The Ignorant MNE

The Role of Perception Gaps in Knowledge Management

Niklas Arvidsson

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To Mother and Father

PREFACE

This thesis was written while Niklas Arvidsson was a doctoral student at the Institute of International Business (IIB). The research was generously founded by the Sasakawa Peace Foundation, The Bank of Sweden Tercentenary Foundation (Riksbankens Jubileumsfond), the Swedish Council for Research in the Humanities and Social Sciences (HSFR), and the CaMiNO Consortium. This support is gratefully acknowledged.

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Professor Örjan Sölvell

Director, Institute of International Business

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I started this project as a – somewhat – young but definitely curious person who wanted to know more. I end the process as a – somewhat – middle-aged person who still wants to know more. Each answer has inspired new questions. Still, I have found reliable answers to many questions – most of them not discussed in the thesis. In retrospect, my dissertation project proved successful since it met some of the important goals in my life – to never stop asking and trying to answer questions while having fun!

Even though the ideas displayed in this book are results from a rather isolated process, I owe much to some persons. To start with, Jan-Erik Vahlne provided an opportunity for me to explore what IIB really, really stands for. He made me understand what research is – and is not. In parallel, Kjell Nordström functioned as the great source of inspiration he truly is. Kjell's unique ability to think "*fonky*" and to integrate research with practice created a very attractive atmosphere to work in. These two comrades in arms also share another characteristic. They laugh. The decision to join IIB was easy. Once at IIB, I met Gunnar Hedlund. His creative thinking has inspired many of my ideas. Unfortunately, he left our world long before his potential contributions to mankind were exploited. His knowledge, skills, and ability to create fun are all missed. A fellow doctoral student – Jerker Denrell – has always been providing articulated and valuable advice. Even though you destroyed the "ackord-system" at IIB, I appreciate all the "talks" we had.

In the final stages of my work, four persons came to my rescue, and deserve special thanks. First, Julian Birkinshaw helped me formulate the final research questions and guided me through the data collection. He supported me when few others did, and encouraged me to complete the task I had set for myself. Second, Peter Hagström made sure I kept deadlines, focused on the things needed to be done, positioned things correctly, and – most importantly – was not discouraged by temporary set-backs. Third, Udo Zander became an important discussion partner. Whenever I had a puzzle to solve (and was able to strap Udo in his chair), he guided me toward possible solutions. He saw the greater story and helped me understand what I was doing. Moreover, Udo's ambitions to think differently contributed to my efforts in achieving just that. Fourth, Lars-Gunnar Mattsson helped me understand the world of marketing, and accepted the task as lead supervisor. To all four: THANK YOU!

IIB has always been a great place to be. The institute provides a very special environment by combining two fundamental explanations behind successful research – path breaking thinking and parties. The path breaking thinking of IIB researchers has materialized in a significant number of articles and books during the last decades. The great parties even outnumber the writings. For all shared endeavors and laughs - thank you: Vanja, Kerstin, Lena W, Amelie, Gunnar, Lotte, Malin, Robert, Udo, Peter, David, Jan-Erik, Henrik B, Henrik G, Jerker, Stefan, Lin, Niclas L, Patrick, Jonas, Laurence, Robin, Seán, Ivo, Lena Z, Kjell, Julian, Christian, Carl, Omar, Anisya, Lars H, Örjan, Ulf, Mats, Styrbjörn, and Mikael.

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My own history of the years I wrote the thesis is a story of life and death. In June 1996, a few days short of her 60th birthday, my mother – Ingegärd – tragically passed away. She was just too good for this to happen. In that time, my thesis was not important. In November 1996, Lova was born. Life continued and happiness had started its comeback. The inspiration to complete the thesis returned. Later, I was challenged to complete the thesis before our second baby was to be born. I lost. Hanna was born in February, 1999. Today, the thesis is important for me but I would not hesitate to trade it for an opportunity to let my mother see my children grow up. To the Arvidssons – I just want to say school is over! Thank you for being there.

Last, the most special persons – Klara, Lova and Hanna – are the ones who have suffered the most when my writer's block has hit. The value of your support can not be expressed in words – instead I give all three of you a special "*ding*". And Klara – you also get a "*zzzzzt*".

