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**The Affect (Effect) of
Knowledge Transfer
on
Multinational Enterprises
and
International Strategies**

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Abstract

Knowledge has become a widely recognized competitive asset for the multinational enterprise. The movement of this knowledge, from parent to subsidiary, inter-subsidiary, or between individuals presents a number of challenges for the organization, as well as exposing opportunities for competitive advantage. Exploiting this advantage, therefore, necessitates an understanding of the determinants of this knowledge asset, how it is transferred effectively, and how it can be used to in conjunction with international organizational design and strategy.

1.0	INTRODUCTION	4
2.0	KNOWLEDGE.....	7
2.1	The Importance of Knowledge Transfer.....	10
2.2	Knowledge Transfer	12
2.3	Elements of Knowledge Transfer	14
2.4	Mechanisms for Knowledge Transfer	18
2.5	Knowledge Transfer Challenges.....	22
3.0	THE INTERNATIONAL TRANSFER OF KNOWLEDGE	26
3.1	Successful Knowledge Transfer	29
3.2	Measurements of Knowledge Transfer	30
4.0	INTERNATIONAL ASSIGNEES	32
4.1	Classifying International Assignees.....	35
4.2	Expatriate Selection	36
4.3	Expatriate Effectiveness	38
4.4	An Expatriate Management Model	41
5.0	STRATEGIC KNOWLEDGE TRANSFER.....	42
5.1	Institutional Distance.....	47
5.2	Strategic Use of Knowledge Forms.....	48
6.0	CONCLUSION	51

1.0 INTRODUCTION

Organizations once relied on factors of production to establish competitive advantages over rivals. If utilized efficiently, land, labor, and capital were considered the determinants to success. Now, a fourth aspect must be added, and can be the most beneficial asset of all if managed appropriately: Knowledge. In its tacit form, it is difficult to imitate and transfer, therefore giving advantage to whom ever possess it. In an explicit state, it can be replicated and disseminated for very little cost to yield scale effects. Knowledge is powerful and “in order to win in the competitive environment, companies need to be able to manage knowledge strategically....knowledge should constitute a core competency” (Ichijo and Nonaka, 2007, pp. 4)

Considering the resourced based theory of a firm, knowledge now forms a fourth factor of production. With the emergence of the multinational corporation comes the necessity to transfer this factor of potential competitive advantage to the various subsidiaries that are disbursed around the world, and organized under various strategic structures.

Juxtaposing this importance of knowledge and its use as a competitive factor, Ruggles (1998) found that, of 431 organizations surveyed, only 13% of the respondents felt that their firm was good or excellent at undertaking the activity of knowledge transfer inter-organizationally.

Knowledge has been categorized into two forms; explicit knowledge is of the type that can be articulated, codified, and stored with relative ease. The dissemination of explicit knowledge present comparatively few challenges, and as mentioned, can be replicated and distributed to yield scale effects (Hansen et al, 1999). This form of knowledge, and its ease of transmission can be what enables and organization to establish a competitive advantage if it is able to efficiently develop, store, and recall this knowledge.

Competitive advantage is also available through the appropriate use of knowledge that people have developed; tacit knowledge, or the “unarticulated aspects embedded in peoples brains or physical reflexes” (Leonard in Ichijo and Nonaka, 2007, pp. 60). Understandably, the transfer of this knowledge becomes challenging, as it is an asset the individual possesses, and yet is unable to articulate in a form that is easily disseminated. In order to transfer this form of knowledge, a social interaction between the sender and receiver must take place, generally requiring physical proximity to be at a minimum.

For the multinational corporation, this necessity for physical interaction places importance on the role of individuals assigned to work international, or international assignees. In a 2007 empirically driven study, Dana Mindbaeva found that “the success of knowledge transfer is not exclusively a function of the characteristics of knowledge; rather the characteristics of the senders and receivers themselves play an important role” (pp 569).

In the multinational context, the sender can be the parent organization, or, at the individual level, the expatriate that has been relocated to facilitate a means of knowledge transfer. Use of social capital theory, which is based on the concept of relationship networks forming a resource, can help to explain how to facilitate knowledge transfer, as relationships rich in social capital result in a level of trust and open communication, thereby reducing the stickiness of a knowledge transfer opportunity (Reich et al., 2008, Szulanski, 1996).

A knowledge receiver may be hampered with a lack of absorptive capacity, defined as the ability to “acquire, assimilate, transform, and exploit knowledge” (Zahra and George, 2002 pp 186). This lack of ability may be the result of a lack of previous knowledge stocks that exist, either with the individual or institution that is in the recipient position of the knowledge transfer process.

The purpose of this paper is to examine the affect of knowledge transfer on the international organization and resultant effect on organizational strategy. In this examination, both forms of knowledge will be addressed as appropriate, although tacit knowledge will be the mainstay of consideration, as it faces more challenges as a result of its level of ambiguity that can provide for a stickier knowledge asset (Szulanski, 1995).

The international assignee will be discussed, as in the MNE, they serve as a means of facilitating knowledge transfer through expatriation, and the resultant socialization. Surprisingly, little work has been done to investigate this aspect of the MNEs facilitation of labor and resultant competitive aspect. While authors have explored some of these relationships (Kostova, 1999; Hocking, Brown, and Harzing, 2007; Minbaeva, 2007; Bonache and Zarraga-Oberty, 2008; and Reiche, 2008) none have conceptualized the conjunction of success factors in terms of knowledge transfer and expatriation and applied them to organizational strategy.

Two reoccurring themes will be evident through this paper, just as they are in the literature. These are the aspects of absorptive capacity and social capital, both of which have received the justly do levels of empirical research, as they both will be shown to be key determinant factors in the feasibility and resultant success of knowledge transfer that then establishes the competitive knowledge assets in the internationally dispersed organization.

This paper by no means covers all previously devised theories, strategies, or findings in relation to any of the topics discussed; rather, focus was given to recent works that generally expanded and enhanced previous efforts.

2.0 KNOWLEDGE

This section will provide grounding for the ensuing discussions related to knowledge. Terms will be defined, basic theory's explained, and a model for knowledge transfer presented.

Explicit knowledge is documentable or 'codeifiable'. This form of knowledge is able to be easily articulated such that an individual can extract the knowledge from the media of storage and utilize it. Explicit knowledge is not, however, simply information, as "knowledge differs from information, which is simply a statement of facts" (Bonache and Zárraga-Oberty, 2008 pp 2) and "knowledge, or know-how, has to do with the process of learning, understanding and applying information" (Soo et al, 2002. pp 130). However, a component of explicit knowledge is information that has been acquired, and assembled and can be articulated as a knowledge asset (Leonard in Ichijo and Nonaka, 2007).

The concept of tacit knowledge was first referred to as such by Polanyi (1962, 1966) and represents forms of knowledge that are challenging to articulate, and correspondingly so, difficult to transfer, or as "unarticulated aspects embedded in peoples brains or physical reflexes" (Leonard in Ichijo and Nonaka, 2007, pp. 60). This form of knowledge is best exemplified by thinking of how master craftsman can produce works of art, such as beautiful pieces of furniture or iron works. The craftsman can not easily describe their abilities, but rather can demonstrate them repeatedly. In order to acquire such knowledge, observance through apprentice (a form of socialization) is generally required; this aspect will be covered later in far greater detail.

In seeking to identify knowledge in an applicable sense, Kostova (1999) utilizes the term *organizational practices* in her work on the transfer of intellectual capabilities, which provides for a clearer contextual understanding of tacit knowledge. She defines "organizational practices as particular ways of conducting organizational functions that have

evolved over time under the influence of an organization's history" (pp 309). This provides a clean segregation of the concept of knowledge from the idea of information.

Research has developed several defining characteristics concerning tacit and explicit knowledge. The first being the existence of a relationship between the costs (financial and otherwise) associated with transferring knowledge and its ability to be codified (Teece, 1998, Hansen et al, 1999). Knowledge that is able to be documented can be stored for future use at very low costs, and distributed among many users for very little incurred costs to the organization, thus increasing the scale value effect of explicit knowledge. This is a prime example of an asset developing increasing value as a result of the introduction of a new technology, as the connectivity of the internet is what as enabled such scale dissemination of explicit knowledge.

