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# How Knowledge Transfer Mode Can be Developed Through Global Business Operation Strategy

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## Abstract

Knowledge transfers within multinational corporations are one of the central themes of knowledge management and are commonly treated as a process of organizational learning. This research views the activities of international expansion on the part of MNCs as a process of knowledge transfer, and investigates the marketing knowledge transfer modes of MNC subsidiaries in Taiwan. Three modes of transfer are widely recognized in the literature: the global knowledge mode, host country knowledge development mode, and the standardized knowledge transfer mode. Independent variables are also developed to explore their causal relationships: global strategy types, market factors, and knowledge characteristics. Results show that the types of global strategy adopted by MNCs clearly explain their selection of the knowledge transfer mode. Further, market similarity and strategic importance are also closely related to the selected transfer mode. Finally, the tacitness of marketing knowledge and the experiences of internationalization also explain the results, but to a lesser extent.

**Keywords:** global strategy, marketing knowledge, knowledge transfer mode

# Global Strategies of Multinational Corporations and the Modes of Marketing Knowledge Transfer

## Introduction

Dramatic shifts in the way businesses are organized and the manner in which they compete have recently been the subject of much attention. These rapid changes in the nature of global competition have driven international managers and management researchers to search innovative ways to approach new challenges, tackle problems and answer questions as to how to manage complex multinational corporations most effectively. This has meant having to develop new theoretical perspectives with which to examine issues, such as those concerning the management of a set of foreign subsidiaries with diverse external environments and a wide range of internal skills and competencies. Researchers in organization theory (Levitt and March, 1988) as well as strategic management (Prahalad and Hamel, 1994) have identified organizational learning as one of the most important subjects for scholarly inquiry. A common thread among network theory (e.g., Ghoshal and Bartlett, 1990), organizational learning (e.g., Hedlund, 1986; 1994), and evolutionary theory (e.g., Kogut and Zander, 1993) is their focus on the multi-relationships within MNCs, and the view that the multinational organization as a whole can greatly benefit from the transfer of resources and competencies within the firm. As international competitive conditions have changed, international management research has, in fact, witnessed a shift away from the traditional view of an hierarchical, product flow from an MNC's headquarters to their subsidiaries and, toward a new perspective in which the multinational organization is viewed as a complex web consisting of a highly differentiated, knowledge flow by way of intra-firm relationships.

This research examines the central role played by global strategies as they relate to the process of knowledge transfer as MNCs expand into international markets. By focusing on one particular type of competency – marketing knowledge, this research departs from past research that has traditionally focused on technology and other technical knowledge transfers. With only a few exceptions (Inkpen and Beamish, 1997), marketing knowledge has yet to receive proper conceptual and empirical attention as a competent source of competitive advantage that can be transferred inside MNCs. Indeed, the strategic significance of marketing knowledge to a firm's international competitiveness warrants closer scrutiny.

The goals underlying the motivations for this study are threefold. The first is to propose the various types of marketing knowledge transfers within MNCs, and their implications for international business. The second core purpose of this research is to examine the relationship between global strategies and the modes of marketing knowledge transfer. Thirdly, this study attempts to determine whether or not the impact

of market factors and knowledge characteristics explored before continue to exist when businesses enter into the knowledge transfer model.

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## Literature Review

### Global Strategy

One of the most important issues of an MNC's international business operations is its decision on its global strategy. Global strategy refers to the corporate competitive principles that are adopted when multinational corporations compete with global competitors and local firms in worldwide markets. It is comprised of the building and operating of the global value chain activities, allocating resources, and of establishing subsidiaries all over the world (Yip, 1995). For the purpose of exerting its full competitiveness, an MNC must establish identical strategic policies for all of its subsidiaries in different host countries in order for it to be able to compete with global competitors from international markets. Yip (1995) asserted that MNCs need to divide the value chain, and decide where to design, manufacture and sell products as well as purchase materials and parts. Developing MNCs' global strategies is the most challenging and complex task that differentiates MNCs from domestic enterprises, and it determines whether MNCs can gain global benefits in global markets.

Managers of MNCs must coordinate the implementation of their firms' strategies among various business units in different parts of the world in different time zones, different cultural contexts and in different economic conditions. MNCs have the ability to exploit three sources of competitive advantages which are unavailable to domestic firms (Bartlett & Sumantra, 1989; Sumantra & Nohria, 1993; Yip, 1995):

1. Global efficiency: multinational firms can improve efficiency through several means inaccessible to domestic firms. For one, they can maximize 'location efficiency' by locating their facilities anywhere in the world that yields them the lowest production and or distribution costs or that best improves the quality of the services they offer their customers. Similarly, they can build factories to serve more than one country, and lower their costs by capturing 'economies of scope'. Finally, by broadening their product lines in each of the countries they enter, international firms may enjoy economies of scope, lower production and marketing costs and enhance their bottom lines. MNCs pursuing global efficiency are regarded as following a "*global integrated strategy*".
2. Multimarket flexibility: As discussed in previous literature, there are wide variations in the political, economic, legal, and cultural environments of countries.

Moreover, these environments are constantly changing: new laws are passed, new governments are elected, economic policies are planned and changed, new competitors enter national markets, and so on. MNCs now face the challenge of responding to such multiple diverse and changing environments. Often firms find it beneficial to empower local managers to quickly respond to such changes. However, unlike domestic firms which operate in and respond to changes in the context of a single domestic environment, international firms may also respond to a change in one country by implementing a change in another. MNCs pursuing multimarket flexibility can be regarded as following a “*multidomestic response strategy*”.

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3. Worldwide learning: The diversity of their operating environments may also contribute to organizational learning on the part of multinational firms, perhaps causing them to operate differently in one country than in another. Aside from this, an astute firm may learn from these differences and transfer this learning to its operations in other countries. MNCs pursuing worldwide learning can be regarded as following a “*home replication strategy*”

Yip (1995) identified five “*strategy levers*” which must be taken into account when developing global strategies: *market participation, product, location of activity, marketing and competitive move*. Given their global strategies, MNCs decide which strategy levers should be globally identical, which one should be slightly modified, and which should be designed completely on the basis of the host country’s needs. MNCs can establish their superior competitiveness and gain sources of differentiation advantages and, subsequently, develop an edge on global competitors.

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### **Knowledge Transfer**

Knowledge transfer capability is one of the most important advantages of MNCs. Through the transfer and adaptation of knowledge, subsidiaries of MNCs build and develop their competitiveness over local firms. Knowledge transfers inside MNCs are also related to theories of organizational learning (Tienessan, 1997), that is, subsidiaries become global nodes by learning effectively and systematically from their parents.

Griffith (2001) indicated that, if trust is to exist between both sides, an effective transfer of knowledge must be dependent on/ the flow of personnel and the recording of complete data between any two units or firms. Once such a system is established, the monitoring costs of the transfer process are substantially reduced, and the process can be accelerated. Tsai (2001) argued that, in the transfer process, the receiver side absorbs knowledge effectively if it occupies the central position of the network of knowledge transfer. Furthermore, the absorbing ability of the receiver is also made more relevant if the receivers are given the capability to absorb, In this way, the knowledge transferred

can be stored and “embedded” inside the organization.

Bonache (2001) found the relationship between knowledge transfer and the personal characteristics of expatriates. By carefully drawing up an expatriation policy, MNCs can make the performance of knowledge transfer more effective. Roberts (2000) stated that with regard to the relationships between the types of technology and modes of knowledge transfer, utilizing information and communication technologies can help deliver the “codified knowledge”, but they seem not work well when delivering “tacit knowledge”. In other words, these two kinds of knowledge are very different in nature and , as such, influence the ways of transfer that should be selected.

