Knowledge flows within Multi National Companies

Management control systems to manage HQ-BU relationship

Bachelor Thesis
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MANAGEMENT SUMMARY

Knowledge flows within Multi National Companies (MNCs) are essential for their competitive advantage. This research investigates what knowledge is and how knowledge flows are established. Furthermore it shows the barriers to knowledge flows that exist. In addition the concept MNC is discussed and it is explained why and how MNCs can derive competitive advantage from knowledge sharing and effective knowledge transfers. Every Business Unit (BU) of a MNC works in different environments. By classifying these environments a strategy to manage the HQ-BU relationship is assigned, based on centralization, integration and formalization. The aim of managing this relationship is to establish knowledge sharing. However the strategy by itself does not offer sufficient means to diminish the effect of barriers to knowledge, that is why different management control systems will be discussed. The aim of this research is to give a clear answer to the following question. What management control style should be used to manage the HQ-BU relationship in such a way that efficient and effective knowledge flows from HQ to BU in MNCs can be established? Management control systems are assigned to MNCs in specific strategic contexts, global environment, transnational environment and multidomestic environment. On the basis of level of autonomy of the BU the management control systems are assigned to the strategic contexts. It appears that in a global environment expatriates are a fitting management control style, in a transnational environment management-behavioural control mechanism seem most suitable and in a multidomestic environment is corporate socialization most appropriate.
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CHAPTER 1

1.1. Introduction
This document is the final written report of the bachelor programme, called a bachelor thesis. This research is conducted in the field of Organization and Strategy, in International Business. The main focus of this research is knowledge flows within Multi National Companies (MNCs). Therefore this chapter is commencing with the problem indication, followed by the problem statement and research questions. Then a general framework is developed in the research design. Furthermore the way of data collection is explained. This chapter will be closed with an explanation of the structure of the thesis.

1.2. Problem Indication
Knowledge flows within MNCs are essential for their competitive advantage. In fact of all resources the knowledge base might be the biggest source of competitive advantage a MNC has (Dierickx and Cool, 1989). It might even be the reason why MNCs exist, as they have the ability to exploit and transfer knowledge in an effective and efficient way, otherwise external market mechanisms would have been sufficient. Although the efficient and effective use of knowledge flows can be a MNCs’ competitive advantage, it does not mean that knowledge transfers take place effectively and efficiently on a routine basis (Gupta and Govindarajan, 2000). Research showed several barriers to knowledge transfers; motivational factors, lack of absorptive capacity, causal ambiguity, arduous relationship (Szulanski, 1996), principle-agent problem (Roth and O’Donnel, 1996), the ‘Not-Invented-Here’ syndrome, existence and richness of transmission channels, (Gupta and Govindarajan, 2000) and perception gaps (Asakawa, 2001). These barriers impede the knowledge flow and the way transferred knowledge is applied in the business units (BU), what imposes difficulties for Head Quarters (HQ) to transfer knowledge to the BU as well as establishing knowledge transfer from BU to HQ.

Another difficulty that MNCs have is that they have to deal with different time zones, different economic conditions and different cultural contexts. This leads to the fact that MNCs as a whole face different strategic contexts. Ghoshal and Nohria (1993) have developed three strategic environments that help to explain the HQ-BU relationship. Different strategic environments are characterized by different approaches of management of these relationships. There is a real challenge for the HQ of a MNC to find the right HQ-BU relationship in order to have effective and efficient knowledge flows. Ghoshal and Nohria (1993) distinguished three different strategic contexts, a global environment, a transnational environment and a multidomestic environment. For each strategic context the level of autonomy of the BU, the level of formalization and integration is researched. This research aims to provide appropriate management control systems in these different context in order to establish efficient and effective knowledge flows within
the MNCs. The aim is to minimize the barriers to knowledge flows as much as possible with a management control style fitting its strategic context.

1.3. Problem statement
What management control system should be used to manage the HQ-BU relationship in such a way that efficient and effective knowledge flows from HQ to BU in MNCs can be established?

1.4. Research Questions
1. What are knowledge flows and their barriers?
2. Which management control style facilitates MNCs to manage HQ – BU relationships in a way that barriers to knowledge are?

1.5. Research Design
The study on this research question is descriptive, a descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation (Sekaran, 2003). A literature study will be done in order to answer the research question.

1.6. Data Collection
For this research proposal only secondary data is used, literature review. The basis for the research question can be found in several papers, almost all published in top journals, referred to in the bachelor thesis manual. Extra emphasis was placed on the date of the papers, however some older papers (1993) were of great value and are therefore included.