Tacit knowledge, however, is disseminated through an organization via socialization activities and experience (Hansen et al. 1999, Leonard and Insch, 2005), which incur far higher costs and are generally not scalable as explicit knowledge transfer may be. As stated by Hansen et al (199, pp 4) "The process of sharing deep knowledge is time consuming, expensive, and slow". As the transfer takes place via various forms of socialization, there is a need for both parties to seek to engage in the transfer process, thus diverting their attention from other efforts. Zander and Kogut (1995) investigated a relationship between the ability to articulate information and the speed at which the transfer process occurred. Their findings predictably indicated that for a more challenging articulation, a longer time was needed. Combining these two aspects of costs and time for transfer, Attewell (1992) determined that the higher the costs incurred by transfer, the slower the transfer will occur.

Additionally, the complexity of the tacit knowledge has an effect on the knowledge transfer process. Work by Simonin (1999), developed

empirical results to show that an increase in the complexity of knowledge to be transferred had a negative effect on the ability to transfer that knowledge. This aspect of complexity will be re-visited in the later discussion on barriers to knowledge transfer.

The transfer of tacit knowledge (non-articulatable organizational practices) and its affect on organizational strategies for internationally structured organizations shall be the main focus of this paper, however, challenges and strategic advantages do exist for explicit knowledge and annotations and discussions on these points will be made when appropriate.

2.1 The Importance of Knowledge Transfer

Competitive advantage was, at one time, determined largely by geographical location and the ability to exploit the resources immediately surrounding the firm. During the industrial revolution (be it concerned with the American or European timeframe) firms established themselves, generally in clusters, around natural resources that provided the ability to enhance their capabilities. Fly forward 150 years, and “the competitive advantage of firms in today’s economy stems not from market position, but from difficult to replicate knowledge assets and the manner in which they are deployed (Teece, 1998, pp. 62). Therefore “to compete effectively, firms must leverage their existing knowledge and create new knowledge that favorably positions them in their chosen markets” (Gold et al, 2001, pp. 186).

In the opening preface of their 2007 book, Knowledge Creation and Management, Kazuo Ichijo and Ikujiro Nonaka state that knowledge is “...perhaps *the* critical-factor for firms in today’s competitive environment”. With this understanding, the need for knowledge transfer, as applicable to any organization, has been neatly categorized by Dorothy Leonard (Ichijo and Nonaka, 2007) into three aspects; reuse, retain, and reciprocity.

The aforementioned scale aspect of explicit knowledge fits well with the reuse category, however the ability to socialize individuals in order to assist in the distribution of tacit knowledge is also applicable. Organizations are able to reuse information gained by the individual or team and then disseminate it to other individuals through interactions or cohesive project groups. An exponential scale effect then begins to develop as these members with the newly acquired knowledge are then able to continue its progression through the organization in similar means.

As knowledge is becoming the cornerstone for competitive advantage, retaining that knowledge is of paramount importance. As employees retire or leave the organization, safeguards must be put in place to ensure that the level of knowledge resources that have developed are transferred to other members of the organization. This aspect is particularly important for tacit knowledge, largely driven by the time necessary for the transfer to take place and the sudden gap that can exist in the organization if contingency plans for the mitigated loss of the knowledge resource were not put in place.

Organizations looking to develop new products that may be outside of those defined by their competitive advantage may do so through collaboration with other organizations, be they competitors or industry partners, in order to transfer knowledge on a reciprocity bases. The results could become mutually beneficial, allowing each a return that would only materialize as a result of adjoining the firms.

2.2 Knowledge Transfer

The transfer of tacit knowledge in an organization can be undertaken through two differing contextual approaches. A one-way transfer can occur, generally flowing down the organizational hierarchy, when management wishes to increase operational efficiencies, or counter operational losses (Leonard in Ichijo and Nonaka, 2007). This transfer would be seeking to utilize the conceptual higher levels of knowledge that are held by senior positions and then transferred to those below. This form of transfer should not be considered with a negative connotation, as research has shown that the use of mentoring relationships has had beneficial effects on knowledge transfer activities (Gupta and Govindarajan, 2002).

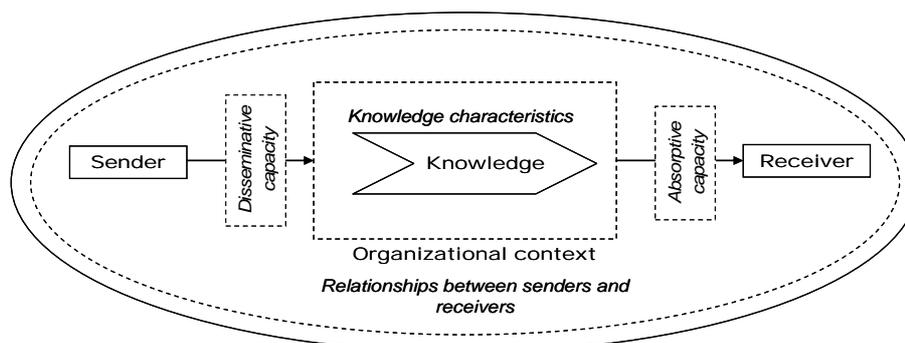
A two-way form of tacit knowledge transfer occurs when the sender and recipient reverse roles in the transfer process; each acts as a recipient at times, and each as a transmitter at others. This exchange concept of transfer coincides with the knowledge creation theory put forth by Nonaka; that new knowledge is created through the exchange of existing knowledge, and, thereafter, the combination of these knowledge assets (Nonaka, 1994). Therefore, the two-way exchange of knowledge can operationally facilitate the creation of new knowledge, not simply exist as a mode of transfer.

Previous research on knowledge transfer has produced a number of models and process descriptions. Hansen (1999) proposed a two stage model; *search* followed by *transfer*. Szulanski, (1996) produced a model with four stages; *initiation*, *implementation*, *ramp-up* and *integration*. Expanding on this work, Minbaeva (2007) developed a model and specified the basic elements of knowledge transfer as: *source*, *message*, *recipient* and *context*. It is interesting to note that both Szulanski and Minbaeva continue to identify aspects of knowledge transfer that take place post the physical transmission. This is reinforced by Kostova (1999) who considers the knowledge transfer process (or

adoption of *organizational practices*) to continue until the receiving entity develops a similar set of values for the knowledge as the transmitting entity.

These opinions are contrasted by Hocking et al's (2007) view that activities post the transfer of knowledge are dependent on the receiving entity, and that their decision to absorb or place value on the knowledge is not part of the transfer process. Thus they are dismissing the concept of adoption and development of understanding in their work. Interestingly, they maintain the concept of knowledge search, or a person identifying the knowledge to be transferred as part of the knowledge transfer process, rather than identifying it as a preceding function and dismissing it as well.

Minbaeva's model, being the most recent and a combination of two previously utilized and well referenced articles will be used in this paper to define the knowledge transfer process and referred to during ensuing discussion. The modeled process is shown graphically below as Figure 1. In looking at this model, the three elements of the knowledge transfer process can be seen to be the sender, the knowledge itself, and the receiver. This fits with the concept of Communication Theory that is often used to describe a knowledge transfer process; the existence of a sender, the message, and a receiver. Additionally, the concept of noise that exists in communication theory can be related to the varying levels of disseminative and absorptive capacities, as well as the knowledge characteristics and all three of these concepts effect on the transfer process.



In Bold - elements of knowledge transfer

In Italics – Barriers/determinants associated with the four elements of knowledge transfer

Figure 1: Knowledge transfer diagram. Minbaeva, 2007 pp 569.

2.3 Elements of Knowledge Transfer

Senders

When empirically testing his own model, Minbaeva (2007) defined the characteristics of knowledge senders as the ability and willingness to share knowledge. In terms of explicit knowledge, this willingness may be dictated by organizational procedure, management direction, or intrinsic desire to disseminate the knowledge. In terms of tacit knowledge, the recipient must be motivated into a state of willingness in order to undergo the transfer via the socialization and thus, transfer of the knowledge. This is one aspect of the ‘stickiness’ that can result in the transfer of tacit knowledge and will be visited later.