Bresman et al.1990) argued that personal communications, visits and meetings are effective ways of delivering tacit knowledge but that they take much time and must be proceeded gradually. More recently, Simonin (1999) proposed a more complete framework and found that the *ambiguity* of knowledge is an important moderator, and the key factors of *ambiguity* of knowledge include cultural distance, prior experience, organizational distance and complexity of knowledge. Investigating joint ventures invested in by western and Chinese corporations, Si and Bruton (1999) reported that the coordination of objectives among investors is not easy, thus, the researchers developed a contingent model to explain knowledge transfer and learning behavior, which reportedly heightens overall satisfaction in the process.

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Basically, subsidiaries can establish their knowledge system in two ways. As for the first and the most frequently employed, knowledge is directly transferred from the parent company, but the critical determinants in this process are the characteristics of the knowledge, the setting of the transfer and the capabilities to absorb the knowledge. In this way, the knowledge transferred from the parent can be classified into two categories: knowledge which is globally developed and distributed the global subsidiaries, and that which is developed from the parent’s home market, but may not be suited to other host country markets. These two categories are equally critical, but no previous research has demonstrated whether the ways in which these two kinds of knowledge are transferred are also different.

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The second way for subsidiaries to build a system/base of knowledge is to develop relevant knowledge pertaining to the host market by themselves. Although this may take much time, the end result may better correspond to the local needs, and might, at the same time, reduce the number of potential problems which can occur in the transfer process. For lots of MNCs now facing the dilemma as to how to coordinate the ways of knowledge transfer and their global competitive strategies, this will help them gain b synergy through the global transfer of knowledge.

## **Marketing Knowledge**

Marketing knowledge is the know-how required when marketing activities are executed, and includes marketing research, channel operation, promotion, product design, and marketing information systems, and so on. In that marketing knowledge is one of the most important ownership advantages of MNCs entering foreign markets, many of the MNCs which become market leaders are those which develop excellent marketing capabilities. Marketing knowledge is different from technological knowledge which narrowly focuses on product research and development, inner design and manufacturing. Given its characteristics of continuousness, technological knowledge can usually be documented, codified and easily transmitted; to be sure, new technological developments usually are rigorously based on technologies previously developed. But marketing knowledge is a different story since it sometimes evolves from long-term experiences and trial-and-error, all the while cultivating tremendous insight into target markets, consumer behavior, and competitors. Furthermore, it can formulate the future vision of the marketing principles of an industry, with some knowledge perhaps changing the usual rules of competition by “jumping” across the common senses, a practice which can be traced back to “strategic intent,” as proposed by Hamel and Prahalad (1994). This kind of knowledge often determines how marketing wars occur in an industry. In marketing wars, rational thinking does not always lead to victory; on the contrary, “jumped thinking” or “making a logical leap” may be a more effective tool usually on account of the element of unpredictability. A great number of marketing innovations in the marketing mix, in fact, come from non-progressive thinking. Being intangible, marketing knowledge cannot be documented or easily codified (from which comes the term, “tacitness”). Marketing knowledge helps firms become market-driven organizations (Day, 1994) and behave in the way of market orientation (Deshpande, Farley & Webster 1993; Jaorski & Kohli 1992; Narver & Slater 1990; Ruekert 1992); it makes firms more competitive in mature markets.

## **Knowledge Transfer Modes in MNCs**

Based on researchers' earlier efforts ((Bartlett & Sumantra, 1989; Sumantra & Nohria, 1993; Lyles and Salk, 1996; Yip, 1995; Gupta & Govindarajan, 2000a, 2000b), here we develop a matrix which classifies the ways of knowledge transfer into four modes,

as shown in Table 1. They are the *global knowledge mode*, *standardized knowledge transfer mode*, *host country knowledge development mode* and the *hybrid mode*. The two dimensions for describing various modes are the *extent of global integration* and the *extent of host country response*.

With a high level of global integration and a low level of host country response, MNCs pursue globally appropriate knowledge which can be applied to global markets, without having to make changes in response to/ local demands; in this manner, transfer efficiency and consistency of operating globally are considerably enhanced. Simply put, the global marketing knowledge developed by an MNCs is transmitted to its subsidiaries. Secondly, with a low level of global integration and a high level of host country response, knowledge is developed on the basis of the realities of the local market. This mode, however, necessitates that knowledge be fully in line with customers' needs and that knowledge interactions and transfer activities between subsidiaries be at a minimum and not be frequent. Thirdly with a low level of global integration and a low level of host country response, the parent of an MNC plays an important role in transferring its standard knowledge which is developed in the home country. In the parent's transmitting the knowledge to its subsidiaries, however, the interactions of knowledge among the subsidiaries still do not flourish because of the subsidiaries' mutual independence. The fourth mode of knowledge transfer, the hybrid mode, is high on the two dimensions and it is contingent on the intents and needs of the MNC and on environmental pressures. Hence, it corresponds strikingly to a contingent mode, and it is necessary for an MNC in this mode to develop a coordination process to cope with any conflicts that may occur.

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Table 1. Modes of Knowledge Transfer of MNCs

		Extent of host country response	
		low	high
Extent of global integration	high	Global knowledge mode	Hybrid mode
	low	Standardized knowledge transfer mode	Host country knowledge development mode

## Hypotheses Development

### Global strategies of MNCs and Knowledge Transfer

Though a great deal of literature has been devoted to perspectives about global strategies (Bartlett & Shumantra, 1989; Yip, 1995), by and large, two types of MNC global strategies are commonly recognized and cited. The first is the *global integration strategy*, and MNCs adopting this strategy are inclined to centralize the decision-making processes of their subsidiaries. Accordingly, while coordinating all of their activities, like production, distribution, and logistics between/among their subsidiaries, the parents make most of the decisions and the roles of the subsidiaries are to implement those decisions. The objective of the globally integrated strategy is to pursue the global efficiency and reduce the costs of the whole MNCs. This globally integrated strategy focuses on the maximization of benefits of the whole MNC instead of any one individual subsidiary. An individual subsidiary's success or profit is not emphasized, and, in fact, in certain competitive situations, the parents might even choose to sacrifice some subsidiaries' performances in pursuit of the global success of the entire MNCs.

The second type of global strategy, the *multidomestic response strategy*, reflects a different logic, whereby MNCs regard the world as a large puzzle in which every country market is different in terms of needs. This clearly presupposes that no single strategy can be suitable for all markets. Using this logic, MNCs are a set of decentralized firms in the management process, and when global strategies are set/established, the subsidiaries are required to adopt more independent decision-making powers, thereby enabling them to make more adaptations to reflect local needs which are considered critical factors.

MNCs which follow the *multidomestic response strategy* emphasize the local response, assuming that the marketing knowledge developed from the home country can not be completely transferred to a subsidiary in a foreign country. For this reason, the parent authorizes the subsidiary to establish its own marketing knowledge system which is embedded in the context and social system of the host country. Thus few marketing knowledge transfer activities between the parents and their subsidiaries take place.

According to Gupta & Govindarajan(1991; 2000a), knowledge transfer and distribution are highly related to the strategies of MNCs. Hamilton & Kashlak(1999) pointed out that the marketing activities of the MNCs in the host country are influenced by the control intentions of the MNCs. This perspective can be traced back to Dunning's eclectic theory which views the entry mode decision as a function of the degree of control of MNCs over their subsidiaries. The inflow of technology and

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knowledge from the parent to the subsidiary is decided by the level of control. Thus, the higher the level of control, the more inflow of knowledge there is, and vice versa.

