Count		64	48	28	140
	Expected Count		64.0	48.0	28.0	140.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.818 <sup>a</sup>	2	.000
Likelihood Ratio	26.554	2	.000
Linear-by-Linear Association	21.167	1	.000
N of Valid Cases	140		

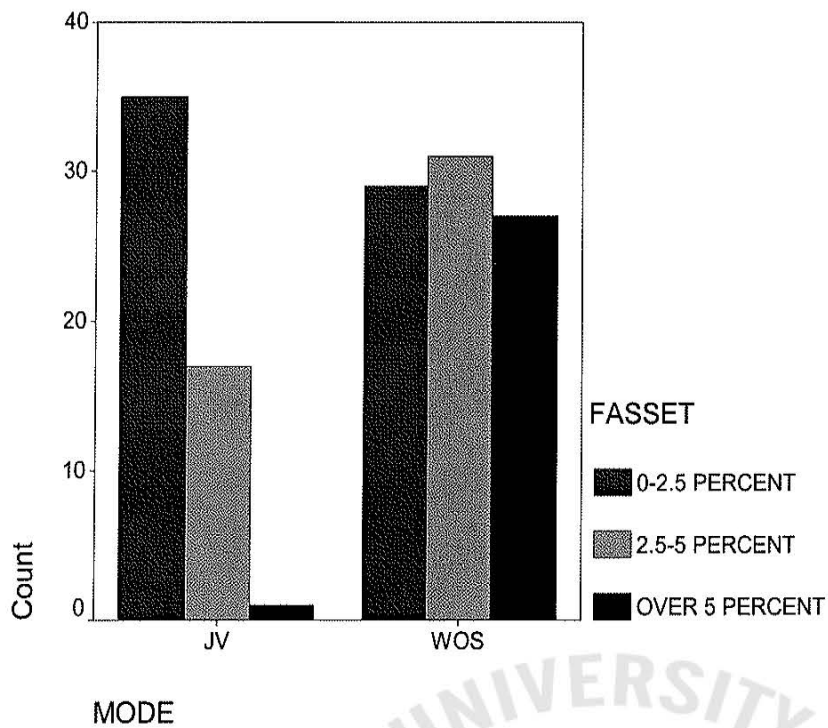
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.60.

Symmetric Measures

		Value	Approx. Sig.
Nominal by	Phi	.395	.000
Nominal	Cramer's V	.395	.000
N of Valid Cases		140	

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.





## MODE \* REPT

Crosstab

			REPT			Total
			0-1 PERCENT	1-7 PERCENT	OVER 7 PERCENT	
MODE	JV	Count	41	12	0	53
		Expected Count	34.1	14.0	4.9	53.0
	WOS	Count	49	25	13	87
		Expected Count	55.9	23.0	8.1	87.0
Total		Count	90	37	13	140
		Expected Count	90.0	37.0	13.0	140.0

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.650 <sup>a</sup>	2	.005
Likelihood Ratio	15.060	2	.001
Linear-by-Linear Association	9.771	1	.002
N of Valid Cases	140		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.92.

Symmetric Measures

		Value	Approx. Sig.
Nominal by	Phi	.276	.005
Nominal	Cramer's V	.276	.005
N of Valid Cases		140	

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis.