The way of searching is done by the online contents catalogue from Tilburg University and mainly via JSTOR. Furthermore Metalib was used, a search engine of the University of Bradford where you have access to proquest and emerald. Problems here are that not all papers are available for free. Furthermore several search terms, like knowledge flows and multinational company, are used. They do not always fit the right articles and there are numerous results. However whenever a good paper is found one can apply the snowball effect, where references of that paper pointed to other papers, they are used in order to get more insights in the material. This is a good way to find additional high quality papers. A problem might be that these papers are from earlier dates and might become outdated.
To ensure the quality of the data used, only papers published in top journals, referred by the thesis manual will be used.
1.7. Structure of the thesis

Chapter two will start by answering research question one. This chapter will be explaining what knowledge is, how knowledge flows are established and what barriers to knowledge flows there exist. By answering these questions an answer to research question one should be given.

Chapter three will continue with answering the next research question. Questions that are of great importance are, what is a MNC, how does a MNC derive competitive advantage from knowledge, how difficult is it to manage knowledge flows in MNCs, what are different strategic contexts and how do they affect the HQ-BU relationship. Furthermore it is discussed which management controls systems are appropriate for each strategic context.

Chapter four will elaborate on conclusions and recommendations. Here an answer to the problem statement as well as the research questions will be given. Furthermore the recommendations for further research and possible shortcomings of this research will be presented.
CHAPTER 2

2.1. Introduction
In this chapter the research question that will be answered is; What are knowledge flows and their barriers? The aim is to set up a theoretical framework to get good understanding of knowledge flows. Firstly will be elaborated on what knowledge is and why it is important for MNCs. Secondly it will be explained how knowledge flows are established and finally the problems with knowledge flows will be discussed. To conclude the chapter, a summary and an answer to the research question will be given.

2.2. Knowledge
In order to determine what knowledge flows exactly are one must know what knowledge is. Research showed that there are two distinctions between knowledge, tacit and explicit knowledge. Polanyi (1996) and later, amongst others Nonaka and Takeuchi (1995) made these distinctions. Polanyi (1996) defined tacit knowledge as personal, context specific, not easy to formalize, hard to communicate to others and not visible. Tacit knowledge is based on intuitions and subjective insights. Tacit knowledge is knowledge in the human mind which poses the problem that people know more then they are able to tell. Tacit knowledge should be converted into texts, pictures or numbers so that they can be understood by others. Polanyi does not make a clear distinction between explicit and tacit knowledge. He beliefs that even tacit knowledge, that has been formalized in for example text or numbers, still relies on being tacitly understood and applied by people. Therefore all knowledge is tacit or rooted in tacit knowledge (Polanyi, 1996: p7). Polanyi (1996) defines explicit knowledge as codified and transferable in systematic language, implying that explicit knowledge is easier to transfer than tacit knowledge.

Denning (1998) offers a guide on why knowledge results in the need for knowledge management. Firstly he concludes that knowledge may be codified into texts, pictures or numbers, but only functions in people. It is not realistic to conclude that knowledge management can focus only on knowledge that is stored and codified, as that would imply that a big amount of tacit knowledge will be lost. Secondly he concludes that people are a critical factor in any knowledge management system. First only competent people with the right background are able to recover knowledge from its codified forms. Secondly only people can develop tacit knowledge to operationalise the explicit knowledge that is regained from codified knowledge. Finally only people can cope with the ambiguity of language, used to code knowledge as text is one of the main codes to transfer knowledge. This leads to the idea that enterprise cultures must shift from viewing knowledge not purely as an object independent from personal factors, but it has to be accepted that some knowledge is connected to personal capacity and is only partly codifiable and transferable by mechanical means. Therefore the importance of individuals in knowledge management should be recognized (Denning, 1998).
2.3. Establishment of knowledge flows
According to Gupta and Govindarajan (2000) knowledge flows are a function of five factors. The basic elements of communication are: a message, a sender, a coding scheme, a channel, transmission through the channel, a decoding scheme, a receiver, and the assignment of meaning to the decoded message. In this communication scheme the problems previously mentioned with knowledge can be connected. The sender is the person with tacit knowledge. Tacit knowledge should be coded into understandable artefacts, the coding scheme. This should be done in a way that the information can be decoded and the tacit knowledge can be understood by the receiver. Furthermore the knowledge should be relevant. Consistent with the five factors of communication Gupta and Govindarajan have established the following five factors as a function of knowledge transfers: (I) value of the source unit's knowledge stock, (II) motivational disposition of the source unit, (III) existence and richness of transmission channels, (IV) motivational disposition of the target unit, and (V) absorptive capacity of the target unit. In all these five factors barriers to knowledge transfer can occur.

2.4. Barriers to knowledge transfers
Several researchers (Gupta and Govindarajan, 2000 & Roth and O’Donnel, 1996 Hansen, 2000 & Szulanski 1996, 2003 &Awasaka, 2001) pointed out different barriers to knowledge transfers. In this paragraph the aim is to give an overview and explanation of eight barriers to knowledge transfers.