Stockholm, June 30, 1999

Niklas Arvidsson

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CHAPTER 1. INTRODUCTION[1].

This chapter presents the research issues and sets the stage for the study based on the characteristics of the multinational enterprise, the capabilities as manifestations of knowledge, the knowledge-management process, the evaluation of capability, and the transfer of practices. Our principal question concerns factors deciding how practices flow in the multinational enterprise, and to what extent knowledge management is possible.

1.1 The Multinational Enterprise[2] and Knowledge Management

The Multinational Enterprise (MNE) is glorified as one of the most successful phenomena of the modern era. No matter how its importance is measured – by number of employees, shares of global trade and currency flows, profitability, wealth, or any other criterion – the conclusion is the same. The MNE – as an institution – is very powerful. One of the main reasons why the MNE is so successful has long been argued to be its unique capacity to transfer resources geographically inside its own organizational boundaries. In fact, the *raison-d´être* for the MNE is its ability to combine favorable location-specific advantages – such as inexpensive raw materials or labor – with unique organization-specific advantages – such as brand names, technologies, or patents – by internalizing markets for input factors to production processes. The MNE is often able to take the best factors from many different parts of the world and combine them into effective production processes and highly competitive products. In comparison to nationally restricted firms as well as market transactions, the main advantage of the MNE is its ability to internalize transfers of geographically dispersed resources.

If the MNE has a competitive advantage based, for instance, on marketing capability, it can leverage this skill by exploiting it on several markets simultaneously. It can also combine the skill with geographically confined sources of advantages – e.g. inexpensive and/or skilled labor or favorable access to input factors. In combination, these advantages may give the firm an almost unbeatable edge over its competitors. A firm based in one country alone must resort to market transactions to obtain input factors or meet output demand in other countries, and thus accept current market terms and conditions. This generally does not create an advantage.

It is the opportunity facing the MNE to flexibly access and exploit the most favorable conditions for accessing input or output factors in a multitude of countries that yields an advantage.

The traditional input factors for production processes are land, raw materials, unskilled labor, and capital. In the last century, knowledge has become the principal input factor that yields competitive advantage. The advantages based on traditional input factors, while still important, are no longer sufficient conditions behind competitive advantages. Consequently, one of the main concerns of the modern MNE is to leverage knowledge on a global scale. The MNE would benefit greatly if capabilities developed, for instance, by its Spanish subsidiary could be imitated by subsidiaries in Italy, Sweden, Japan, Canada, and New Zealand. In today's society, the ability of the MNE to integrate skills has become extremely important.

In practice, benchmarking is used as a way to improve efficiency by integrating skills after having compared procedures in one organization with those in another. It has been defined as "*the search for industry best practices that lead to superior performance*" (Camp, 1989). In essence, benchmarking can be internal or external. Internal is when comparisons are made between two or more operative units in the same firm, while there are two types of external benchmarking. Competitive benchmarking is a comparison with one or several competitors in the same industry, while functional benchmarking is done between similar activities or functions in firms from widely different industries. Thus, "*benchmarking is a continuous process of measuring against the best*" (Camp, 1989). In short, the important issues in benchmarking are to decide what to analyze, with whom to compare, as well as how to collect and analyze the necessary data. Our study consequently relates to these three principal issues in relation to internal benchmarking.

Initially, research on knowledge management focused primarily on technological capabilities. As a consequence, studies concluded that the articulability of knowledge, i.e. the degree to which the knowledge residing in the firm could be codified and documented in a way that would permit others to understand and use it was a major factor in explaining transfer patterns. But while codification made it easier to transfer capabilities internally, it also increased the risk of external imitation. Still, patents were believed to offer sufficient protection against attempts by competitors to imitate a firm's unique skills. Today,

knowledge relating to activities such as logistics, quality control, and marketing has become increasingly important. Here, patents do not offer protection. On the other hand, unique knowledge may sometimes be located in the heads or hands of individuals, so that it may still be difficult to transfer both internally and externally. In terms of marketing capabilities, protective measures against competitors include, for instance, brand names and secret operating processes.