When MNCs select the *global integration strategy* as their main competitive philosophy, they likely gain increased global efficiency by integrating their global resources and heightening level of control over their subsidiaries. In so doing, stemming from the fact that the parents' knowledge and technologies are the main sources of core competitiveness, subsidiaries around the world are interconnected, thereby leading to the formation of an integrated network. Similarly, marketing knowledge is also transferred to the subsidiaries from the parents which have established their global knowledge system. In other words, the parents' marketing knowledge becomes the subsidiaries' core resources which they use to manage local markets as a subunit of the greater world market.

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Based on the conceptual development above, we then make the following hypotheses:

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H1: The more accepting MNCs are of the *multidomestic response strategy* as their global strategy, the more likely it is that their subsidiaries in Taiwan will adopt the "host country knowledge development mode" to develop their marketing knowledge.

H2: The more accepting MNCs are of the *global integration strategy* as their global strategy, the more likely it is that their subsidiaries in Taiwan will adopt the "global knowledge mode" to develop their marketing knowledge.

Taiwan is an important market for many enterprises from the US and Europe owing to its consumption capacity and the similarity of its market characteristics to those of China. This is especially true in consumer product markets. Recently, the government of Taiwan has proposed the "Asia-Pacific Operation Center" plan according to which Taiwan would become the hub for multinational companies to set up operation centers, thus creating 250,000 employment opportunities and lifting the island's annual production by NT\$182.9 billion each year from 2002 to 2007. While this plan encourages MNCs to locate their respective regional operation centers in Taiwan, and continue to make investments here, in the past, MNCs have customarily located their regional centers of Asia in Hong Kong, Tokyo or Singapore; even so, on account of its larger market size and lower operation costs, Taiwan is becoming more attractive than those areas. Increasing, if not soaring, development in the regions of Chinese alongshore further stimulates MNCs interest in making Taiwan the "springboard" to

absorb Taiwan market experiences before eventually entering the Chinese or other Asian markets. Under these circumstances, MNCs usually transfer the standardized marketing knowledge of their home country to Taiwan's subsidiaries to empirically examine its effectiveness in the Taiwan market. Once the marketing knowledge is proven to be well suited or only in need of slight modifications, then it can be a kind of "base" knowledge for MNCs' entry into other regional markets, like China. This transfer model helps the parents of MNCs reduce their costs by avoiding mistakes in larger markets, thereby increasing their chances of success. Based on the arguments above, we hypothesize:

H3: The more MNCs perceive the Taiwan market as a springboard for entering other markets in Asia, the more likely it is that their subsidiaries in Taiwan will adopt the standardized knowledge transfer mode.

### **Market Factors**

MNCs enter foreign markets to gain extra benefits and/or to exhaust production capacities. Obviously, the larger the foreign market is, the more intensively MNCs have to compete. However, entering a foreign market can incur some risks because of significant differences in consumer preferences, in the legal and political environments, and in socio-cultural factors (Hamel & Prahalad, 1994). Based on theories of foreign investment (Buckley & Casson, 1976; Dunning, 1988), MNCs are more likely to choose a low risk entry mode when they sense larger differences with regard to cultural distance and market demands between the host country and home country. When entering a host country which resembles other foreign markets they have entered before, MNCs are more inclined to directly transfer their global marketing knowledge or standardized marketing knowledge to the subsidiaries because it requires lower costs and is more efficient. Thus, we hypothesize:

H4: The more similar the Taiwan market is to other foreign markets that MNCs operate in, the more likely their subsidiaries in Taiwan will adopt (1) the global knowledge mode or (2) the standardized knowledge mode.

Not all foreign markets are deemed of equal importance to MNCs which are considering international expansion and specialization (Hamel & Prahalad, 1994; Yip, 1996). Some countries are especially significant; Japan, for example, is a very important Asian market for many MNCs in that it is often referred to as "the gateway to Asia" and it can serve as a test market for consumer products before they are launched in other Asian markets; this aside, it also represents a strategic position in the global

market of MNCs. Scholars have argued that some countries are good leading indices of a firm's ability to enter the markets of other countries ( Yip, 1996; Gupta & Govindarajan, 2000b ) , or for a firm to make the claim that its brand is a global one. If one particular country can be important in the global strategies of an MNC, then its subsidiaries in that country should follow the global operation policies of that MNC to achieve the strategic objectives of its parent. In light of this, the knowledge transfer mode of the subsidiaries in that country expected be the global knowledge mode since the parent will be more apt to keep serious control over the subsidiaries in that country for the purpose of achieving its global goals. Hence, we hypothesize:

H5: The more importance an MNC places on the Taiwan market, the more likely it is that the Taiwan subsidiary will adopt the global knowledge mode.

Uncertainties about a market encompass the main risks MNCs must face when venturing into foreign markets. These may come from instability with regard to market demand or intensive competition. Such uncertainties can worsen the competitive positions of MNCs which are not familiar with the foreign market. Under this situation, they encounter serious challenges and the standardized marketing knowledge the parents offer might very well not match the local needs, and require that, for speed and efficiency, the subsidiaries make decisions independently based on the temporary situations to respond to the local environment. In this way, the subsidiaries gradually develop their own operation knowledge, and this knowledge is market-tested through trial-and-error. In the meantime, the marketing knowledge outside the host country may not match that of the local environment. Thus, we propose the following hypothesis:

H6: The greater the uncertainties of the Taiwan market are, the more likely it is that the subsidiaries will adopt the host country knowledge development mode.

### **Tacitness**

Tacit knowledge has attracted much attention in knowledge management research. Tacitness refers to that which we know more about than we can tell (Polanyi, 1967). Reed and DeFillippi(1990) defined tacitness as the implicit and non-codifiable accumulation of skills that results from learning by doing, and identified this concept as a source of ambiguity that raises barriers to imitation. In contrast, explicit knowledge can be codified, abstracted and stored in the objective world; that is to say, it can be transmitted in a formal, systematic language or representation and has been well documented. Ease of communication and transferability are its fundamental properties. Tacit knowledge, on the other hand, is highly personal and deeply rooted in action and

in an individual's involvement within a specific context. ( Nonaka & Takeuchi, 1995; Inkpen and Beamish, 1997; Zander and Kogut, 1995 ). Organizational culture (Howells, 1996), personal experience, skills, and know-how involve different degrees of tacitness.

The degree of tacitness of knowledge influences transfer outcomes. The transfer of tacit knowledge requires closer interaction and the building up of shared understanding and trust among units. Zander and Kogut(1995) found that the degree to which capabilities are codifiable and teachable(i.e., non-tacit) significantly influences the speed of transfer. Any kind of knowledge may involve the tacit and explicit dimensions simultaneously, which means parts of the knowledge can be easily learned and transferred, whereas others cannot. In some instances, marketing knowledge, like logistics or distribution systems, can be easily transferred to another country, but due to its ambiguous nature, marketing knowledge is generally characterized by a high degree of tacitness(Athanassiou & Nigh, 2000). It is rather difficult, for instance, to think of an easily-codifiable personal selling savoir-faire, an advertising campaign, a new product launch, international market expansions, or insight into a competitive environment. Thus, transfers of marketing knowledge from the parents of MNCs to subsidiaries can be more difficult if their marketing knowledge is highly ambiguous. To reduce costs, the consumption of time and vagueness, subsidiaries are inclined to develop knowledge themselves, lowering the degree of dependence on the parents. Based on the claims above, we hypothesize:

H7: The more tacit the marketing knowledge of MNCs is, the more likely their subsidiaries will adopt the host country knowledge development mode.