2.4.1. Relative advantage
Gupta and Govindarajan (2000) explain that knowledge flows across units are not cost free. Additionally it is said that different resources have different levels of value. That implies that the greater the value of a subsidiaries stock, the more attractive they become to other subsidiaries.

2.4.2. Power struggles, information monopoly and principle-agent
Motivational disposition of the source unit, suggests that a subsidiary with unique know-how is likely to enjoy an information monopoly. Linked to this is the fact that power struggles happen in every organization, emerging in the problem that the BU does not want to share its know-how because they think they require and retain power by keeping the know-how for themselves (Gupta and Govindarajan, 2000). Another problem might be that the efforts to transfer knowledge may interfere with the BU's own operations that managers view as more important (Szulanski, 2003). The relationship between HQ and BU can be seen as a principle-agent relationship. HQ is the principal and the BU is the agent. It is in the interest of HQ that a BU with valuable information/ capabilities shares with other units to contribute to the development of the other units and thus the company as a whole. However due to asymmetry between goals of HQ and BU the subsidiary might decide not to share information (Roth and O'Donnel, 1996).
2.4.3 Richness of transmission channels

The existence and richness of transmission channels, where it should be noted that knowledge flows cannot exist without the existence of transmission channels. Barriers are enlarged or diminished by richness of communication links such as openness, informality and density of communications (Gupta and Govindarajan 2000).

Hansen (2000) researched the richness of transmission channels as well and started off by stating that weak relationships between subunits might lead to more efficient knowledge sharing. However he concluded that neither weak nor strong relationships between operating units lead to efficient knowledge sharing. Nevertheless his research showed that that weak interunit ties have the strongest positive effect on completion time when knowledge is not complex (explicit knowledge). It shows as well that strong interunit ties offer the highest relative net effect when knowledge is complex (tacit knowledge) (Hansen 2000).

2.4.4 Not-Invented-Here syndrome

Motivational disposition of the target unit leads to the Not-Invented-Here syndrome. Here managers try to downgrade the potential of knowledge of other BUs/ HQ. Two drivers for this syndrome are ego-defence mechanisms and power struggles within organizations (Gupta and Govindarajan 2000).

2.4.5 Absorptive capacity

Absorptive capacity of the target unit, what means the ability to recognize the importance of information. Absorptive capacity might lead to the fact that some BUs do not pay enough attention to important information, because they do not recognize the value (Gupta and Govindarajan, 2000). Absorptive capacity is also mentioned by Szulanski (1996 & 2003). Research showed that the more context specific the solutions are, the harder and more costly it becomes to transfer the knowledge to other units that do not have the same absorptive capacity. That might result in the fact that the sender must make a significant effort to support the receiving units.

2.4.6 Eventfulness

Eventfulness occurs when problems exist that participants cannot handle on a routine basis. In such a case they are likely to evoke the greatest overall perception of difficulty. Therefore knowledge transfer with the most non-routine problems will be perceived as the most difficult (Szulanski ,1996).

2.4.7 Causal ambiguity

The difficulty in replicating a capability comes from ambiguity about what the factors of production are and how they interact during production. When the reasons of success cannot be identified, causal ambiguity is present and one cannot make an unambiguous list of the factors that measure the marginal contribution (Szulanski ,1996).
2.4.8. Perception Gaps
Cini, Ambor and Wehle (2005) and Awasaka (2001) defined perception gaps as the difference in perception between HQ and BU, concerning the management of the MNC. The first reason why perception gaps emerge is because of imperfect flow of information. A second reason why perception gaps emerge is the different experience of HQ and BU managers on level of information and the interpretation of information. The final reason is the BU’s decreasing dependence on HQ (Chini et al. 2005). The problem is that due to these perception gaps knowledge flows might not be efficient and knowledge might not be used to the fullest.

2.5. Conclusion
The question to be answered was; What are knowledge flows and their barriers? This chapter explained knowledge and its two forms of explicit knowledge and tacit knowledge. The barriers that are possible to occur are; relative advantage, power struggles, information monopoly, principle-agent problems, the richness of transmission channels, the Not-Invented-Here syndrome, eventfulness, causal ambiguity and finally perception gaps. These barriers have significant effect on the knowledge transfer. Especially knowledge transfers are important for MNCs as knowledge might offer a competitive advantage. In the next chapter the concept MNC as well as their ability to exploit knowledge will be discussed. It is fairly self-evident that neither of the mentioned barriers are easy to resolve and therefore the next chapter will elaborate on management control systems that will have a positive effect on knowledge transfers between HQ-BU. These management control systems will be coupled to the strategic context in which the MNC is present.
CHAPTER 3

3.1. Introduction
This chapter aims to answer the second research question: Which management control style facilitates MNCs to manage HQ – BU relationships in a way that barriers to knowledge are reduced? First will be explained what a MNC actually is and how they can derive competitive advantage from knowledge. Secondly the different strategic contexts will discussed, as corporate strategy will depend on strategic context. Management control systems will be connected to the different strategic contexts, on the basis of the level of the autonomy of the BU. The management control systems are imposed in order to manage the HQ-BU relationship in a way that knowledge barriers are reduced and the incentive to share knowledge is increased.