Knowledge Characteristics

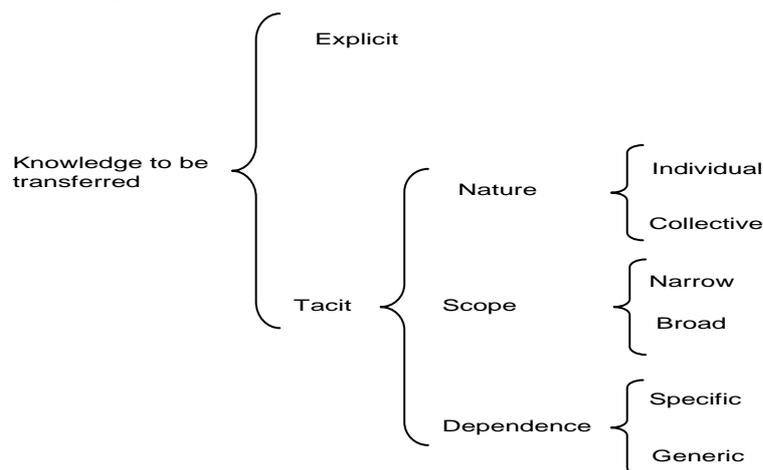


Figure 6: Knowledge characteristics (Bonache and Zárrega, 2008, pp. 4)
(extraneous information removed)

The type of knowledge to be transferred has previously been broken into the two broad categories of explicit and tacit. While explicit knowledge may require less time, and incur less cost to transfer on a ‘per knowledge unit bases’, it is not isolated from challenges. Various IT platforms are generally utilized for the dissemination of explicit knowledge, and require heavy investment to establish and support (Hansen et al, 1999). Part of the inception of these platforms is the development of sophisticated search capabilities such that users are able to identify, locate, and extract knowledge relevant to their needs (Gold et al, 2001).

Bonache and Zárraga (2008) looked at knowledge characteristics when considering international assignments and the transfer of knowledge; however their categorization and descriptions are applicable to general transfers of knowledge as well; see figure 2.

Of the three higher elements in their characteristics model, *nature*, *scope*, and *dependence*, they find that each is comprised of subcategories that help to understand the operational nature of the characteristic. In terms of the nature of the knowledge; they find that it is composed of either *individual knowledge* or *group knowledge* (Bonache and Zárraga, 2008). Individual knowledge is simple enough; it is possessed by a sole person and therefore need only their interaction for transmission when considering the socialization means of tacit knowledge transfer.

Bonache and Zárraga (2008) further define nature's subcategory of group knowledge as that which is collectively held by multiple individuals. Utilizing Kostova's *organizational practices* contextual description of knowledge transfer; group knowledge is a collection of individual knowledge sets that allow for the collective accomplishment of an organizational practice. A defining example would be that of a product implementation team that is composed of marketing, finance, supply chain, and manufacturing representatives that cohesively are able to implement a product launch. Therefore by definition, transferring this group knowledge requires the socialization of the group with the recipient individuals.

The characteristic of knowledge *scope* (Bonache and Zárraga, 2008) is concerned with the volume of the knowledge to be transferred. A limited level of knowledge, such as the utilization of a new piece of forecasting software that is being introduced organization-wide and requires presentation to planners and forecasters, would require a minimal, potentially defined, period of interaction for the transaction to take place. Knowledge with a large scope, such as the development of a

best practice organizational structure, would require increased amounts of time and may need to be transferred via individuals at a relatively high level in the organization to ensure enactment and success.

The *dependence* characteristic of knowledge to be transferred is defined by Bonache and Zárraga (2008) in relation to whether the knowledge is specific in nature to the organization, or if it is a generic practice that is common in an industry. Organizationally specific knowledge would require transmission from individuals that have served time with the organization such that they have the depth of knowledge required to enable them to facilitate its transfer. Generic knowledge, conversely, could be transmitted through contractual means with an external entity that specializes in the dissemination of this form of knowledge.

Receivers

When considering the receiver in the knowledge transfer process, the *absorptive capacity* that exists has been found to have an impact on the outcome of the transfer activity (Cohen and Levinthal, 1990). Indeed, the ability of the receiver to “acquire, assimilate, transform, and exploit knowledge” (Zahra and George, 2002 pp 186) defines the effectiveness of the recipients activity. Cohen and Levinthal initially defined absorptive capacity as the “ability to recognize the value of the new external information, assimilate it, and apply it to commercial ends” (1990, pp 128). This definition of absorptive capacity falls in line with the knowledge transfer definitions that consider the transfer process to continue until that knowledge bears fruitful use with the recipient organization.

Zahra and George (2002) provide a reconceptualization of absorptive capacity in order to define the determinants of this part of the knowledge transfer process. They define this aspect as the “process by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organization capability” (2002, pp. 186). They break this definition into two portions; the first being the firms ability to acquire

and assimilate knowledge, the second being the ability to transform and exploit these acquired knowledge assets. By dividing the definition into these groups, relative aspects of how to treat the knowledge can be devised.

The first objects of acquire and assimilate are concerned with the potential for the receiver to adequately absorb the knowledge, while the latter addresses the actual utilization of the knowledge transmitted. This consideration for the application of the knowledge transferred produces a congruent view with that of Minbaeva, Szulanski and Kostova's concept that knowledge transfer takes place post the transmission of the knowledge.

Absorptive capacity is largely concerned with a knowledge recipients ability to utilize pre-existing knowledge as a means of understanding future knowledge transfer inflows. Based on this concept, certain presumptions must exist as to the levels of knowledge that are existent in a firm before a knowledge unit can undergo one of the various mechanisms to transfer it to the recipient entity.

2.4 Mechanisms for Knowledge Transfer

Gooderham (2006) defined categories of knowledge transfer mechanisms in his work on modeling knowledge flows in MNCs. Three mechanisms were identified: *transmission channels*, *socialization*, and *motivational*. These are delineated by the organizational objectives in the knowledge transfer activity.

Transmission Channels

Gupta and Govindarajan (2002) examined multinational organizational knowledge flows and found that in an effort to establish a formal means of facilitating knowledge transfer, organizations may choose to utilize liaison personnel, inter-unit task forces or establish permanent international committees to disseminate knowledge through the organization. These mechanisms involve the physical relocation of individuals to appear before the knowledge receivers. Based on the empirical results defined by Sapsed et al. in their 2005 study, this will provide an enhanced level of communication facilitating the dissemination of the knowledge that spurred the liaison activity.

Reinforcing this aspect, Björkman et al (2004) empirically found that “corporations may thus increase the likelihood for knowledge sharing by organizing international training programs, by establishing international task forces and committees and by encouraging visits across MNC units”. These concepts are not applicable only in an international context; as organizations may utilize each of these means as a way of transferring knowledge throughout multiple domestic facilities as well.

While these personal interactions as mechanisms can facilitate the movement of tacit or explicit knowledge, the use of internet communities was identified by Gooderham as a subsequent mechanism of knowledge transfer. One aspect of Sapsed et al.’s 2005 study looked at the use of organizational groupware as a form of interaction for both co-located and disbursed project teams. Their findings indicated that 27% of those involved utilized this information technology as a means

for consulting team members on solutions to technical problems. In terms of resolving management problems on projects, the groupware was utilized 25% of the time. These percentages, even though dated are likely to have increased in recent times, indicate the importance in this emergent technology as a mechanism for knowledge transfer. These groupware applications begin to blur the lines between the use of electronic means to disseminate explicit knowledge, and the socialization necessary for the movement of tacit knowledge.

Socialization Mechanisms

As previously discussed, the movement of tacit knowledge is best accomplished through socialization activities. Organizations therefore may adopt a mechanism of transferring knowledge that facilitates socialization and the development of a level of social capital.

Social capital, as defined by Nahapiet and Ghoshal (1998) is “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit.” (pp 243). The acquisition of social capital develops a resource that can be utilized in the future for knowledge exchange through the increased opportunities for social interaction. In exploring and providing some reconceptualization of social capital for organizational understanding, Nahapiet and Ghoshal identified three components that, although interrelated, provide a basis for understanding the constructs of social capital.

Structural social capital defines what forms of connection exist between individuals in a social network (here, network implies connections between a pair or an infinitive number of participants) (Nahapiet and Ghoshal, 1998). This dimension also concerns the quality and quantity of connections (Reich et al, 2008). Connections could be strong between members of the network that physically interact regularly, creating a focal group for the network. Weak structural ties may exist outside of this network, potentially between individuals that have never

met, but correspond via the previously discussed groupware technologies. Therefore one network may consist of both strong structural capital and weak structural capital.

Relational social capital is determined by the kind of relationships that have been developed between network participants (Nahapiet and Ghoshal, 1998). High levels of trust that have developed from previous interactions can lead to a rich level of relational social capital, thus increasing its value in terms of knowledge sharing. Levels of expatiations and obligations to the network are also components that work to establish levels of relational social capital (Nahapiet and Ghoshal, 1998).