### **Complexity of knowledge**

Along with the economic development of a country, knowledge has also become more complex, especially in countries that focus on knowledge management. Tiemessen et al.( 1997 )claimed that more complex technological systems and skills are difficult to imitate and transmit. As a general rule, it is harder to divide intangible and experiential knowledge into small “chunks” for learning or imitation than it is for physical assets. MNCs encounter huge environmental fluctuations when marketing their products or services across countries because of the many factors involved in the process of market exploitation. Cultural, social and political factors of a host market make marketing knowledge more complex as far as dealing with foreign environments go. The more complex the marketing knowledge is, the less it can be comprehended and transferred. Kogut & Zander (1993) stated that the complexity of professional knowledge directly affects the speed of transfer. According to the arguments above,

MNCs are more likely to decentralize their subsidiaries' acquisition of marketing knowledge to overcome obstacles, so we hypothesize:

H8: The more complex the marketing knowledge of MNCs, the more likely it is that their subsidiaries will adopt the host country knowledge development mode.

### **Experience**

MNCs accumulate international operational know-how and revise their business strategies through continuous transnational expansion. The experience gained in the process can be significant corporate assets, and this accounts for the fact some MNCs can venture into other host markets and quickly establish strong market positions (Dunning, 1980; 1988). Experience in international expansion can be incorporated within the original cognition of an MNC through step-wise modifications, thereby reducing the possibilities of failure in subsequent international investments. The key to reducing the possibility of failure resides in how to transfer the successful experience to the subsidiaries that are newly established in host countries. The more international transferring experience an MNC has, the more meaning they can bring the MNC and help it deal with critical situations or unexpected events (Hill, Hwang & Chan, 1990; Hwang, 1997). Transferring marketing knowledge from the parent to its subsidiaries is also significantly related to its experience. Due to its concern for the local environment of the host country, the whole marketing knowledge of an MNC should be more beneficial to its success if the MNC has experienced more international expansion. Then it can successfully transfer more of its marketing knowledge to other host countries. With this in mind, we hypothesize that the MNC will be inclined to follow the global knowledge mode or standardized knowledge transfer mode. Hence,

H9: The more marketing knowledge transferring experience MNCs accumulate, the more likely it is that their subsidiaries will adopt the global knowledge mode or standardized knowledge transfer mode.

The overall conceptual framework can be summarized, as shown in Figure 1. There the nine hypotheses proposed above are incorporated and the causal relationships between the predicted variables and the dependent variables are indicated.



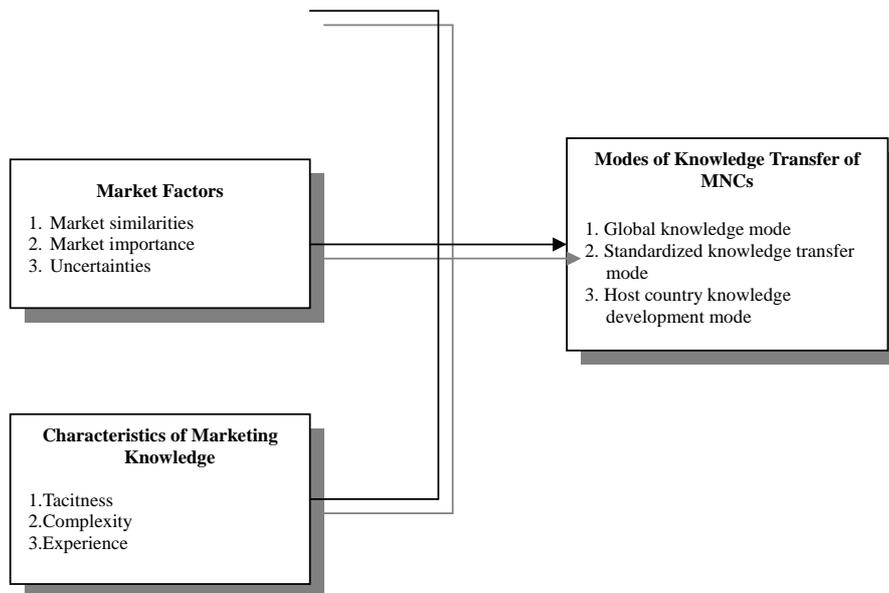


Figure 1. Conceptual Framework

## Methodology

### Measures

The subject of *Modes of Knowledge Transfer of MNCs* has received little attention in previous research largely on account of its innovativeness. Even in papers regarding knowledge management and knowledge transfer, although many have given attention to technology transfer as opposed to intangible knowledge transfer (Cohen & Levinthal, 1990), technology is not the same as knowledge. The core competitiveness of a corporation consists of resources and capabilities, the former being product or process technologies, and the latter capabilities pertaining to business operations. This research explores four academic fields for proposing our measures: (1) technological transfers ( Teece, 1986; Howells, 1996 ) ; (2) multinational corporation operations(Dunning, 1988; Bartlett and Ghoshal, 1989; Yip, 1995; Conn and Yip(1997); (3) international marketing ( Dunning, 1998; Dunning & Sangeeta, 1997; Laroche ,Kirpalani and Zhou, 2001 ) ; and (4) knowledge management ( Kogut and Zander, 1993; Bresman , Birkinshaw and Nobel, 1999; Gupta and Govindarajan, 1991; 2000a; 2000b ) .The mode of knowledge transfers of MNCs are described in the Table 2.

Table 2. Modes of Knowledge Transfer of MNCs

Conceptual definitions	Literature
<p><b>Global knowledge mode</b></p> <p>Subsidiaries world-wide operate under globally standardized marketing knowledge which is developed for all markets in every country in the world. It is transferred from the parent to the subsidiaries with few modifications in order for them to benefit from the greatest efficiency and maintain a unified pace for entering various world markets.</p>	<p>Bartlett and Ghoshal (1989) ; Ghoshal and Bartlett (1988); Conn and Yip (1997); Bresman , Birkinshaw and Nobel (1999) Gupta and Govindarajan (1991; 2000a; 2000b)</p>
<p><b>Standardized knowledge transfer mode</b></p> <p>MNCs based on this mode regard the marketing knowledge developed in the home country as superior, and therefore, as a good standard model for them to reproduce in other countries.</p>	
<p><b>Host country knowledge development mode</b></p> <p>The parents of MNCs authorize their subsidiaries to develop their own marketing knowledge based on the assumptions that all markets, regardless of country, are different in their environments, and subsidiaries can gain greater competitiveness by heightening their sensitivities to the new market and by responding quickly.</p>	

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Table 3. Factor Analysis of the Knowledge Transfer Modes

Indicators	mean	s.d.	Factor 1	Factor 2	Factor 3
<b>Global knowledge mode</b>					
Marketing knowledge that can be used globally is developed.	4.01	1.32	.8543		
Marketing knowledge is transferred globally to benefit from optimal efficiency.	3.84	1.54	.7666		
The operational efficiency of global marketing knowledge is emphasized.	3.76	0.75	.7765		
Cost is considered the main concern of the parents when developing global marketing knowledge.	3.89	1.02	.7988		
<b>Standardized knowledge transfer mode</b>					
Transferring the parents' marketing knowledge from the home country to their subsidiaries	3.93	0.83		.7327	
Setting the marketing principles of the home country as the instructions to the subsidiaries	4.01	1.11		.5543	
Transferring the parents' marketing knowledge to their subsidiaries based on the concept of a product's life cycle	4.00	1.01		.8769	

**Host country knowledge development mode**

Subsidiaries develop their own marketing knowledge for local use.	3.52	1.01		.4743	
The parents allow the subsidiaries to aggressively respond to local needs.	3.23	1.21		.7534	
Responding to the local needs is the basic strategy of the MNCs.	3.76	1.03		.6345	
<b>eigen value</b>			3.21	2.11	1.21
<b>Cumulated variations explained</b>			32.1%	53.2%	65.3%
<b>Cronbach's Alpha</b>			0.84	0.86	0.80

*Global Strategy* is a topic frequently discussed in the fields of international business, and numerous classifications have been proposed because of differing points of view. This research follows the perspective put forth by Bartlett and Ghoshal(1989) and Yip(1995), classifying global strategies into three types; the conceptual and operational definitions are listed in Tables 4 and 5.