3.2. MNC and its competitive advantage from knowledge.
The first question to raise, is what is a MNC? Griffin & Pustay (2005) say that the term MNC is used to identify companies that have extensive involvement in international business. They give a more precise definition of a MNC: “MNC is a firm that engages in foreign direct investment and owns or controls value-adding activities in more than one country.” (Griffin and Putsay, 2005, p 11). According to them it is not only owning and controlling assets, but MNCs typically buy resources in different countries, produce goods/services in a variety of countries and finally sell those goods and services in a variety of countries. MNCs generally coordinate their BUs from a HQ, but on the other hand there are MNCs that choose to leave their BU in foreign markets relatively free in the way they adjust their operations to local circumstances.

The reason that MNCs exist is because of their ability to exploit and transfer knowledge through the intra-corporate context rather than through external mechanisms (Gupta and Govindarajan, 2000). In order to exploit knowledge, and to support knowledge creation, BUs of a MNC have to share knowledge across organizational entities. This implies that functional units are increasingly dependent on external sources of knowledge (Schlegelmilch and Chini, 2003)

The global strategy of a MNC is one of the most important issues of their international business operations (Tseng, 2006). That results in the fact that managers have to coordinate the implementation of the MNCs strategies among various subsidiaries, all over the world, with different cultures, time zones and different economic conditions (Tseng, 2006). According to Ghoshal and Nohria (1993), MNCs have the ability to exploit three sources of competitive advantage. The first one is global efficiency, where is meant that MNCs can locate all around the world in order to minimize production and distribution costs. Other advantages are that they can improve quality of the service or that they can capture economies of scope by using one factory to serve more countries. MNCs pursuing global efficiency are applying a global integrated strategy.
Secondly they can exploit multimarket flexibility. Unlike domestic firms MNCs can respond to changes in one country by implementing changes in another country. MNCs that do this use a multidomestic response strategy. Finally worldwide learning is one of the sources of competitive advantage. A MNC may learn from a national country and may transfer the outcomes to operations in other countries. MNCs pursuing worldwide learning apply a home replication strategy (Yi Ming Tseng, 2006).

For MNCs therefore the knowledge transfer capability is one of the most important advantages. Through transfer and adoption of knowledge subsidiaries gain competitive advantage over local firms (Yi Ming Tseng, 2006). Furthermore are knowledge transfers related to organizational learning implying that in a way BU become global nodes by learning systematically and effectively from the HQ (Yi Ming Tseng, 2006).

3.3. Management control systems in strategic contexts

Literature shows that MNC as a whole as well as BU face different strategic contexts. Prahalad and Doz (1987) and Ghoshal and Nohria (1994) developed a framework to classify the environment, responsiveness forces, and structure of the MNC. The different types of the environment are overall systems of interdependencies, that shape the HQ-BU relationship. Consistent with the specific strategic environment the HQ-BU relationships are governed by the combination of three mechanisms; normative integration, formalization and centralization (Ghoshal and Nohria 1993, Van Maanen and Schein 1979 in Chini et al. 2005). The aim is to connect management control-systems to the three strategic contexts, global environment, transnational environment and multidomestic environment on the basis of the level of autonomy in the specific strategic context. Management control systems are systems imposed to specifically manage the relationship HQ-BU. However it should be noted that little empirical research is done in this field and that the connection between these management control-systems and strategic context has not yet been researched or proven.

3.4. Global environment

In a global environment there is a presence of cross-national linkages, they generate forces of firm-wide coordination, what dominates local environmental forces. In other words; the pressure for local adaptation is weak and the pressure for global integration is strong (Bartlett and Ghoshal, 2000). This strategic context forces the HQ to manage the BU centralized, to impose formal systems and rules and finally to socialize the BU management through the attendance of HQ-nationals. The autonomy of the BU is limited, because standardized concepts are applied globally. In a global environment BUs are facing a high unidirectional flow of information from HQ to BU, implying that mostly performance figures are reported back to HQ. The relationship between HQ-BU can be reflected by structural uniformity, resulting in the fact that the BU does not have an important strategic function, but merely executes the directives and strategies of HQ (Chini et al. 2005).
In this strategic context knowledge flows occur mainly from HQ to BU (Chini et al. 2005), implying that the BU is dependent on HQ. Less autonomy is given to the BU, resulting in less fewer problems with barriers as the BU is highly dependent on HQ. It is important that the BU uses knowledge from HQ, however fewer knowledge transfers are essential from BU to HQ. Expatriates might be an appropriate management control system to manage the HQ-BU relationship in a global environment. According to Chini et al. (2005) there is a need for centralized management and BU management need to be socialized by the attendance of HQ-nationals, or expatriates in this case.