Cognitive social capital is derived from “shared representations, interpretations, and systems of meaning” (Nahapiet and Ghoshal, 1998, pp 244). Similar to the definition of culture as “a system of values and norms that are shared among a group of people and that when taken together constitute a design for living” (Hill, 2002, pp. 79), cognitive capital defines how individuals who share a common belief can form a stronger bond. Reich et al (2008) refer to cognitive social capital as the level of identification (in terms of understanding) possible between two parties. An level of shared beliefs and understandings can be the impetus for the initial development and sustainment of a network. This aspect of social capital can be seen as an enabler that allows for the formation of structural and relational levels of social capital.

The development of social capital is seen to “make possible the achievement of ends that would be impossible without it or that could be achieved only at extra cost” (Nahapiet and Ghoshal, 1998). Therefore, based on the necessity for socialization to transfer tacit knowledge, some level of social capital must be developed to facilitate the movement of knowledge between parties.

Motivational Mechanisms

The concept of “knowledge is power” is still held in many organizations. The establishment of mechanisms that motivate the transfer, rather than retention and control of employees, are necessary in order to facilitate the transfer of tacit, as well as explicit knowledge. Bonache and Zárrega, (2008) identified two aspects of motivational consideration in terms of knowledge transfer. The first element is the development of a performance appraisal system to include the evaluation of the level of knowledge transfer that the individual has partaken in. The second consideration is that of intrinsic rewards, such as financial incentives or career enhancing opportunities.

Minbaeva (2007) found the use of various motivational incentives to precede the necessary social foundation that facilitates the knowledge transfer process. “Even MNCs with highly skilled and motivated employees will not be effective in knowledge transfer if they are unsuccessful in building the necessary infrastructure for learning and support.” (pp.588).

The various mechanisms discussed are not able to operate through isolated actions; each works to facilitate knowledge transfer in its own form, yet should be utilized together to form a synergistic mechanism for transferring knowledge.

2.5 Knowledge Transfer Challenges

Four categories can be devised that represent the challenges to knowledge transfer. The first two encompass various aspects related to the practitioners, and the fourth level follows the work of Gabriel Szulanski, who considered the “stickiness” of knowledge in terms of its transferability.

Competitive Level

As stated, knowledge is considered the keystone in many modern day organizations strategic foundations. This being so, the potential for knowledge leakage exists during the transfer process. Codified knowledge could be intercepted through various means should the proper legal protectionary actions not be executed. While the leakage of tacit knowledge in the same manner would be conceptually more difficult, the study of labor market flows is ripe with examples where individuals transition from one firm to another; in the process relocating the knowledge that they have gained (Malmberg & Power, 2005). Measures to ensure that knowledge is retained should be put in place “such as incentive alignment, employee conduct rules, or job designs” (Gold et al, 2001, pp. 192) thus ensuring the competitive edge remains with the entity that developed it. Soo et al (2002) found that in one of their research subject consulting firms, employees had a 40% turn-over rate, representing not only the loss of investment applied to these individuals, but also the loss of potential valuable assets to competitors.

Individual Level

Burgess (2005) identified several factors that potentially inhibited the transfer of knowledge at the individual level by investigating what motivational areas were of concern for the individual. Areas of research focused on individual level, interpersonal level, relationship level, and group level motives. The results of the study found that major barriers to knowledge transfer fell into three categories; the lack of extrinsic rewards, the existence of interdivisional competition, and the sense of

greater divisional loyalty rather than a sense of belonging to the organization as a whole.

The lack of extrinsic rewards for knowledge sharing was sighted as a detrimental effect of the quarterly management style that the observed organization utilizes, where short term results were paramount to an individual's evaluation. Compounding this lack of long term recognition was the belief being held that if knowledge was shared, the potential existed for the recipient to be rewarded based on the acquired knowledge, rather than recognition going to the individual who shared the knowledge asset.

The interdivisional competition that exists in the observed firm was largely born of organizational culture, and the distribution of merits. Employees believed that upper management considered their divisions to be in competition, and therefore neglected to share knowledge for fear of reprisal. The distribution of merits between the organizations was established such that all disbursements came from one 'pot' such that an increase in a succeeding division was a detriment to another.

Another culturally born impediment to knowledge transfer that was uncovered in Burgess' (2005) study was the aspect of organizational loyalty. Individuals were found to be identifying themselves with the division that they reported under, rather than taking a view of the organization as a whole and therefore pursuing paths for the utilitarian good.

Transfer Challenges: Stickiness of Knowledge

The 'stickiness' concept is used to describe the difficulty in transferring knowledge as a result of various factors investigated by Szulanski (1995, 1996, 2004). A knowledge transfer opportunity is termed as being 'sticky' when some aspect of the transfer is not executed in a seamless manner. If some portion of the knowledge is lost, the transfer incurs costs, or takes copious amounts of time, then the transfer has not

undergone execution in a smooth undisrupted manor; the knowledge has become 'sticky' (Szulanski, 1995).

In the three applicable studies, the "origins of stickiness are classified as intrinsic to the knowledge transferred or as pertaining to the situation in which the knowledge is transferred" (Szulanski, 1995, pp. 437). Initially, Szulanski (1995), proposed that stickiness was derived from knowledge characteristics and situational characteristics that yielded factors to compose a level of friction in the transfer. Interestingly, in Szulanski's 1995 study, the characteristics of knowledge were not found to be significant; but in her 1996 study, they did prove to have significant relationship as an impediment to knowledge transfer.

In terms of the stickiness as a result of the characteristics of knowledge, Szulanski (1996) identified casual ambiguity as a prime driver, with the idea being that the more ambiguities the knowledge unit, the more difficult it would be to transfer. This fits with the previously discussed items concerning tacit knowledge, as its challenge in being easily articulated results in a barrier to transferability.

In terms of the characteristics of the transfer situation, three aspects were found to be significant (Szulanski, 1995, 1996). Conflicting with theoretical expectations, the motivation of the recipient unit to partake in the transfer process was found to be significant in the 1995 study, but not found to contribute to stickiness in the 1996 article (Szulanski, 1995, 1996). This discrepancy is interesting, however as the hypothesis are not provided in the 1996 article, assumptions must be made that variations in tested hypostasis contribute to this variable finding.

A second factor falling under the aspect of a transfer situation characteristic is that of the previously discussed absorptive capacity of the recipient unit and the "ability to recognize the value of the new external information, assimilate it, and apply it to commercial ends"

(Cohen and Levinthal. 1990, pp 128). Minbaeva's 2007 research determined that "the greater the absorptive capacity, the greater the degree of knowledge transfer" (2007, pp. 575). With the strategic importance of the success of knowledge transfer, firms must endeavor to ensure that absorptive capacity exists with the recipient in order to utilize knowledge as the competitive asset it has come to be (Ichijo and Nonaka, 2007).

The third situational characteristic that produced a significant result in both the 1995 and 1996 studies (not overly surprising as they are both based on the same data set with differing hypotheses applied) is that of a strenuous relationship existing between the sender and receiver of the recipient unit (Szulanski, 1995, 1996). This follows the theoretical concepts in terms of social capital theory and the positive benefits that result from the development of relationships.

3.0 THE INTERNATIONAL TRANSFER OF KNOWLEDGE

“The success of a company in the twenty-first century will be determined by the extent to which its leaders can develop intellectual capital through knowledge creation and knowledge-sharing on a global basis. Knowledge constitutes a competitive advantage” (Ichijo and Nonaka, 2007, pp3).

This quote eloquently defines the necessity for knowledge to precipitate past domestic borders and shape the way multinational enterprises operate. The aspects of knowledge transfer already discussed still adhere in terms of international movement of knowledge; however the significance of determinant factors for success change with the addition of international participants. Figure 3 tabulates several well regarded studies on knowledge transfer in international organizations.

Significant Factors for the Transfer of Knowledge			
Knowledge Transfer in General		Knowledge Transfer in MNCs	
Szulanski (1995)	Szulanski (1996)	Björkman <i>et al.</i> (2003)	Minbaeva (2007)
	Knowledge characteristics • Ambiguity		
		Perceived importance for subsidiary evaluation	Characteristics of knowledge senders
Situational characteristics • Motivation of recipient • Absorptive capacity	Recipient of knowledge • Absorptive capacity	Existing knowledge and scope of operations	Characteristics of knowledge receivers
Relationship	Relationship	Relationship / interaction between MNC managers	Relationship between senders and receivers

Figure 3: Significant factors in the transfer of knowledge

Björkman et al. (2003) considered knowledge flows in MNCs between not just the home office and the subsidiaries, but also inter-subsiary. As they utilized Agency Theory (a theory centered on the actions and relations where one individual is representative of another individual, or organization) to drive the creation of some of their hypothesis, they investigated the relationship between the importance placed on evaluation of the subsidiary and its contribution to the knowledge pool

the organization possesses. This relationship proved significant in their findings, and has been labeled in figure 3 adjacent to *characteristics of knowledge senders* as it has an impact on how knowledge senders place importance on sharing knowledge units.