Table 4. Relevant Concepts of the Global Strategies of MNCs

Conceptual definitions	Literature
<p><b>Global integration strategy</b> Regarding the world as one market, MNCs centralize the authorities, and emphasize coordination and cooperation among subsidiaries for achieving maximal corporate performance through unified actions; the aim of this strategy is to maximize efficiency and reduce costs. The subsidiaries are regarded as executive units to achieve the global goals of the MNCs.</p>	<p>Bartlett and Ghoshal (1989) , Yip (1995)</p>
<p><b>Multidomestic response strategy</b> MNCs emphasize localization as the principle behind expansion; subsidiaries around the world are highly authorized to independently make adequate decisions in response to local needs; global efficiency is not the focus, and coordination among subsidiaries is low.</p>	
<p><b>Taiwan as a springboard</b> MNCs regard Taiwan as the mid-way point for entering other regional markets; this is generally achieved by setting their regional headquarters in Taiwan or seeing Taiwan as a test market for gaining more experience.</p>	

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Table 5. Factor Analysis of the Global Strategies

Indicators	mean	s.d.	Factor 1	Factor 2	Factor 3
<b>Global integrated strategy</b>					
The parents unify the actions of their subsidiaries on a global scale.	4.01	1.01	.7332		
The parents require their subsidiaries rigorously follow their globally unified policies.	3.43	1.02	.7834		
The parents make plans for all of their subsidiaries.	3.73	1.11	.4448		
<b>Multidomestic response strategy</b>					
The parents pay attention to the needs of the host market.	3.23	0.84		.8756	
The parents aggressively respond to local needs.	3.67	0.96		.5794	
The parents regard every host market differently.	3.72	1.16		.7821	
<b>Taiwan as a springboard</b>					
Taiwan serves as a base for entering other regional markets.	3.21	0.83			.8332
Headquarters for regional operations are established in Taiwan.	3.43	0.91			.8133
<b>eigen value</b>			2.12	1.97	1.11
<b>Cumulated variations explained</b>			26.5%	51%	65%
<b>Cronbach's Alpha</b>			0.83	0.93	0.81

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The term *Characteristics of Marketing Knowledge* is used to mainly describe the extent of transferring abilities between the parents and the subsidiaries. The characteristics of marketing knowledge are a topic that has received considerable attention in previous research, but here we use three constructs to measure it: tacitness, complexity and experience. The conceptual and operational definitions are described in Tables 6 and 7, and relevant literature is also listed.

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Table 6. Relevant Concepts of the Characteristics of Marketing Knowledge

Conceptual definitions	Literature
<b>Tacitness</b> Tacitness is the implicit and non-codifiable accumulation of skills that results from learning by doing.	Athanassion & Nigh (2000) Howells (1996) Tiemessen (1997)
<b>Complexity</b> The complexity of knowledge is that it is multidimensional or contains highly professional skills.	

## Experience

Experience refers to the frequency of foreign direct investments of MNCs.

Table 7. Factor Analysis of the Characteristics of Marketing Knowledge

Indicators	mean	s.d.	Factor 1	Factor 2	Factor 3
<b>Tacitness</b>					
Marketing knowledge cannot be easily documented.	3.74	1.01	.7346		
Marketing knowledge is not clear-cut and cannot be easily transmitted by documents.	3.53	1.12	.8112		
Marketing knowledge is ambiguous.	3.83	0.83	.7947		
<b>Complexity</b>					
Marketing knowledge is multi-dimensional.	3.24	0.95		.7433	
Marketing knowledge is complex and cannot be easily understood.	3.18	1.14		.6321	
<b>Experience</b>					
The parents of MNCs are very experienced in exploiting foreign markets.	4.82	1.23			.8419
The parents of MNCs are very experienced in setting up subsidiaries in foreign markets.	5.54	1.67			.8543
The parents of MNCs are very experienced in dealing with problems that the subsidiaries may face in foreign markets.	4.95	1.76			.7934
<b>eigen value</b>			2.01	1.67	1.10
<b>Cumulated variations explained</b>			25.1%	46%	59.7%
<b>Cronbach's Alpha</b>			0.92	0.83	0.84

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*Market Factors* is a term used here to refer to the specific attributes of the Taiwan market that will influence the transfer modes of marketing knowledge that the parents adopt. In this study, relevant factors about the entry mode of the MNCs were selected and revised from past research about entry mode of MNCs. The conceptual and operational definitions are provided in Tables 8 and 9.

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Table 8. Relevant Concepts of the Market Factors

Conceptual definitions	Literature
<b>Market similarities</b>	Hamel & Prahalad(1994) Dunning (1988)

The analogousness of the Taiwan market and other foreign markets. Dunning (1997; 1998)

**Importance of the Taiwan market for global strategy**

The strategic significance of the Taiwan market for MNCs in their formulating their global strategies.

**Market uncertainties**

The relative unpredictability of market needs and competitive intensity of the Taiwan market for the parents.

Table 9. Factor Analysis of the Market Factors

Indicators	mean	s.d.	Factor 1	Factor 2	Factor 3
<b>Market similarities</b>					
The similarities in the market types of Taiwan and the home country are high.	2.74	1.84	.8321		
The customers' needs in Taiwan are not different from those in other countries.	2.90	1.89	.7354		
<b>Importance of the Taiwan market for global strategy</b>					
The Taiwan market is significant for the global strategy of the parent.	3.21	1.04		.7634	
The Taiwan market is the one of the strategic markets of the parents.	3.41	1.34		.7134	
<b>Market uncertainties</b>					
The demands of the Taiwan market are highly uncertain.	2.34	2.01			.6732
The predictability of the Taiwan market is relatively low.	2.38	1.98			.5532
<b>eigen value</b>			1.45	1.31	1.06
<b>Cumulated variations explained</b>			24.1%	46%	64%
<b>Cronbach's Alpha</b>			0.89	0.90	0.92

**Sample**

The population for this study consisted of large and medium sized multinational corporations that had established subsidiaries in Taiwan. In compiling the sample, the selection criteria used were as follows:

1. MNCs that invested in Taiwan through direct investment or in joint ventures with local firms.
2. Consumer product industries or services.

The reasons that consumer product and service industries were preferred were based on marketing orientation considerations. Those industries manufactured products directly for consumers and had to be sensitive to market responses related to industrial product manufacturers.

The sample drawn out had to fall into the first database that follows as well as either the second or the third databases:

1. The foreign investment database established by the Investment Commission of the Ministry of Economic Affairs of Taiwan, 2001;
2. *Business Weekly* Top 500 service firms in Taiwan, 2001; or
3. *Business Weekly* Top 1000 manufacturing firms in Taiwan, 2001.