**Expatriates**

From HQ perspective there are two reasons why expatriates managers will act in accordance with HQ interests. First are future career prospects of an BU manager, more likely than that of an local BU manager, influenced by HQ evaluation of how well the BU contributes to the MNC’s overall performance. Secondly expatriates are less likely to identify with the BU and are more likely to be socialised in the parent company (Lubatkin, Lane and Schulze 2001). Furthermore, knowledge transfer is carried out in the context of interpersonal relationships. Expatriates are more likely to have longer and stronger social ties with managers at HQ and other MNC BU (Gupta and Govindarajan, 2000). Next to that expatriate managers might be perceived as more trustworthy than local managers. Third is that expatriate managers might be better positioned to understand the added value of knowledge sharing (Bjorkman et al. 2004) Finally there might be fewer communication problems between them and their colleagues in other BUs (Gupta and Govindarajan, 2000). This strategy offers a possibility to socialize with BU management and therefore might be a suitable strategy to pursue in a global environment.

**3.5. Transnational environment**

In a transnational environment there is a strong need for local adaptation and global integration that results in the need for a strategy characterized by a combination of integrative mechanisms, e.g. centralized product development and normative integration that are to a certain extent diminished by local demands (Chini et al. 2005). However it is expected that in this environment a lot of tensions can arise, because of the leverage of responses and integrative forces. Due to the fact that there is high R&D intensity and there is need for adoption to local needs there is global standardization. There are still numerous knowledge transfers from HQ-BU and vice-versa. In this context BUs have relatively more autonomy in their decisions as in the case of a global environment, in this case the strategic role of the BU is more important because many decisions have to be taken on host-country level (Bartlett and Ghoshal, 1987).

In a transnational environment BU managers have relatively more autonomy due to the strong pressure for local adaptation. Several problems can occur with managers of the BU due to this increasing level of autonomy, e.g. bargaining power, rent
seeking behaviour and principle-agent problems. Therefore management control systems that are focused on manager behaviour might be suitable in a transnational environment. Suggested management control systems would be monitoring, performance evaluation criterion and management compensation. It should be noted that knowledge transfers occur vice-versa between HQ-BU (Bartlett and Ghoshal, 1987), resulting in mutual dependence for HQ and BU.

**Monitoring**

Literature (Williamson, 1996 & Foss and Foss, 2002) showed that the level of autonomy of the BU is determined by discretion. It depends on how much autonomy the HQ wants to give to the BU. According to the research of Madambi and Navarra (2004) it is not only discretion that determines the level of autonomy but the bargaining power of a BU is equally important. Bargaining power is based on intangible assets over which it is hard to enforce and define property rights and most of these assets are knowledge (Nonaka and Takeuchi, 1995). A BU needs these intangible assets for bargaining power, otherwise HQ is able to re-take control over the assets. Bargaining power is favourable for a BU when it becomes more profitable. The corporate strategy becomes more costly for the BU, as there is often wealth sharing imposed by HQ amongst BU. The problem with bargaining power is that BU managers can exploit this bargaining power with rent-seeking behaviour. BU managers’ bargaining power is the prime determinant within the firm of the allocation of rents. This rent-seeking behaviour can have a damaging effect on the MNC performance as a whole and the solution might be monitoring. For a BU-HQ relationship this means that the autonomy of a BU should be decreased in order to decrease bargaining power. A note is that BU managers will always have some level of bargaining power, which declines the power of HQ (Madambi and Navarra, 2004).

**Performance evaluation criterion**

According to Bjorkman et al. (2004) several mechanisms can be used to reduce the principal-agent problems occurring in MNC HQ-BU relationships. The first one specified is specification of performance evaluation criterion. The criteria used by HQ to evaluate the performance of a BU are likely to influence the objectives of BU managers (O’Donnel, 2000). It is especially important to specify measures used to evaluate BU when there is a large information-asymmetry between the HQ (principal) and the BU (agent), making direct supervision difficult to apply. This implies that the higher the perceived importance attached to knowledge transfer by HQ when appraising BU, the more the knowledge will be transferred (Bjorkman et al. 2004) This strategy is diminishing the effects of relative advantage and the principle-agent problem.