As a result of these changes, studies of transfers of best practices have become in vogue during the last decade. Most of these studies have focused on transfers of technological capabilities. An apparent neglect of research regarding marketing activities, in combination with the special character of marketing, aroused our interest in the area. Marketing as such deals with how to approach and meet with other human beings; arguably, it can be hypothesized to involve skills that are extremely difficult to observe, articulate and codify. Moreover, marketing capabilities may be locally adapted and specialized. If so, then by implication we would expect transfer of marketing capabilities to be extraordinary difficult. This subject - the transfer of marketing capabilities within the MNE – is the focus of our study.

Our point of departure in this endeavor is to view the MNE as a portfolio of assets and resources spread around the globe. These assets and resources have different characteristics and include machines, stocks of input factors, contracts and relationships with other firms and employees, patents, brand names, etc. Some of the assets are used only in a local market since the benefits from using them in new markets are limited or nonexistent. In other cases, however, it is reasonable to expect significant benefits from exploiting the resources in several markets simultaneously. These benefits are described as economies of scale or scope. Consequently, firms will generally seek to exploit such benefits.

Accordingly, the MNE exists because of its unique opportunities and abilities for internal integration and leveraging of assets and resources located in different countries and markets. We consequently build our research approach on long-established theory arguing that the MNE's raison-d'étre is based on combining organization-specific skills and location-specific advantages by internalizing market transactions. We will devote particular attention to how the MNE internally transfers and integrates geographically dispersed resources or capabilities.

Our focus on resources as a way to explain the behavior of firms reflects our own and others' growing interest in knowledge and skills as critical resources. The term capability is used to describe the practical manifestation of knowledge concerning, for instance, how to create, manufacture and/or sell goods and services. Capabilities are the services that specific resources render, and it has been argued that that the MNE's unique skills relate specifically to intra-firm transfer of capabilities. Therefore, our interest is not focused on internal leverage of resources in general but on leverage of capabilities. Our conceptual discussion concerns transfer of capabilities per se, and capabilities relating to marketing activities[3].

One important prerequisite for the attempt to transfer and leverage globally dispersed capabilities is local adaptation of skills. Benefits from transfers require that subsidiaries actually possess differing capabilities either in terms of the objectives which the capabilities are intended to meet, or in terms of the efficiency with which a particular objective is met. In the first case, successful transfer of capabilities would enable the recipient to meet new objectives, while in the second case the recipient would be able to meet current objectives more efficiently. In both cases the MNE would be more effective in the overall use of its inherent resources. In other words, global transfers are motivated by local adaptation that yields differences in capability. Global integration – via transfers and standardization of practices – is a second dimension of global resource utilization. Local adaptation and global integration are not mutually exclusive; instead, they may be complementary. The transfer will usually mean increased global integration, though not necessarily decreased local adaptation.

The reasons why technological capabilities have been studied extensively are several. First, there are generally large benefits from economies of scale in R&D and manufacturing based on global standardization. Second, the technical and physical characteristics of these types of activities facilitate academic research. Third, these activities generally account for a significant share of the MNE's total costs; therefore, they are important in attempts to achieve cost effectiveness. Studies of intra-firm integration and transfer of marketing capabilities are less frequent. One reason is that marketing activities generally are specific for the local market environment and that the benefits from transferring capabilities between markets are assumed to be small or even negative. In other words, marketing capabilities are seen as locally adapted and sometimes are not assumed to involve economies of scale and scope.

Still, there are proponents of a discussion as to which specific types of marketing activities that may involve economies of scale and/or scope, and thus offer potential benefits from intra-firm transfer between markets and/or subsidiaries. Evidently, the question of benefits from transferring marketing capabilities is an open one, and local-global complementarity is likely to hold for marketing capabilities.

Scandinavian network research has provided a conceptual instrument facilitating an analysis of the firm's potential conflict between local adaptation and global integration. The research tradition views the firm as one part of an integrated network. Thus, each local subsidiary is simultaneously connected to the local environment and to the internal firm structure. In this view of the firm, unique skills involving local adaptation may be developed at the local subsidiary; at the same time, there is also an opportunity for intra-firm transfer of capabilities through global integration. The creation of unique local skills provides an incentive for transferring capabilities since there will then be differences in skills between different subsidiaries. Still, local adaptation must not be too extreme since this would restrict the possibilities for valuable transfers. At a higher level, transfers of meta-capabilities may often be justified even if practices are locally specialized and not transferable to another market environment in another country. In other words, while local adaptation may limit the benefits from transferring best practices, there may still be higher-order marketing capabilities that can be successfully transferred.