The above three databases are very commonly used due to their practical and theoretical applications. A sample of 421 private foreign investment firms (including joint venture cases) were selected. After a pre-phone call to each of the firms to assure the accuracy of the information in the database, the questionnaires were mailed to the managers of the firms who were either:

1. General managers or vice general managers;
2. Chief knowledge officers; or
3. Managers responsible for the marketing department.

A total of 352 questionnaires were sent out, and 75 were received within three weeks. Follow-up questionnaires were sent to non-respondents after two weeks and again 31 completely answered questionnaires were returned after six weeks. In all, the initial and follow-up mailings yielded 106 responses from the primary respondents for a response rate of 30.1% percent. Respondents did not differ significantly from non-respondents in terms of firm size or industry.

Table 10. Characteristics of the Sample (1)

Characteristics	Levels	Number	Percentage
Scale	Below 100 people	27	25.5%
	101-300 people	31	29.2%
	301-500 people	27	25.5%
	Above 500 people	21	19.8%
Capital (US\$)	Below 0.05 billion	33	31.3%
	0.05(included) - 0.1 billion	31	29.2%
	0.1(included)-0.5 billion	24	22.6%
	Above 0.5 billion	18	16.9%

Home country of the MNCs' parents	U.S.	43	40.6%
	Europe	27	25.4%
	Japan	20	18.9%
	Other	16	15.1%

Table 11. Characteristics of the Sample (2)

Industry	Number	Percentage
Consumer product (non-food)	22	20.7%
Finance	13	12.3%
Retailing	20	18.9%
Sightseeing and Restaurant	19	17.9%
Food	15	14.1%
Other	17	16.1%

Tables 10 and 11 show the characteristics of the sample. Consumer product manufacturers occupied the highest percentage (20.7%), and retailing the second (18.9%). The sightseeing and food industries were also high compared with other industries; this fact shows that these two industries are popular investment directions in Taiwan.

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### Method of Data Analysis

Two primary statistical methods were applied. First, factor analysis was used to retrench the number of variables and extract the potential factors. Second, the stepwise multinomial logit model was employed to determine the predictability of the independent variables to the dependent variables. The multinational logit and regression models differ with respect to certain characteristics. For one, the multinomial logit model can process data and it can help to identify the odd rate between different levels in the dependent variables. Through the multinomial logit model, it is possible to decide the probabilities of the dependent variables in explaining the knowledge transfer modes.

## Results

Table 12 contains the matrix of the correlations and statistics among all the independent variables utilized in this study. Cluster analysis was first employed to

classify all samples into certain groups based on the 10 knowledge transfer variables. This was done in two stages of analysis. In the first stage, the Ward's method was used. This method is known as one of the hierarchical methods to analyze the squared Euclidean distance to measure the similarities among samples. The second stage started from the K-means method in the non-hierarchical methods. Table 13 shows the results of the cluster analysis.

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Table 12 Correlation Analysis of the Independent Variables

Indicators	mean	s.d.	1.	2.	3.	4.	5.	6.	7	8	9
1. Global integration strategy	3.85	1.38	1								
2. Multidomestic response strategy	3.31	1.22	-0.37**	1							
3. Taiwan as a springboard	3.16	1.18	0.17	0.08	1						
4. Market similarities	2.84	1.14	0.12	0.18	0.17	1					
5. Market importance	3.13	1.26	0.18	0.09	0.27*	0.21*	1				
6. Uncertainties	3.17	1.29	0.16	0.11	0.13	0.20	0.19	1			
7. Tacitness	4.01	0.95	0.06	0.18	0.18	0.14	0.18	0.14	1		
8. Complexity	4.04	1.36	0.12	0.19	0.16	0.03	0.16	0.24*	0.02	1	
9. Experience	3.79	1.83	0.22*	0.26*	0.18	0.07	0.09	0.07	0.17	0.18	1

\*\*denotes  $p < 0.05$ ; \*\*\*denotes  $p < 0.01$ ; and \*\*\*\*denotes  $p < 0.001$ .

Table 13. Cluster Analysis of Marketing Knowledge Transfer of the MNCs

	Cluster 1	Cluster 2	Cluster 3	ANOVA F value
Developing global knowledge	3.62(1.02)	3.01(0.99)	2.98(1.02)	1.87
Global utilization	4.23(0.84)	3.43(1.03)	3.03(1.14)	6.01**
Emphasizing efficiency	4.11(1.32)	2.32(1.17)	2.03(1.01)	17.14***
Considering costs	3.46(1.90)	3.34(0.85)	3.03(1.35)	1.36
Transferring Home Country Knowledge	3.02(1.21)	4.21(0.96)	3.52(1.02)	5.10**
Index meaning of home country knowledge	3.73(1.02)	4.08(0.84)	4.10(1.34)	2.94( $p=0.073$ )
Knowledge transfer along with the PLC	2.45(0.95)	3.94(0.76)	3.28(0.97)	6.72**
Developing knowledge independently	1.96(1.01)	3.32(1.03)	4.23(0.96)	19.44**
Responding to local needs aggressively	2.35(1.03)	3.43(0.87)	4.61(0.97)	21.43***
Responding to local needs is the basic strategy	2.10(0.94)	3.53(0.93)	4.10(1.21)	14.33***
<b>Firms in the cluster</b>	42	29	35	
<b>Percentage of the total samples</b>	39.6%	27.3%	33.1%	
<b>Cluster name</b>	Global Knowledge	Standardized Knowledge	Host Country Knowledge	

Mode                      Mode                      Development  
Mode

Note : The values in the table are means; the numbers in the parentheses are standard deviations.

Note: 1. “\*”denotes  $p < 0.05$ ; “\*\*”denotes  $p < 0.01$ ; and “\*\*\*”denotes  $p < 0.001$ .

2.  $\hat{\beta}$  is the standardized coefficient estimated, and  $d\hat{p}/dx$  is the marginal effects of independent variable on dependent variable.

To examine the hypotheses proposed in this research, we used the multinomial Logit method and set the host country knowledge development mode as the base mode ( $y=0$ ), and then compared every mode(comparative mode) to the base mode( $y=1$ ). Thus, every model proposed in the table represents a comparison between any two groups of models to determine the prediction power of every independent variable in explaining the relative models.

Table 14 presents the results of the effects of global strategy on the various knowledge modes. Only the effect of the global integration strategy on the knowledge transfer mode is significant in all three models. Model 1-1 is the comparison of the standardized knowledge mode to the base mode. When MNCs have adopted the global integration strategy (0.59,  $p < 0.05$ ) or regarded Taiwan as a springboard base(0.87,  $p < 0.01$ ), then the standardized knowledge mode has a higher odd rate relative to the base mode. In Model 1-2, when MNCs have adopted the global integration strategy, the global knowledge mode has the higher odd rate than the base mode (1.45,  $p < 0.001$ ). In contrast, if the MNCs have adopted the multidomestic response strategy, the base mode has a higher odd rate (-1.85,  $p < 0.001$ ). Finally, in Model 1-3, we combine the standardized knowledge mode and global knowledge mode, taking them as one mode, and compare this to the base mode. The results show that “Taiwan as a springboard” becomes not significant (0.21,  $p > 0.05$ ), but the other two independent variables still remain significant(0.67 and -0.79, respectively). In short, the knowledge transfer mode is highly related to the global strategy the MNCs have adopted, and the obvious differences between the comparative mode and base mode are attributed to the global integration strategy and the multidomestic response strategy. No strong evidence is shown to support the importance of “Taiwan as a spring board” in the models.