**Management compensation**

The second mechanism Bjorkman et al. (2004) distinguish is BU management compensation. HQ might impose financial incentives in order to improve knowledge sharing. The HQ (principal) might impose an incentive system that encourages the BU (agent) to pursue the HQ’s objectives. A good example would be that the amount
of a bonus of a BU manager will be given on the base of the performance of the BU as well as on the base of the performance of the regional/global performance of the MNC as a whole (Roth and O'Donnel, 1996). Gupta and Govindarajan (2000) suggested similarly that there would be a positive relationship between knowledge outflow and the extent to which the bonus of a BU manager is connected to the MNC’s performance rather than the BU’s performance. However Bjorkman et al. (2004) suggest that not only the incentive system is important to introduce for the manager, but that it should be introduced for the other members of the top-management of the BU, as they are likely to influence knowledge sharing as well. Although these seem good mechanisms to improve knowledge sharing, they are imperfect mechanisms to reduce the principal-agent problem within the HQ-BU relationship. First of all is it difficult to measure the amount of knowledge shared by the BU and secondly is the regional/global performance of a MNC influenced by several other factors. Consequently BU managers might conclude that it is not in their interest to spend limited resources on knowledge sharing. Therefore HQ will use monitoring or behavioural control strategies to ensure that the BU will handle in accordance with the MNC interests. This strategy is deteriorating the effects of power struggles, information monopoly and the principle-agent problem.

3.6. Multinational environment
In a multinational environment the MNC is challenged to react quickly to specific local demands. In this environment forces of global integration are weak and due to high structural differentiation. A differentiated fit approach is needed to manage the HQ-BU relationship (Chini et al. 2005). Ghoshal and Nohria (1989 & 1994) introduced the differentiated fit. The main idea is that a principle of differentiated fit is adopted so that the structure of each HQ-BU relation in the MNC matches the BU context. They argue that the BU context can be differentiated on the joint conditions, its local resource levels and environmental complexity relative to other BU in the MNC. The fit structure of the HQ-BU relationship is a combination of three elements. First centralization, authority is centralized when managers at the upper level of the company maintain the power to make decisions. The second element is formalization, the use of systematic procedures and rules in the decision making process. Finally normative integration, shared values and consensus as a base for the decision making process (Ghoshal and Nohria 1989).

Ghoshal and Nohria recognize that within the HQ-BU relationship there are two interest situations; interdependent and independent interest situations. Meaning that with interdependent interest situations each member is internally motivated to transact, because both believe that they will achieve their goals better by cooperating. With an independent interest situation there is no interaction. In this case interaction may be imposed by the HQ. Ghoshal and Nohria argue that environmental complexity and local resources have an influence on interdependency/independency and on the dependency of the BU and HQ relationship. E.g. increased environmental complexity, imperfect knowledge and fluctuations in the environment, lead to increased interdependency as both BU and
HQ are posed with a situation of mutual vulnerability. Figure 1, published by Ghoshal and Nohria (1989) shows these relationships.

Ghoshal and Nohria (1989) suggest how a MNC may allocate its limited administrative resources. A distinction between environmental complexity and local resources is made. A BU with low levels of local resources and environments with relatively low complexity represent a situation where administrative resources yield the lowest benefit, therefore economizing on these cost is most important. Centralization is therefore the fitting structure in this situation. This is the best strategy as local capabilities are often so impoverished that they need continuous monitoring and HQ support in the decision making process.

The second situation that can occur is that there is an abundance of local resources and low environmental complexity. This is often the case due to legacy of history. Normally this are older BU’s of a MNC and they often have a pool of sticky resources on which performance the MNC is dependent. Here a greater investment of administrative resources is needed. In this case formalization is the most suitable since it facilitates exchange in times of conflict. Furthermore it offers more predictability over times by constraining it to a set of well-established routines and rules.

Third is a situation where a BU have scarce local resources and is situated in a complex environment. Often this are BUs that are either very young or could not cope with the rapid changing environment. These BUs often face a crisis and need significant administrative resource commitments. The fact that the BU is highly dependent in this case, makes centralization necessary and feasible.

Fourth is a situation when the BU has abundant resources and faces a complex environment. In this case formalization is desirable to constrain autonomous interests and to provide a framework for coordinated decision making, it must be limited because it imposes a threat on adapting quickly to environmental pressures. In this case normative integration would be the most appropriate to apply, because it offers the best possibilities in facilitating interdependence (Goshal and Nohria 1989).

In a multidomestic environment there is strong pressure for local adaptation and weak pressure for global integration (Bartlett and Ghoshal, 2000), resulting in problems with the knowledge flow from BU to HQ as the BU acquires more autonomy (their information is very valuable for HQ, but information for BU from HQ is less valuable). Therefore corporate socialization might be an appropriate management control style in this strategic context. Interaction between managers of HQ and BU is needed to establish knowledge flows from the BU managers to HQ managers. The
establishment of a relationship between the managers is needed and can be obtained by corporate socialization.