Björkman et al. (2003) found significance when considering the characteristics of knowledge receivers in terms of their existing knowledge level. This, while not specified by the authors, fits completely with the concept of absorptive capacity and the preexisting knowledge stock that an organization can draw upon to further understand and assimilate new knowledge inflows.

Björkman et al. (2003) also found significance when looking at use of corporate socialization. Their hypothesis for this item is centered on the concept that increased levels of socialization will lead to increased levels of knowledge transfer. Without saying it, the authors are concluding that through socialization, a level of social capital will develop and thus facilitate the flow of knowledge between corporate entities. This item is located next to characteristics of knowledge receivers in Figure 3 as it is concerned with subsidiary to subsidiary transfer and how importance is attached to transferring the knowledge to other organizational entities.

Continuing to utilize Figure 3; Minbaeva's (2007) empirical study of knowledge transfer in multinational corporations found that the strongest determinant of transfer success in the international context was driven by the characteristics of the knowledge receivers. In this study, participants were directly asked of their willingness and ability to absorb new knowledge, directly reflecting potential absorptive capacity of the subsidiary.

The heavy significance and continued importance of absorptive capacity in all four studies indicate how profoundly knowledge transfer relies on the ability for an organization to acquire, assimilate, transform and exploit the knowledge that is received. In relation to the importance for

the international enterprise, ensuring that subsidiary units have a stock of knowledge that they are able to build upon is key for knowledge transfer to be successful. Referring back to communication theory; without recipient absorptive capacity, the transferred message may be falling on deaf ears.

Another factor that shows importance in all four examined studies is that of the relationship between knowledge senders and knowledge receivers. This reinforces the concept of social capital, and its significant impact on the knowledge transfer process. When considering the relationship, Björkman et al. (2003) tested several hypotheses that included evaluation of expatriate functions in relation to their impact on knowledge transfer. While they were testing if compensation levels or the use of expatriates increase inter-subsiary knowledge transfer (neither of which was found with significance), their use of Agency Theory for evaluation exposes the necessity for considering how international assignees have an effect on knowledge transfer in MNCs.

In addition to the aforementioned challenges of knowledge transfer, the addition of the international dimension also adds an aspect of cultural challenge to the transfer process. This is largely applicable to the absorptive capacity aspect, as variations in a receivers ability to acquire, and assimilate the data may be predetermined due to linguistic differences and ability to understand the knowledge they have received (Minbaeva, 2007). The recipient may also lack the knowledge stocks necessary to transform the received knowledge into a competitive advantage that would allow it to be exploited and used for organizational profit seeking.

3.1 Successful Knowledge Transfer

Utilizing the knowledge transfer diagram shown in Figure 1; deterrents to the success of the transfer could occur at any of the various interaction points. However, that would reflect a process failure, and while having the same result of unsuccessful knowledge transfer, this section will focus under the assumption that the process has been executed properly, and the failure point falls onto the recipient's node.

The knowledge transfer models developed by Szulanski (1996), Kostova (1999), and Minbaeva (2007) all focus on the knowledge transfer activity continuing post the receipt of the knowledge unit by the receiver. Szulanski (1996) postulates on three areas for failure to occur at the recipient level, this could be driven by a lack of motivation, lack of the aforementioned absorptive capacity, or a lack of retentive capacity. Kostova (1999) identifies two aspects that must be accomplished during the transfer process, "the diffusion of a set of rules and the creation of an 'infused with value' meaning of these rules" (Kostova, 1999, pp. 311) thereby indicating areas for potential failure. Along with these aspects of the transfer process, Kostova states, "I define the success of transfer as the degree of institutionalization of the practice at the recipient unit" (Kostova, 1999, pp. 311). Minbaeva (2007) follows a similar track as Szulanski and identifies a lack of absorptive capacity as the potential point of failure in her model.

Utilizing Cohen and Levinthal's (1990) definition of absorptive capacity as 'a firm's ability to value, assimilate and apply new knowledge', commonality can be seen between Szulanski, Kostova, and Minbaeva's view of failure points; the *application* of the knowledge post its movement to the recipient.

3.2 Measurements of Knowledge Transfer

Explicit knowledge can be measured via several potential mechanisms; the number of times it can be reused, the cost savings it provides to the company when it is reused, or by the accumulation of the media used for storage. Tacit knowledge, however, by its very nature is exceptionally hard to measure (Leonard and Insch, 2005).

Three major empirical studies have been performed in an effort to establish a means of measuring tacit knowledge. Stomech and Bogler devised a measurement of academic tacit knowledge in 1999, and their work was expanded upon by Leonard and Insch in 2005, and Harlow in 2008.

Leonard and Insch (2005) continued Stomech and Bogler's work in the academic environment. In doing so, they proposed a multi-dimensional structure of tacit knowledge, with foundations formed of three different 'skill sets'; cognitive skills, technical skills, and social skills; all of which are concerned with the recipient individual in a tacit knowledge transfer (Leonard and Insch, 2005). From their study, they were able to extract five factors that related to success in the academic world; Cognitive self-motivation skills, cognitive self-organizational skills, individual technical tasks, institutional technical skills and social skills. These findings, although derived in a domain specific academic setting, do provide an origin point for the potential development of a more all-encompassing model for measuring tacit knowledge.

Another expansion on the work of Stomech and Bogler (1999) was Harlow's 2008 work that sought to investigate the level of tacit knowledge in a firm and its relationship to organizational performance. This study considered the aggregate level of tacit knowledge in a firm, rather than focusing on individuals and their level of knowledge. Through this study, a tacit knowledge index was developed for each firm, and their economic and innovation performance compared to this

index to seek predictors to success indicated by the use of tacit knowledge (Harlow, 2008). It was found that firm performance is enhanced by tacit knowledge sharing. Additionally, increased innovation is a potential with the movement of tacit knowledge, and that an organizations financial results are not necessarily driven by tacit knowledge sharing. This last point is interesting, as it leaves open an area for contrasting the effects of explicit knowledge sharing and correlating potential financial outcomes as financial operations are generally concerned with concrete values rather than attainable skills.

4.0 INTERNATIONAL ASSIGNEES

An organization's choice to employ individuals from the parent company's country, rather than local individuals can be driven by several factors. Edström and Galbraith (1977) defined three reasons for organizations to utilize this employment means:

- 1) **Position Filling:** Utilizing employees to fill a role in a foreign subsidiary as a result of a lack of qualified local individuals to fill that role.
- 2) **Management Development:** Utilizing an international assignment as a way of increasing an individual's awareness of the organization's operations in foreign environments.
- 3) **Organization Development:** Utilizing an employee to establish a transfer of organizational culture and to ensure a similar method of process execution throughout subsidiaries.

Tung (1982) identified variations in the reasons for staffing overseas operations depending on the location of the parent company. Firms controlled from the United States sighted the establishment of foreign operations and the utilization of an individual's technical expertise as prime reasons for sending employees internationally. Western European organizations saw management development, technical expertise, and the establishment of foreign operations as the main drivers for utilizing parent company nationals. Japanese firms sighted only one reason; that the parent company national was the best for the job. Each of these findings can be compartmentalized into the areas identified by Edström and Galbraith (1977); Individuals with the requisite technical expertise and the concept of 'best person for position' both constitute *position filling* activities. The establishment of foreign subsidiaries and the desire to staff these with home country nationals is a form of Edström and Galbraith's (1977) *organizational development*, as the goal would be to establish some level of common culture and operations through the use of this person. The Western European organizations' importance on management development clearly fits in the same category as developed by Edström and Galbraith (1977).

An interesting point to Tung's (1982) work would be the understanding for the reasons behind the U.S. and Western Europe's use of expatriates

for Greenfield establishments; as these nations may have selected this reason to overcome a lack of absorptive capacity that existed in the foreign regions where operations were being established. Further understanding for the Japanese reason for determining that only a parent country national was fit for the job may yield the discovery of a perceived lack of absorptive capacity in how Japanese firms operate, resulting in their utilization of home country nationals for the same reason.