Still, even if transfer is desired and subsidiaries differ in their capabilities, certain restrictive forces may obstruct it. Knowledge may be "sticky" in the sense that the costs of transfers outweigh the benefits. There is much evidence indicating that knowledge does not flow without conscious efforts. The stickiness can result from the tacit character of capabilities, inadequate learning or teaching capacity of the parties involved in the transfer process, communication difficulties, problematic relationships between sources and recipients, or organization-based restrictions on the use and benefits of existing capabilities. Thus, the actual transfer of capabilities is not without problems.

To sum up, by combining literature discussing the MNE and the resource-based view of the firm, we can conclude that the MNE transfers skills by internalizing markets. The first premise for benefits to arise from intra-firm transfers of capabilities is that capabilities differ

between subsidiaries. Local adaptation of marketing activities provides an empirical argument as to why we would expect this difference to exist. The network view of the firm provides an analytical tool for studying the inherent contradiction – or complementarity – between local adaptation and global integration. The second premise is that transfers are possible even if hampered by restrictions. Our basic assumption is that transfers occur and yields benefits in the form of improved exploitation of capabilities residing in dispersed MNE subsidiaries.

1.2 Knowledge management in the MNE

The first section of this chapter is based on research and literature related to explaining why the MNE exists in the first place, the resource-based view of the firm, the networked view of the firm, and transfers of knowledge within the MNE. It also emphasized two criteria, which according to the literature affect the possibility of creating benefits from transferring capabilities. First, capabilities must differ between subsidiaries, and second, the "stickiness" of the knowledge to be transferred must be overcome. We will elaborate on these two basic criteria with the aim of developing and extending the general discussion of knowledge management in the MNE.

When analyzing a *de facto* model of knowledge management (see Chapter 2), we observed that much of the research on knowledge management is based on the assumption that skills differ between subsidiaries, and that transfers are desirable for the MNE. Thereafter, the principal issues relevant to the transfer of capabilities relate to the characteristics of the capabilities in themselves, intra-subsidiary relations and co-operation, strategy, learning abilities, and the institutional frameworks of sources and recipients in the transfer process (see Von Hippel, 1994; 1998; Zander, 1991; Szulanski, 1995; Kostova, 1996). The ultimate objective behind the transfer is to achieve effective utilization of existing capabilities. Szulanski (1995) formulated this goal as the reduction of organizational slack.

In contrast to the *de facto* model of knowledge management, our pilot study – somewhat surprisingly – indicated that selection of sources and recipients in the transfer process is not a straightforward issue. Political conflicts and sub-optimizing behavior gave rise to disputes regarding whether to use the formally acknowledged centers of excellence as capability

sources. More importantly, there were conflicting views as to the actual capabilities of the centers of excellence as well as a lack of information on the potential contributions which the centers could provide. There were also indications that the formal acknowledgement of certain units as centers of excellence had not been generally accepted. These findings led us to ask a fundamental question: can we assume – as the *de facto* model tend to do – that the evaluation of capability and the selection of transfer sources is an altogether objective and straightforward process?

What would be the impact on knowledge-management research and its normative messages if we elaborate on the assumption that capability evaluations are objective? In seeking to find out, we contrast current approaches in research on knowledge management with a perspective based on the belief that human beings, or rather managers, are incapable of assessing knowledge and its manifestations, e.g. capabilities, with perfect rationality. We explore what will happen if we allow the possibility that perceptions of knowledge and capabilities perhaps are not objective conclusions drawn from unambiguous facts but interpretations colored by more or less subjective perceptions. Although this discussion of assumptions on human nature is far from new (see e.g. Bourgeois, 1985; Argyris, 1991), it is rare that literature on knowledge management in the MNE is based on assumptions that acknowledge subjectively based behavior and attitudes (for exceptions see Hellgren & Löwstedt, 1997; Manzoni & Barsoux, 1998; O'Dell & Jackson, 1998). As result of our approach, the two basic research questions that we address in this dissertation are the following:

1. Are managers able to correctly evaluate the capabilities of operative units in the MNE, and do different managers hold different assessments of the same unit's capabilities?