Corporate socialization
The aim of corporate socialization is to achieve a set of shared values, beliefs and objectives across the different BU of the MNC (Ghoshal and Nohria, 1994). By doing this BU are provided with a strong sense of unitary corporate culture as well as a strong sense of shared mission (Hedlund and Kogut, 1993 in the work of Bjorkman et all, 2004). Ouchi in the work of Ghoshal and Nohria (1995) cites that common values and beliefs offer harmony of interests, and that erases the possibility of opportunistic behaviour. If one can establish shared values and beliefs for the managers of the BU as well as for the managers of the HQ, it is likely that managers of BUs will use their specific local knowledge not only in the interest of the BU but as well in the interest of the MNC. This can even be achieved when there is no formal oversight by HQ. It does not mean however that there is no need for hierarchical or bureaucratic elements in the HQ-BU relationship. It does mean that emphasis is put on creating those shared values and beliefs across all BU’s. In this management control system differences across BUs are legitimate as they are incorporated in the set of common values, and so are the actions that respond to these differences. In order to establish this set of shared values selection, training and rotation of managers. Furthermore open communication between HQ and BU is essential. Careful attention for socialization as well as communication between all members of the MNC should improve these shared values. Besides that socialization and communication can build trust among managers what offers a better climate for negotiation and resolution of potential conflicts (Ghoshal and Nohria, 1994). Bjorkman et al showed that the more extensive the use of corporate socialization the more the knowledge transferred from BU to other corporate units. Consequently consistent with socialisation theory it resulted that the more HQ managers interacted with BU managers through for example visits, task forces and in cross-unit committees the more knowledge is transferred (Bjorkman et all, 2004).

3.7. Conclusion
Which management control style facilitates MNCs to manage HQ – BU relationships in a way that barriers to knowledge are reduced? There is not a straight forward answer to this question. It is important that a clear distinction is made in the level of autonomy of a BU in a global environment, transnational environment or a multinational environment. The management control systems should be imposed according to the level of autonomy designated to the BU. This is done to one’s own discretion and resulted in the following. In a global environment the use of expatriates is suitable as there is a need for socialization with the BU management. In a transnational environment BU managers have relatively more autonomy due to the strong pressure for local adaptation, what might imposes problems for HQ as the managers gain bargaining power. Therefore the implementation of management-behaviour control mechanisms as monitoring, performance evaluation criterion and management compensation are fitting in this strategic context. Finally in a
multidomestic environment there is strong pressure for local adaptation and weak pressure for global integration (Bartlett and Ghoshal, 2000), resulting in problems with the knowledge flow from BU to HQ as the BU acquires more autonomy. Corporate socialization is a management control style that tries to achieve a set of shared values that might help to establish a good relationship between HQ and BU managers. In this way HQ might be able to ascertain knowledge flows from BU to HQ.
CHAPTER 4

4.1. Introduction
The aim of this chapter is to give sound conclusions to the research questions and the problem statement posed. Furthermore the limitations of this research will be discussed and finally recommendations will be given.

4.2. Conclusions
The first research question that was posed is: What are knowledge flows and their barriers? The first thing to investigate here was, what is knowledge? Knowledge can be divided in two kinds of knowledge, explicit and tacit knowledge. Explicit knowledge is codifiable and easy to transfer, where tacit knowledge is not codifiable, difficult to transfer and not visible (Polanyi, 1996 & Nonaka and Takeuchi, 1995) Knowledge can be viewed as a resource. Denning (1998) argues that knowledge results in the need for knowledge management.

Knowledge flows are a function of 5 factors; (I) value of the source unit's knowledge stock, (II) motivational disposition of the source unit, (III) existence and richness of transmission channels, (IV) motivational disposition of the target unit, and (V) absorptive capacity of the target unit. In all these five factors barriers to knowledge transfer can occur. Barriers to knowledge transfers are, relative advantage, causal ambiguity, power struggles, information monopoly, principle-agent problem, richness of transmission channels, Not-Invented-Here syndrome, absorptive capacity, eventfulness and perception gaps (Szulanski, 1996 & 2003 & Gupta and Govindarajan, 2000 & Awaska, 2001 & Chini et al. 2005 & Hansen, 2000)

The second research question to answer is: Which management control style facilitates MNCs to manage HQ – BU relationships in a way that barriers to knowledge are reduced and that the knowledge indeed is shared by the subsidiary? The first point is to point out the competitive advantage MNC gain from knowledge. The reason that MNCs exist is because of their ability to exploit and transfer knowledge through the intra-corporate context rather than through external mechanisms (Gupta and Govindarajan, 2000). In order to exploit knowledge, and to support knowledge creation, BU of a MNC have to share knowledge across organizational entities (Shlegelmich & Chini 2003).