Harzing (2001) further developed the reasons for international assignee selection by utilizing research from German organizations (that she states may have been overlooked by other researchers due to publication solely in the German language). Her research into these studies lead to the conclusion that a more contextual fit for *organization development* as identified by Edström and Galbraith (1977) would be to label it as *command and control*, as, by her definitions, *position filling* and *management development* represent forms of organizational development.

Further research by Schiuma et al (2006) developed five ‘value drivers’ for the utilization of international assignees; professional development, knowledge transfer, fulfillment of scarce skills, control and coordination. Here, the overlap between Edström and Galbraith (1977), Tung (1982) and Harzing (2001) is evident; however, knowledge transfer has been extracted and identified as its own value driver. Therefore, a summation of the three articles could be said to label the following as the reasons for international assignments:

1. Management Development
- 2. Knowledge Transfer**
3. Subsidiary Control
4. International Staffing

The concept of the knowledge worker, and the corresponding academic studies related to the knowledge management practice did not evolve until the mid 1990's, which may explain why the specific identification of this aspect was not highlighted in the earlier studies. However, the practices of *management development* and *organizational development* both represent a form of knowledge transfer, interestingly, in opposing directions.

4.1 Classifying International Assignees

In their work on assessing the value of individuals to take part in international assignments for the above mentioned objectives, Schiuma et al. (2006) defined classifications for individuals who participate in global employment endeavors.

Expatriate: An individual with an international assignment with a duration of greater than one year and where spouses and dependents relocate.

Short Term Assignment: An individual is given an international posting lasting less than one year and where spouses and dependents may relocate.

International Commuter: An individual who commutes to a foreign country for work on a weekly or bi-weekly bases and family does not accompany.

Frequent Flyer: An individual who undertakes frequent international trips but does not relocate to the country.

Based on the empirical research on knowledge transfer in multinational corporations by Szulanski (1995,1996), Björkman et al. (2003), and Minbaeva (2007) and their empirical results on the importance for the development of social capital to facilitate the transfer of tacit knowledge, the expatriate will be considered to act as facilitators for the transfer of tacit knowledge. The extended duration of the assignment is expected to increase the relationships between the individual that has been relocated and the staff at the foreign operation such that higher values of social capital will be achieved.

4.2 Expatriate Selection

The selection of expatriate employees will differ depending on the reason for the utilization of an expatriate. Earley and Mosakowski (2004) identified an aspect of an individual which they termed 'cultural intelligence'. In their words "In a world where crossing boundaries is routine, [cultural intelligence] becomes a vitally important aptitude and skill" (2004, pp.1). Described as an ability to interpret meanings from unfamiliar and ambiguous actions, their research has shown that an individual with a high level of cultural intelligence has a higher rate of success when interacting in an international environment. Their findings indicate that this trait allows an individual to suspend judgment on others rather than making evaluative decisions based on native cultural understandings. They have broken the sources of cultural intelligence into three areas; cognitive, physical, and emotional/motivational.

The cognitive dimension is concerned with the ability of an individual to devise a strategy for learning about the foreign culture with which they are interacting. While this skill is concerned more with preparation for cultural interactions; this ability causes a person to reflect on transpired events, rather than developing instantaneous reactions. O'Keeffe (2003) reinforces this point with the belief that expatriate managers must have a high level of reflectivity, along with a sense of humor to assist in dealing with the challenging environment.

The physical element of cultural intelligence constitutes an individual's ability to understand and adapt to foreign cultural body language and implicit actions. Through the ability to adapt to the physical customs of others, acceptance and trust is acquired more rapidly than by those that simply have an unpracticed understanding of a foreign culture's actions.

Emotional and motivational determinants of cultural intelligence are the most intrinsic of the three aspects, as Earley and Mosakowski (2004) consider these to be centered on an individual's beliefs in their ability to

succeed with a foreign culture. Potential past success, or a general curiosity and desire to learn about the culture of others have shown in their research to be indicators of success for individuals dealing with unfamiliar cultures. O’Keeffe (2003) adds to this point by adding that a high level of patience is a necessity when engaging a foreign culture.

Schiama et al (2006) provide a similar set of guidelines based on their research. They find that an effective expatriate must have the aptitude, motivation and competence to undertake the assignment. In their context, aptitude is very similar to Early and Mosakowski’s cognitive element, however Schiama et al (2006) add a physical aspect to their trait. Without a definition to this physical requirement, it could be postulated that certain tactile skills or perhaps gender requirements are necessary for the foreign assignment. This would be congruent with Tung’s 1982 research that considered the requisite technical expertise, and in Western European and Japanese firms the potential importance of gender for the individual filling an international position.

4.3 Expatriate Effectiveness

Mol et al (2003) defined expatriate effectiveness as “the extent to which the expatriate’s job performance reflects behaviors that are relevant to the organization’s goals” (pp. 8). While this definition entails no real variation to that of an ordinary employee’s measure of effectiveness, Mol et al (2003) suggest the addition of the evaluation of an individual’s *adaptive performance* if they are to function as an expatriate. This trait reflects an individual’s ability to cope with change, and would be particularly beneficial for expatriates in terms of dealing with a change in the surrounding culture of their foreign work environment. This aspect fits with Tung’s (1982) results for US and European corporations, with both indicating that people who were to have increased levels of contact with local nationals should possess the attributes of adaptability and flexibility in new environmental settings.

In terms of measuring performance, Harzing and Christensen (2004) reviewed an integrated performance management system as identified by Armstrong (1994; as cited by Harzing and Christensen, 2004) and extrapolated it to consider variations in evaluation for the expatriate employee. The five areas identified by Armstrong (1994) are:

- 1) Clearly communicated links to organizational strategy
- 2) Individual performance goals
- 3) Regular feedback sessions
- 4) Opportunities for performance improvement
- 5) Links between performance and reward

In order to have a measure of effectiveness, the expatriate must have a clear understanding for the reason for the international assignment. Should the individual be provided an international assignment for personal managerial development, evaluation criteria will be quite different than for the role of acting to facilitate knowledge transfer.

Individual performance goals while on assignment may prove difficult to measure if the evaluating individual is located in the home office and rarely has contact with the expatriate (Shay and Baak, 2003). In this

case, criteria may best be scored by subordinates and through self-evaluations (Shay and Baak, 2003).

Harzing and Christensen (2004) recommend the establishment of a home office mentor to facilitate regular feedback sessions. This individual would function most effectively if they were to have previous international experience to provide some contextual understanding to the information they may receive from the expatriate employee. This experience would also assist in developing a level of perceived credibility on the part of the mentor. This mentor's role can also be utilized to provide feedback for areas of performance improvement in a timely manner, prior to the festering of problems of potential detriment to the expatriate's success (Harzing and Christensen (2004). In conjunction with this, Gupta and Govindarajan (2002) found that if MNC's enabled some level of corporate mentoring and cultural awareness training for their expatriate employees, they resultantly established and enabled a level of knowledge transfer to take place upon assignment.

The establishment of links between performance and reward expand beyond the financial or promotional escalation that are common, but also to the recognition of international accomplishment upon repatriation (Harzing and Christensen, 2004). This aspect is particularly important as the lack of recognition of the career capital that is gained via international assignments is a major cause for expatriates to leave their employers upon repatriation (Harzing and Christensen, 2004).

Expatriate Social Capital

When considering the expatriate as the means for transferring knowledge, and the utilization of socialization as a mechanism of facilitation, Mäkelä's 2007 study on knowledge sharing via expatriates provides excellent insight through the use of Nahapiet and Ghoshal's (1998) three previously discussed aspects of social capital; the structural, relational, and cognitive dimensions.

Mäkelä's (2007) study compared expatriates with individuals who would fall into Schiuma et al.'s (2006) 'Frequent Flyer' definition of an international assignee. She found that on the structural dimension, expatriate relationships developed to a richer state (more in number and variety) state than those who did not reside in the country. These relationships were also found to last for longer periods of time, particularly post repatriation.

On the relational dimension, Mäkelä (2007) found that a higher level of trust was developed between the expatriate members in the developed network. This was sighted to have resulted from the level of shared experiences and intensity of interaction that transpired during the expatriation experience. The mixing of work / life relationships also is sighted to have contributed to the increased level of trust, as individuals developed a better understanding of their colleagues through social interactions outside of the office (Mäkelä's,2007).