2. Do the evaluations of capabilities by managers and potential differences between evaluations affect the patterns of transferring capabilites in the MNE?

We will critically discuss the most widely accepted model of knowledge management on the ground that it has not explicitly dealt with an important aspect of effective knowledge management via transfers of capabilities. The model basically states that if capabilities differ between subsidiaries, effective transfers are restricted only by costs relating to the actual transfer. The foremost of these are costs of codifying capabilities, costs of learning, costs of

adapting capabilities to the recipient, and alternative costs of operating sub-optimally. We argue that the *de facto* model of effective knowledge management implicitly assumes that determining the competence level of different subsidiaries in regard to a particular capability is non-problematic. In effect, the model is based on the implicit assumption that managers are perfectly rational in their evaluation of competence levels at subsidiaries.

Knowledge-management research has not explicitly and thoroughly discussed a potentially important issue arising once the premise of capability differences is met, and that should be considered before the actual transfer and leverage of capabilities is attempted. The basic idea in transferring capabilities is that the least proficient subsidiaries should learn from the most proficient ones in the MNE. Therefore, an effective transfer process requires that managers in the firm know the proficiency of each subsidiary in regard to the particular capability being leveraged. Knowledge managers must ascertain that the capabilities of the more proficient units are transferred to the less proficient ones; i.e. the most valuable skills must be leveraged.

Our thesis questions whether the evaluation of capabilities is an entirely objective process. In the strict sense, perfect rationality based on perfect information means that all managers have access to identical information, that they devote equal attention to specific pieces of information, and that they interpret identical information in the same way. An objective evaluation is entirely based on characteristics of the subsidiary being evaluated. Moreover, the characteristics should be relatively easy to measure and interpret. Objectivity is a less strict assumption than perfect rationality even though both have the same implication. If evaluation of subsidiary capabilities is perfectly rational, the decision-makers in the knowledge-management process will have identical opinions on the proficiency of each subsidiary in a specific operative process. Perfect rationality in the strict sense means that managers' opinions will be identical even when access to information is asymmetric. We question whether it is reasonable to assume – explicitly or implicitly – managers in the knowledge-management process are perfectly rational, or at least entirely objective, in their evaluation of subsidiary capabilities. To phrase it differently, we ask how much "*the MNE knows about what it knows*".

There are many theoretical arguments that lead us to questioning the assumption that evaluations of subsidiary capabilities can be considered an easy matter. The principal ones

include, for instance, bounded rationality in terms of lack of attention and time spent on searching for ways to improve operations, as well as inhibited goal-setting. Other important factors could be internal politics or considerations of prestige such as reluctance to give credit to other units and/or poor self-confidence manifested by unduly discrediting one's own unit and believing that others are performing certain activities better. Moreover, social psychology acknowledges that highly subjective and individual evaluations of subsidiary capabilities may exist. The process could be distorted by widely known phenomena such as fundamental attribution errors, primacy effects, selective recall, or schemata and pre-conceived views of the world.

In other words, to achieve the globally effective use of the MNE's resources, one must be certain that capabilities are being transferred from the proficient to the less proficient – all else being equal. Otherwise the global exploitation of the resources of the MNE will be less than fully effective. Theoretically, the managers of an MNE must unanimously agree on which subsidiaries perform certain activities extraordinarily well and should serve as role models for other subsidiaries. The task is not likely to be simple. Especially when the MNE is active in more than 100 countries and employs more than 100,000 people.

The managers of the MNE might either share identical views on the capabilities of the various subsidiaries, or they might hold very different views on this subject. If their views coincide, there will be little difficulty in identifying sources and recipients in transfer situations. If on the other hand their views differ, they may have considerable trouble in deciding which units are particularly capable. Diverging views are likely to limit the global effectiveness with which the MNE's capabilities are used.