To see what management control systems would be best applied a distinction is made between strategic contexts, global environment, transnational environment and multinational environment that should be managed with respectively high centralization, a combination of integrative mechanisms and differentiated fit (Chini et al. 2005 and Gupta and Govindarajan, 2000). Several management control systems can be imposed to improve the knowledge sharing of the BU. First; when a BU gets too much bargaining power and rent-seeking behaviour occurs, monitoring should be imposed (Madambi and Navarra, 2004). Secondly, make the performance evaluation criterion clear to managers, so that they know on what they will be appraised resulting in more effort on these aspects from the managers, e.g. knowledge sharing. Third management compensation, where managers get a bonus not only according
the performance of their BU but as well on the performance of the MNC as a whole (Bjorkman et al. 2004 & Gupta and Govindarajan, 2000). Fourth is national background of the BU managers, use expatriates, as they are more social embedded with HQ (Bjorkman et al. 2004). Finally is the method of corporate socialization where the aim is to achieve a set of shared values, beliefs and objectives across the different BU of the MNC. In this way it is easier to share knowledge, as this is a personal process (Ghoshal and Nohria, 1994 & Bjorkman et al, 2004). These management control systems offer ways to diminish the effects of barriers on knowledge flows. This research connected these management control systems and concluded the following.

In a global environment HQ should use expatriates. According to Chini et al. (2005) there is a need for centralized management and BU management need to be socialized by the attendance of HQ-nationals, or expatriates in this case.

In a transnational environment management behaviour-control mechanisms should be imposed as managers have relatively more autonomy due to the strong pressure for local adaptation. An appropriate management control systems would be monitoring, performance evaluation criterion and management compensation.

Finally in a multidomestic environment corporate socialization is a matching management control style, as there is strong pressure for local adaptation and weak pressure for global integration (Bartlett and Ghoshal, 2000), resulting in problems with the knowledge flow from BU to HQ as the BU acquires more autonomy. Interaction between managers of HQ and BU is needed to acquire information from the BU managers.

What management control style should be used to manage the HQ-BU relationship in such a way that efficient and effective knowledge flows from HQ to BU in MNCs can be established? This is the main question of this research. However this research does not give a clear answer. If different environments are used to determine the level of centralization, formalization and integration, one can distinguish several different levels in the amount of autonomy a BU has. On the basis of the level of autonomy the different management control systems are connected to the strategic context. The answer to this question therefore will be that in a global environment HQ should use expatriates, in a transnational environment management behaviour-control mechanism should be used and in a multidomestic environment corporate socialization is a suitable management control system.

There is not one single management control style that is appropriate for all MNCs in all strategic contexts.

4.3. Limitations of the research

‘There is a lack of understanding of how organizational design issues relates to knowledge process in MNCs and it has a theoretical, empirical and managerial dimension’ (Foss and Pedersen 2004). This was indeed one of the problems incurred, as not lot of material is published on this matter. Especially concerning strategies to manage the HQ-BU relationship only two published articles (from Ghoshal and Nohria (1994) and Bjorkman et al. (2004)) were used. Furthermore it
was hard to connect management control systems to strategic contexts. Little research has been done on this matter and this is done merely on own insights, without any empirical evidence. Additional problems were incurred due to the fact that there are several names for management control systems and strategic contexts, what made it hard to find relevant articles.

Obviously there is a problem with time constraint and limitation of resources. Time constraint in the sense that not all papers can be read and that abstracts not always reflect very well what is in the paper. Limitation of resources is that merely published articles were used and hardly any text books or surveys. It is a literature study and no real-life experience is reflected in this research. Finally there are articles used that are of old age and might be out-dated.

4.4. Recommendations
After this research it is recommended to do some more research on whether the mentioned strategies are used in the strategic contexts. So do MNCs indeed use differentiated fit in a multinational environment. Is the level of autonomy of the BU in the three strategic contexts indeed as suggested. Connected to that are management control systems imposed as supposed and are they necessary?

Secondly it would be wise to research whether BU-BU relationships are just as important as the HQ-BU relationship and how this should be managed. Should in this case HQ be the initiator of the strategy and management control systems?

On the base of this research it can be recommended to apply the right form of integration, formalization and centralization according to the environment the BU is present in. Efficient knowledge sharing can be improved by imposing management control systems according to the level of autonomy of the BU in different strategic contexts.
REFERENCES


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<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>MNC</td>
<td>Multi National Company</td>
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<tr>
<td>HQ</td>
<td>Headquarters</td>
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<td>BU</td>
<td>Business Unit</td>
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