Table 14. Multinomial Logit Analysis of the Marketing Knowledge Transfer Modes  
~Global Strategy of the Parents of the MNCs~

Model 1-1	Model 1-2	Model 1-3
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	Standardized knowledge transfer mode (1) v.s. Host country knowledge development mode (0)		Global knowledge mode (1) v.s. Host country knowledge development mode (0)		Standardized knowledge transfer mode + Global knowledge mode (1) v.s. Host country knowledge development mode (0)	
	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$
Global integration strategy	0.19	0.21	-0.54	-1.85***	-0.65	-0.79**
Multidomestic response strategy	0.43	0.59*	0.45	1.45***	0.45	0.67*
Taiwan as a springboard	0.66	0.87**	0.17	0.19	0.11	0.21
	$\chi^2=64.37***$				$\chi^2=24.37***$	

Note: 1. “\*”denotes  $p<0.05$ ; “\*\*”denotes  $p<0.01$ ; and “\*\*\*”denotes  $p<0.001$ .

2.  $\hat{\beta}$  is the standardized coefficient estimated, and  $d\hat{p}/dx$  is the marginal effects of independent variable on dependent variable.

The effects of market factors on the knowledge transfer modes are presented in Table 15. Model 2-1 shows that the overall chi-squares are within a satisfactory range, and the model is also a reasonable representation of the data. Under parameter estimates, of all of the independent variables, market similarities (0.45,  $p<0.05$ ) and market importance(0.43,  $p<0.05$ ) display significant, positive effects on the standardized knowledge transfer mode relative to the base mode. That is, with the higher levels of market similarities or market importance, MNCs are evidently more likely to choose the standardized knowledge transfer mode. Furthermore, when Models 2-2 and 2-3 are examined, the results yield the same solutions. This represents the fact that the two independent variables that are significant have obvious effects on the choice of the knowledge transfer mode, especially on the two knowledge modes relative to the host country knowledge mode. But, contrary to earlier expectations, market uncertainties are not significant in all models. This finding may indicate some realism in understanding of /the Taiwan market, but this, of course, requires further investigation.

Table15. Multinomial Logit Analysis of the Marketing Knowledge Transfer Modes  
--Market Factors

	Model 2-1	Model 2-2	Model 2-3
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	Standardized knowledge transfer mode (1) v.s. Host country knowledge development mode (0)		Global knowledge mode (1) v.s. Host country knowledge development mode (0)		Standardized knowledge transfer mode + Global knowledge mode (1) v.s. Host country knowledge development mode (0)	
	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$
Market similarities	0.42	0.45*	0.43	0.57*	0.32	0.38*
Market importance	0.39	0.43*	0.64	0.87**	0.32	0.37*
Uncertainties	0.19	0.21	0.13	0.14	0.02	0.03
	$\chi^2 = 28.23***$				$\chi^2 = 23.37***$	

Note: 1. “\*”denotes  $p < 0.05$ ; “\*\*”denotes  $p < 0.01$ ; and “\*\*\*”denotes  $p < 0.001$ .

2.  $\hat{\beta}$  is the standardized coefficient estimated, and  $d\hat{p}/dx$  is the marginal effects of independent variable on dependent variable.

The third part of the analysis concerns the nature of the marketing knowledge itself. As shown in Table 16, the chi-square values of all three models are significant. The tacitness of knowledge presents a significant effect in Model 3-2 and Model 3-3 (-0.67,  $p < 0.05$ ; -0.59,  $p < 0.05$  respectively). This can be explained by the fact that the global knowledge mode exerts its influence relative to the base mode. But the complexity does not have any substantial influence on any of the models. As expected, experience displays a significant, positive effect in all models (0.59,  $p < 0.05$ ; 0.75,  $p < 0.05$ ; 0.58,  $p < 0.05$  respectively), showing that when the MNCs have more experience with foreign expansion, it is more likely that they will not choose the host country knowledge development mode because it can gradually overcome any obstacles in the transfer process using its own mode.

Table 16. Multinomial Logit Analysis of the Marketing Knowledge Transfer Modes —Marketing Knowledge Characteristics

	Model 3-1		Model 3-2		Model 3-3	
	Standardized knowledge transfer mode (1) v.s. Host country knowledge development mode (0)		Global knowledge mode (1) v.s. Host country knowledge development mode (0)		Standardized knowledge transfer mode + Global knowledge mode (1) v.s. Host country knowledge development mode (0)	
	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$

Tacitness	0.24	0.29	-0.54	-0.67*	-0.48	-0.59*
Complexity	0.21	0.23	0.28	0.32	0.12	0.28
Experience	0.55	0.59*	0.61	0.75*	0.47	0.58*
	$\chi^2 = 19.56^{**}$			$\chi^2 = 17.34^{**}$		

Note: 1. “\*” denotes  $p < 0.05$ ; “\*\*” denotes  $p < 0.01$ ; and “\*\*\*” denotes  $p < 0.001$ .

2.  $\hat{\beta}$  is the standardized coefficient estimated, and  $d\hat{p}/dx$  is the marginal effects of independent variable on dependent variable.

For the purpose of examining their overall effects on the different modes, all of the independent variables are presented in the Full Model, shown in Table 17. The first two independent variables, the multidomestic response strategy and global integrated strategy, are both significant in Models 4-2 and 4-3. The “Taiwan as a springboard” is significant (0.91,  $p < 0.01$ ) in Model 4-1, but does not show any impact in Models 4-2 and 4-3. This result is the same as those in Models 1-2 and 1-3. This obviously indicates that global strategy is an important indicator of the knowledge transfer mode, so Hypotheses 1, 2 and 3 are all fully supported. As for the market factors, market similarities and market importance are also significant in the analysis of Models 4-1, 4-2 and 4-3, but the effects of uncertainties are not significant in any of the models, which suggests that this may be attributed to the low degree of uncertainties of the Taiwan market. In Taiwan, segmentation of the Taiwan market is significantly less than in the American or Japanese markets, and in fact, it often follows their steps in the development of a product. This strongly implies that the Taiwan market might be viewed as highly predictable by the MNCs in this study. It can be concluded that only some market factors are real determinants in selecting the knowledge transfer mode. Whereas Hypotheses 4 and 5 are supported, Hypothesis 6 is not supported.

Finally, among the characteristics of knowledge, complexity is not significant in all models. Hence, Hypothesis 8 is not supported. This may result from its low mean value (mean = 3.17) or the effects of the other two more important factors. Tacitness and experience are significant in Models 4-2 and 4-3. Tacitness seems to be significant in explaining the differences in the base mode and the global knowledge mode, but not in the standardized knowledge mode. Experience also has an obvious impact when the standardized knowledge mode and the base mode are compared (Model 4-1). As a consequence, it is reasonable to claim that Hypothesis 9 is fully supported but that Hypothesis 7 is only partly supported.

Table 17. Multinomial Logit Analysis of the Marketing Knowledge Transfer Modes  
—Full Model

	Model 4-1		Model 4-2		Model 4-3	
	Standardized knowledge transfer mode (1) v.s. Host country knowledge development mode (0)		Global knowledge mode (1) v.s. Host country knowledge development mode (0)		Standardized knowledge transfer mode + Global knowledge mode (1) v.s. Host country knowledge development mode (0)	
	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$	$\hat{\beta}$	$d\hat{p}/dx$
Global integration strategy	0.23	0.30	-1.15	-1.26***	-0.74	-0.87**
Multidomestic response strategy	0.24	0.31	0.84	0.92**	0.46	0.53*
Taiwan as a springboard	0.83	0.91**	0.08	0.12	0.01	0.02
Market similarities	0.49	0.60*	0.43	0.48*	0.53	0.59*
Market importance	0.48	0.58*	0.85	0.98**	0.41	0.46*
Uncertainties	0.18	0.29	0.03	0.05	0.06	0.08
Tacitness	0.21	-0.25	-0.36	-0.47*	-0.38	-0.43*
Complexity	0.17	0.20	0.03	0.06	0.08	0.12
Experience	0.52	0.56*	0.43	0.54*	0.07	0.63*
	$\chi^2=105.44***$				$\chi^2=89.33***$	

Note: 1. “\*”denotes  $p<0.05$ ; “\*\*”denotes  $p<0.01$ ; and “\*\*\*”denotes  $p<0.001$ .