Previously, we explained shared views by perfect rationality or objectivity, but there may also be another explanation. The organizational context may cause managers to think in similar or even identical ways and, in essence, create shared views on the capability of a specific subsidiary. A strong organizational culture characterized by group-think may cement certain views of the world and stimulate new members of the firm to absorb and share the existing beliefs. Moreover, by recruiting employees with similar backgrounds the degree to which different opinions appear in the first place may be small. A centralized organization with a strong leader may more or less "dictate" the views that a member of the organization is

expected to hold. All in all, these forces could create a high degree of consensus within an organization in regard to the capability level of each subsidiary.

Of course, the consensus view is not necessarily "correct". Strong group-think can also support shared beliefs that in fact are false. However, we may pursue the question whether there is agreement without necessarily having to pursue the question of a universal "truth". As a result, if we acknowledge that managers may disagree regarding the capabilities of the firm's subsidiaries we have two alternative approaches to the issue of "truth". On the one hand, we can say that there is a "true" view and that anybody who does not agree with it is incorrect; the main problem is then to determine and communicate the "truth". Or, on the other hand, we can argue that there is no universal "truth" and that each person's perception of the "truth" is what governs that person's behavior. If many persons share the same perception of the "truth", one can argue that this is an inter-subjective "truth" shared by this particular group. However strange this belief may be, it is still their universal "truth". No matter which approach we adopt, opinions may differ regarding the capability of a specific subsidiary. These potential differences are the focus of our thesis. While our research approach is applicable to any issue within the firm, we are limiting our thesis to discussing differences in perceptions of capabilities.

As noted above, a view shared by MNE managers may be either "correct" or "incorrect". We will assume that as more managers agree on how capable a subsidiary really is, the likelihood that this view is "correct" increases. Another possibility is that managers are totally unaware of which subsidiaries are capable and which are not. This case is arguably the worst of all; if managers simply hold no opinion at all about subsidiary capabilities, no capability transfers whatsoever can be expected to occur. If managers do have an opinion, even if incorrect they will at least be prone to implement transfers based on their beliefs.

Ideally, of course, transfers should flow from the proficient to the less proficient. This basic idea may be termed the "Robin Hood" strategy of knowledge management - i.e. taking capabilities from the skilled and give to the less skilled – with one important difference: the "rich" will still retain their wealth after "Robin Hood" has given it to the "poor". Their outstanding superiority compared to other subsidiaries may be reduced, but on the other hand it will be better acknowledged. Ideally, even the most capable subsidiaries could learn

something from the transfer process as such. This statement is true as long as corporate managers want transfers of capabilities to happen, and managers at both source and recipient subsidiaries believe that a transfer of capabilities will be beneficial for them.

The issue that we will explore relates to what Robin Hood actually knows about what he is "stealing" or redistributing. Robin Hood could believe that he is "stealing" valuable capabilities from the "rich" that will enhance the lives of the "poor", while in fact only providing misleading and confusing information or even inferior capabilities. As a result, the "poor" could become further impoverished by what Robin Hood gives them. Potentially, worst practices rather than best practices could be transferred. In the worst case, Robin Hood is stealing worthless promissory notes or IOU's[4] from the "rich" and giving to the "poor". Ideally, he would be giving the cash or the valuable stock. to the poor.

1.3. Conclusion of the introductory chapter

The basic research question in this dissertation concerns how well managers in the MNE know the capability of each subsidiary in regard to particular processes and activities. Another way to phrase this question is to what extent managers share the same views of the capability of each subsidiary. The purpose of this study is to enhance our understanding of how the MNE transfers and integrates geographically dispersed marketing capabilities. In so doing we aim to test and discuss a major assumption about knowledge transfer and knowledge management in the MNE, an assumption which up to now has remained empirically unexplored. Our approach relate to the ability of corporate and subsidiary managers to assess the performance of different subsidiaries within the MNE, the ability of subsidiary managers to assess the proficiency of their own units, and the extent to which different managers agree in their assessments of specific units. These assessments are hypothesized to influence knowledge transfer patterns within the MNE, and thus how extensively and effectively dispersed capabilities are exploited within the firm. Our approach to knowledge management means that we will elaborate on the *de facto* model that underlies current research on knowledge management.