On the cognitive dimension, expatriates were found to develop a better understanding of the nation they were working in (Mäkelä, 2007). This is understandable from the standpoint of immersing an individual in a cultural region, however an interesting point that was noted is the fact that post repatriation, these individuals were said to have an increased ability to take different perspectives on a situation.

4.4 An Expatriate Management Model

Schiama et al (2006) conducted theoretical and empirical evaluations on the use of expatriates, and as a result developed a model to characterize the phases of an international assignment. This model consists of six phases:

- 1) Stakeholder satisfaction and contribution identification
- 2) Strategy definition: targets and objectives definition
- 3) Assignment planning: process analysis & capabilities identification
- 4) International worker profile definition
- 5) Assignment implementation
- 6) Repatriation or new assignment

The first three points of the model revolve around the aspects of strategy and planning. At the organizational level, the firm must have a strategic reason for utilizing an international assignment, and at the individual level, there must be strategic outcomes that the individual who is sent abroad must achieve.

5.0 STRATEGIC KNOWLEDGE TRANSFER

In terms of the Multi-National Corporation, the level and form of knowledge transfer will largely depend on the organizational structure of the global firm in terms of their competitive strategy. Looking at the four basic forms of international organizational structure depicted by the Stopford and Wells model, (Figure 4) and the reasons for their selection based on cost pressures and necessity for local responsiveness, variations on the necessary forms for knowledge transfer activities to be successfully executed can be identified.

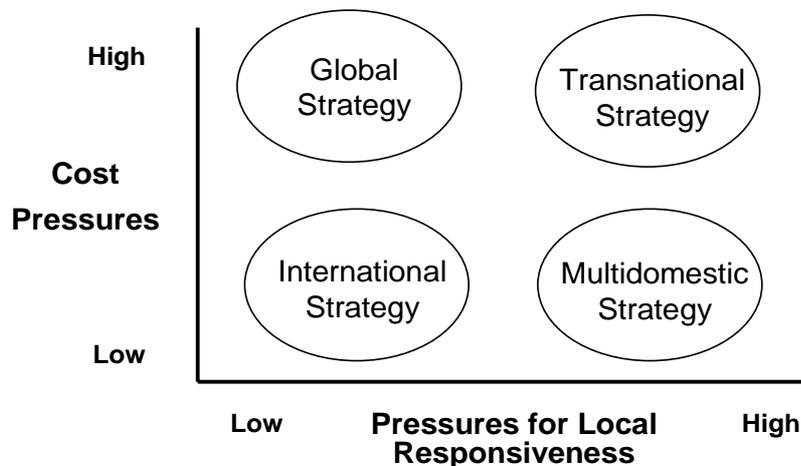


Figure 4: International Business Strategies, Hill, 2002, pp.392

Peng (2006) considered the differences in knowledge management for each strategy to be based on the subsidiary interdependence to headquarters and to other subsidiaries in the network. Considering this, the table shown as Figure 5 was developed (by Peng) to depict the levels of knowledge flow between subsidiaries.

Strategy	International	Multidomestic	Global	Transnational
Interdependence	Moderate	Low	Moderate	High
Role of foreign subsidiaries	Adapting and leveraging parent company competencies	Sensing and exploiting local opportunities	Implementing parent company initiatives	Differentiated contributions by subsidiaries to integrate worldwide operations
Development and diffusion of knowledge	Knowledge developed at the center and transferred to subsidiaries	Knowledge developed and retained within each subsidiary	Knowledge mostly developed and retained at the center and key locations	Knowledge developed jointly and shared worldwide
Flow of knowledge	Extensive flow of knowledge and people from headquarters to subsidiaries	Limited flow of knowledge and people in both direction (to and from the center)	Extensive flow of knowledge and people from the center and key locations to other subsidiaries	Extensive flow of knowledge and people in multiple directions.

Figure 5: Knowledge management in four types of multinational organizations (Peng, 2006 pp. 421).

The international strategy, with a moderate level of interdependence, has a high level of knowledge flowing from the parent to the organization. This is due to the necessity of reconstructing the parent organizations business model and methods of process execution in the foreign country. It is postulated that the transfer would largely be of the explicit nature for the establishment of the facility and processes, but utilizing tacit knowledge through expatriates to transfer corporate culture via socialization.

The multidomestic strategy, designed to maximize local responsiveness, has a low level of interdependence, as they operate as relatively autonomous units. This correspondingly leads to a low level of knowledge transfer, as knowledge that is developed is retained locally. Expatriates may relocate in this form of organization based on Edström and Galbraith (1977) idea of management development, such that an individual would have a better understanding of international operations; however this role would be more of a knowledge development activity than a knowledge transfer. Post this activity, the relocation of the expatriate would have only minimal value in terms of knowledge acquired, as the knowledge gained about the multidomestic's operations would only be applicable in the local context.

The global strategy, intent on taking advantage of factors that lower costs for developing standardized products, has a moderate level of interdependence as it seeks to learn from other portions of the organization in an effort to reduce its costs. Knowledge flows are high, as the subsidiary receives explicit knowledge in terms of how to produce a standardized product for international distribution. Tacit knowledge, and hence, expatriate movement, would flow from the subsidiary to other subsidiary 'centers of excellence' as the knowledge that has been developed is to be disseminated to other parts of the organization to help enhance productivity.

The transnational strategy, devised to address local responsiveness and cost pressures, operates off a high level of interdependence with subsidiaries and the parent organization. Knowledge flows are high in all directions in the organization, as subsidiaries seek to learn from each other, and the parent organization becomes less of a parent and more of a facilitator for organizational advancement. Explicit knowledge flows are high, as processes are sought to be improved and shared with other parts of the organization. The movement of expatriates to transfer tacit knowledge can result in the expatriate being classified as a third country national (TCN); or an individual working in a foreign country, for an international firm that does not originate from that person's home country. When Tung (1982) investigated the reasons to utilize third country nationals, both the U.S. and Western European organizations offered that TCN's were selected as they represented the best candidate for the job. This therefore creates a true international staffing aspect in transnational organizations that can also result in various levels of knowledge transfer.

With these considerations for the various strategic reasons for organizational structure, and the corresponding knowledge development and transfer levels, the international structure of organizations can be depicted as shown in Figure 6, which graphically shows their relationships between these aspects.

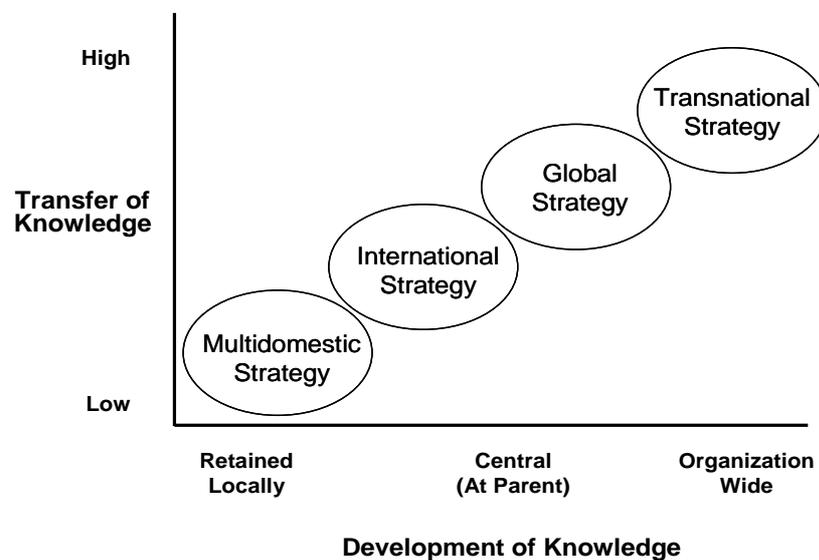


Figure 6. Multinational organizational strategies, knowledge development and transfer.

Knowledge Transfer and Local Adaptation

Jensen and Szulanski (2004) considered the Stopford and Wells model, (Figure 4) and the potential affects of adaptation on the knowledge being transferred to further explore the potential for knowledge stickiness caused by this organizational strategy. The goal of the organization may be to achieve a level of locally considered legitimacy in terms of both the firm and the product being offered if it is adapted to a form that is more culturally accepted by local citizens (Jensen and Szulanski 2004). The effort of customizing products, marketing, and research and development, in an effort to overcome the liability of foreignness was expected to reduce the stickiness of the transfer (Jensen and Szulanski, 2004). However, it was found that attempting to adapt products to achieve local responsiveness significantly increased the stickiness of the transfer.