2.  $\hat{\beta}$  is the standardized coefficient estimated, and  $d\hat{p}/dx$  is the marginal effects of independent variable on dependent variable.

## Conclusions

International business theories fully indicate that MNCs invest directly in foreign markets to overcome national barriers and expand their market scales. These theories, including the eclectic theory, argue that the advantages of ownership and the foreign resources obtained in foreign markets are the significant driving forces for MNCs to go abroad. Nevertheless, thorough investigations of the fields of knowledge management have recently helped to clarify the multi facets of international expansion behavior of MNCs (Gupta & Govindarajan, 1991). From the perspective of knowledge management, an MNC can be regarded as an organization for the development and transmission of international knowledge, while the process of international market expansion can be regarded as the management process of replicating and transferring the international knowledge of an MNC. If MNCs successfully absorb, comprehend and transmit the knowledge pertaining to the economic and socio-cultural environment of the host country, then they can smoothly establish channels of communication between their products and the needs of the local market. The products or services

MNCs offer in fact are to sell the “knowledge assets of the MNCs” ( Grant, 1996 ). This perspective is growingly important in explaining the internationalization process of MNCs relative to traditional international business theories.

On account of the importance of home country knowledge transfers of MNCs in international expansion, it should be noted that knowledge transferring behavior must be highly connected with the competitive strategies of MNCs. This research demonstrates that global strategies, the characteristics of the Taiwan market and the characteristics of marketing knowledge must not be ignored in the process of international marketing knowledge transfer. Through the stepwise analysis here, our findings indicate that the global strategies that MNCs adopt may mostly explain the transfer mode; besides this, the market characteristics and the characteristics of marketing knowledge are also significant.

The results show that when MNCs regard Taiwan as a springboard market, the parents transfer their standard marketing knowledge to their Taiwan subsidiaries. This mode helps to test the adaptability of their marketing knowledge, and can be the basis for entering other markets. In this way, MNCs see Taiwan as a middle point rather than as the final destination. MNCs adopting the global integration strategy and multidomestic response strategy, however, are greatly differing in the selection of their knowledge transfer mode. MNCs based on the global integration strategy emphasize global coordination and the totality of their activities, with the key points being cost and efficiency. Developing global marketing knowledge will establish economies of scale. In contrast, when responding to local needs is the most important competitive strategy, then subsidiaries’ developing locally adapted marketing knowledge can solve the problems. MNCs in this situation will lower the frequency and/or intensity of knowledge transfer. Operation performance may not be optimal if MNCs only transfer physical products or services but not complete knowledge of the marketing process.

Market factors cannot be neglected. It is impossible that marketing know-how is independent of the environment. As a consequence, any variations in the environment can result in knowledge reconstruction. Results show that the more similarities there are between the Taiwan market and other foreign markets, the better global marketing knowledge can be adapted for the Taiwan market; further, Taiwan can serve as an important piece of the globally integrated market, and MNCs will transfer the global marketing knowledge or standard marketing knowledge of their home country to Taiwan for the sake of efficiency. Moreover, if the Taiwan market is strategically important in light of more global considerations, it is not wise to decentralize subsidiaries in making strategic marketing decisions. This point of view agrees with international business theories proposed by past research. As mentioned above, in recent years, the Taiwan government has decided to adopt the policy of programming

Taiwan as the Asian Operations Center, encouraging MNCs to establish their Asian headquarters in Taiwan. The Taiwan government must evaluate the abstraction of Taiwan market to the MNCs for their global performance and then MNCs can transfer marketing knowledge to their Taiwan subsidiaries.

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Market uncertainties are not important in explaining knowledge transfer. This means that MNCs may adopt the global knowledge or host country standardized knowledge modes by their strategic intents (Hamel & Prahalad, 1993), but on the other hand, they may also follow the host country knowledge development mode to respond to local needs and deal with uncertainties in the market. Market uncertainties may be divided into different constructs and then be influential in knowledge transfer behavior.

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The characteristics of knowledge are significant in the transfer process, an argument a great deal of past empirical research has clearly pointed out (Gupta & Govindarajan, 2000b). We again prove that this variable must not be neglected in future knowledge management research. Tacitness plays a significant role in explaining the knowledge transfer modes used and reminds us of how to deal with tacitness of knowledge concerning in every facet of the management of knowledge. Researchers should emphasize the effects of tacitness on the transfer or diffusion of knowledge, and their findings will help managers to promote the effectiveness and efficiency of knowledge management.

The accumulation of experience in international expansion is an invaluable asset for MNCs. Experience also helps to give direction when it comes to making decisions relating to future international expansion. The “internationalization school” proposed by Johanson & Vahlne (1977; 1990) argued that internationalization model explains the effects of experience on international expansion behaviors. However, another explanation may come from the gradually decreasing differences between Taiwan and other global markets which has resulted from the economic liberalization policies of the Taiwan government in recent years. Stated briefly, the more experience MNCs have, the more likely it is that they prefer the non-domestic knowledge development mode.

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Although the finding was unexpected, the complexity of knowledge seems to fail to influence the selection of the transfer mode. One possible explanation is that MNCs may have developed the standard operation process for internationally knowledge transfer knowledge even when the condition of high complexity of knowledge exists, especially in the highly developed communication and information technologies today.

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Finally, there is no doubt that the future challenges of MNCs will come from knowledge management. Issues pertaining to expanding into global markets were the chief focus for MNCs in the past, but these mainly concerned how to deal with physical assets rather than knowledge. In future, the focus will most assuredly lie in exploring the process of managing MNCs’ knowledge assets for developing, maintaining, and

transferring them among their subsidiaries. Aside from regarding the internationalization process as only expanding abroad, it must also be considered as a process of knowledge expansion. The “core competences” proposed by Prahalad and Hamel(1990) and the “dynamic capability” proposed by Teece, Pisano and Shuen(1997) can be explained as special capabilities which are developed through knowledge exploration and organizational learning, and they represent the competitive advantages of MNCs in the future.

### **Suggestions for Future Research**

1. Although the variables in this research are significant for determining the knowledge transfer mode, differences by industry may also be influential due to differences with respect to demand for industrial knowledge. Insight gained from such research results would be both beneficial and practical for managers.
2. We empirically examine the relationship between global strategy and knowledge transfer, but it still remains unclear how transfers are influenced when there is a lack of coordination between global strategies and knowledge transfer models. That is to say, an evaluation of the performance of transfers should be added into the research to more completely construct the conceptual model.
3. The directions of transfer are also important for knowledge management. Traditional research assumes that knowledge is developed by the parent and transferred to the subsidiary, but more and more cases show that in highly decentralized MNCs, knowledge may be developed in the subsidiary and transferred to the parent, and then diffused among the MNCs through the network of the management process. This phenomenon suggests that a revised research direction may lead to different results and theoretical meanings. Research into this would help scholars in the field to get a better, more precise grasp on knowledge management.

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