A potential explanation for this is offered in that the adaptation may be inappropriate. In considering this Jensen and Szulanski (2004) highlight that firms may be placing too large a consideration on the characteristics of the knowledge being transferred, and not fully understanding the environment into which the knowledge (or organizational practice as they often sight it) is being transferred.

This aspect bears consideration for the multidomestic and transnationally structured firms, as there strategy seeks to take advantage of local adaptation. Kostova proposes a “country institutional profile (CIP) to capture the institutional characteristics of a national environment” (Kostova, 1999, pp. 314). This construct, designed around three categories, is a model that is designed to help conceptualize variations that exist between national environments to better understand adaptation requirements.

The *regulatory* aspect of the CIP is depicted to help understand the legal environment that the country operates under (Kostova, 1999). This will help an organization understand what aspects of business are allowed,

and those that are forbidden. The *cognitive* component of the CIP construct considers how individuals from the same country “notice, categorize, and interpret stimuli from the environment” (Kostova, 1999, pp. 314). The third aspect of the CIP is that of the *normative* component, which considers the values and norms adopted by a society. The last two aspects are also a component of culture that could be applied to the country and its locally established organization, however the addition of the regulatory aspect provides a variation, and more useful tool for business analysis to further understand potential obstacles to knowledge transfer, or areas of opportunity that result from common CIP structures, that would then entail an easier time developing social capital as well as potentially increased absorptive capacity of the recipient unit.

5.1 Institutional Distance

The CIP framework was also used by Kostova (1999) to consider organizational practices being transferred internationally. She proposed that:

“The success of transfer of a strategic organizational practice from a parent company to a recipient unit is negatively associated with the institutional distance between the countries of the parent company and the recipient unit” (Kostova, 1999, pp. 316).

This proposition is grounded in the fact that a variation in CIP conformity would hinder a knowledge transfer attempt. Jensen and Szulanski (2004) took this concept and, utilizing Szulanski’s concept of stickiness, devised a hypothesis to test: “Institutional distance will have a positive effect on stickiness (increasing it).

However, when testing the hypothesis, Jensen and Szulanski (2004) found that “increasing institutional distance decreases, rather than increases, stickiness” (pp. 516). A provided plausible explanation for this is that as institutional distances increase, and the practice to be transferred becomes more difficult to understand on the cognitive dimension, foreign subsidiaries will seek less adaptation, therefore reducing the potential for knowledge to become sticky.

5.2 Strategic Use of Knowledge Forms

Based on the two forms of knowledge, each can be utilized in differing forms for competitive advantage for knowledge based organizations. Explicit knowledge can be transferred via various technological means, to an infinite number of users for their development of understanding and application of the attained knowledge. While this method is more simplistic and scalable than the transfer of tacit knowledge, organizations may choose to center their competitive strategy on this form of knowledge sharing. Hansen et al (1999) looked at various consulting firms to develop an understanding on how they transferred knowledge and found that a firm such as Ernst & Young utilizes 250 people for the codification and re-distribution of knowledge gained from working on various projects. The establishment of this practice saves copious quantities of man hours a year by not redeveloping knowledge elements; up to one full working year for a team exemplified in the article. In focusing on the dissemination and scale use of explicit knowledge, the firm is deriving its competitive advantage based on the ability to reuse bits of previously developed knowledge. These firms rely on tacit knowledge acquisition to be via the general interactions that employees have, rather than being a directive or organizationally imposed initiative.

Contrastingly, other consulting firms such as Bain & Company and Boston Consulting Group utilize what Hansen et al. refer to as a *personalization strategy*. This method centers on the transfer of tacit knowledge via the previously mentioned socialization methods. The competitive advantage these firms seek is developed through the establishment of social networks that allow those involved to query other members for methods of solving various projects. Scale disbursement of previously developed knowledge is not as prevalent in these organizations, rather, the peer to peer socialization and transfer of tacit knowledge provides these organizations with the competitive advantage that is the center of their organizational strategy.

Knowledge in Clusters

One organizational strategy that has been implemented to take advantage of the knowledge based competitive advantage has been co-location of firms with similar services or products (Malmberg & Power, 2005). “Knowledge in clusters is created through spillover following [ed.] from the local mobility and sociability of individuals” (Malmberge & Power, 2005, pp. 409). The author’s attention to *knowledge creation* here can also be related to the transfer of knowledge as well. Here, the authors have identified both an advantage and disadvantage to the clustering of firms. It is advantageous to have increased levels of socialization to spur knowledge innovation (transfer between firms resulting in new abilities); yet disadvantages, as it allows for increased mobility of employees, resulting in levels of previously discussed knowledge leakage.

From an organizational perspective, the clustering of firms allows them to take advantage of the aforementioned socialization as a means of transferring tacit knowledge. As Malmberge and Power identify, the mobility of personnel is a “crucial mechanism through which knowledge diffuses in a cluster” (2005, pp. 422).

From an industry prospective, the socialization mechanism for tacit knowledge transfer can assist in firms developing new capabilities within their industry, potentially benefiting the industry as a whole. However, as Malmberg and Power (2005) discovered, most knowledge transfer in clusters is the result of an easily mobile work force, thus producing a disadvantages reason for organizations to strategically cluster.

This mobility of employees in the cluster is the result of reduced cost for labor relocation (both bourn by the company and the employee). Therefore it can be said that for knowledge based organizations, the strategic gain from clustering is a potential short-term gain, as in the long-term, knowledge leakage will result. To mitigate this fact, the

organization must bear expenses to retain employees, resulting in reduced profitability and potentially removing the competitiveness of the firm in a price driven market place.

Knowledge Transfer and Innovation

Just as knowledge transfer in clusters can help to produce innovative means of conducting business for a positive result, the inter-organizational knowledge transfer for strategic reasons can lead to valuable innovation as well (Kotabe et al, 2007). As stated, “firms are able to maximize innovative output when they renew their capabilities by transferring, sourcing, combining, and integrating innovative knowledge, not from the reallocation of capital and other assets, but through the transferring or sourcing of knowledge from strategically advantageous international locations” (Kotabe et al, 2007, pp.259). This is highly in line with Peng’s (2006) concepts of knowledge development and transfer in the various multinational organizational structures.

Kotabe et al.’s (2007) findings indicated that the transnational transfer of knowledge in the research and development field produces beneficial results up to a particular level. Their findings indicate that an average knowledge transfer of more than 45% results in a diminishing level of return (the level of knowledge transferred was measured as a ratio of the foreign patents developed in the organization to the total number of patents developed by the same organization). The explanation deduced by Kotabe et al. (2007) is that this diminishing return is the result of the high costs of transferring and administering the tacit knowledge.

However, based on the understanding of absorptive capacity “as a set of organizational routines and process by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organization capability” (Zahra and George, 2002, pp. 186), the 45% inflection point could represent the maximum level of absorptive capacity in the recipient organization.

6.0 CONCLUSION

This paper has reviewed the concept of knowledge transfer in general, and in the context of multinational organizations, both through the review of theoretical based models, as well as data generated by empirical studies. These reviews provide two reoccurring aspects that are particularly important; recipient absorptive capacity and the value of social capital.

As the international assignee is recognized as a method of transferring knowledge, these findings can have strategic significance for the multinational enterprise; an expatriate that has little social capital will need more time to develop relationships prior to becoming effective at the transfer of tacit knowledge. Additionally, the use of international assignees in areas that have little absorptive capacity will do little to transfer knowledge; conversely though, the use of an individual from the home country may be necessary if the foreign operation has minimal absorptive capacity. It may be necessary to send an individual there to establish a level of absorptive capacity as a green-field operation is initiated.

In terms of international organizational design, strategic advantages available through the application of tacit and explicit knowledge can be seen to each provide a competitive advantage. Additionally, location advantages as a result of knowledge opportunities are shown to exist, where firms are clustering around knowledge centers, just as 200 years ago firms clustered around physical attributes that provided organizational advantages.

This paper has shown how knowledge flows influence subsidiary operations for MNEs and how these knowledge transfer activities can provide the result of a competitive advantage. The affect and effect of knowledge transfer on Multinational Enterprises.

Further research could conceivably be directed at exactly what forms of knowledge MNE parent operations and subsidiaries are transferring, and what mechanisms they are utilizing for the transfer. This could then be compared to their international organizational structure to establish an understanding of the commonality of application of concepts (dissemination of tacit knowledge through socialization, and explicit knowledge through scale distribution means) to determine if one organizational structure has resulted in a strategically successful method of knowledge transfer.

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