We aim to make a contribution in the field of knowledge management within geographically dispersed organizations, specifically MNEs, from the perspective of emphasizing certain hitherto not thoroughly discussed costs of transferring capabilities across geographic and intra-organizational boundaries. These costs relate to managers' cognitive limitations, which create obstacles to effective knowledge management. Consequently, we question the taken-for-granted assumption that evaluation of capabilities is an objective and simple process. In other words, we base our discussion on individual evaluations of capabilities but study the effects on the organization.

The basic beliefs about human nature that underlie this study lead to the question whether human beings, in this case managers, can rationally assess knowledge and its manifestations in the form of capabilities. We question the view that perceptions of knowledge and capabilities are objectively drawn conclusions based on unambiguous facts, and test the possibility that they may be interpretations based on subjective perceptions. While these assumptions about human nature are far from new, they have rarely served as a basis for

analyzing knowledge management in the MNE. If managers are found to be unable to identify capabilities correctly, much of the existing work on knowledge management will have to be reconsidered. The current literature on knowledge management is often based on implicit assumptions that knowledge and capabilities can be objectively assessed and evaluated. We intend to explore whether MNE managers agree in their evaluations of a specific subsidiary's marketing capabilities. If we find such agreement, we will have an indication that capabilities can be objectively, or at least inter-subjectively, assessed. If we do not find such agreement, we must try to understand why this is the case.

The main objective of this dissertation is to test and analyze one assumption underlying research regarding knowledge management in the MNE. In pursuit of this objective, we have undertaken the following tasks in the dissertation. First, the prevailing – and often implicit – assumption regarding how managers evaluate capabilities that – *de facto* – underlies much of knowledge management will be brought to the surface and critically discussed. Second, we will empirically test and analyze this assumption. Third, we will relate evaluations of capabilities to actual transfer patterns in order to determine whether the capabilities of the most proficient subsidiaries are leveraged in the MNE. Fourth, knowledge management focused on marketing activities will be discussed. Fifth, we will draw normative conclusions for knowledge management in marketing activities and in the MNE in general.

1.4. Outline of the Dissertation

As noted above, Chapter 1 provides an introduction and an overview. It presents the research issues and sets the stage for the study as a whole. Moreover, the chapter briefly discusses some of the principal subjects treated in the thesis. These include the distinguishing characteristics of the MNE, capabilities as manifestations of knowledge, knowledge management, the evaluation of capabilities, and the transfer of practices.

Chapter 2 presents the theoretical background and approach of the study. It critically discusses theories relating to knowledge management in the MNE and to organizational decision-making. The chapter seeks to explain the background of our study and our research questions, and why these are of interest. The theoretical foundation of this study, while quite eclectic, focuses on behavioral theories of the firm, and theories based on social psychology and cognition. We also draw on theories of the MNE, the resource-based view of the firm, and models of knowledge transfers and learning in the MNE. Starting from a perspective of rationality - in the sense that knowledge management is based on virtually perfect information - we proceed toward a more subjective stance regarding knowledge management.

Chapter 3 discusses marketing research for the purpose of adapting our study to the specific characteristics of marketing activities in the MNE. This step is important since much of the previous research on knowledge management is based on activities such as manufacturing or R&D. Moreover, marketing is becoming an increasingly important activity in the mature MNE. The chapter provides an in-depth discussion of marketing and its role in the MNE. In addition, the chapter defines certain critical concepts relating to marketing activities and capabilities.

Chapter 4 proceeds from the conclusions drawn in the previous chapter and outlines the fundamental ideas on which the dissertation is based. It states the central assumptions in current knowledge management research and explains why these need to be elaborated. Our perspective on the research issues is presented and discussed. The chapter also proposes a revised model of knowledge management in the MNE. The aim of the chapter is to provide a thorough discussion of the main arguments in this dissertation.

Chapter 5 outlines the methodological approach used to measure and capture the phenomena that the study is addressing. The methodological phases of the dissertation include a qualitative pilot study as well as the main study, which is both quantitative and qualitative. The qualitative pilot study concerned the identification and transfer of best marketing practices in a U.S.-based MNE. The pilot study resulted in our initial understanding of the research issues that we explore in the thesis. The firm we first approached in the quantitative study not only provided us with data but also allowed us to test the design of our survey. One purpose of the quantitative study in the firm we studied first was to test the constructs with which we effectively could measure the different concepts that are used in the study.

The main source of the data in the thesis is a survey based on a questionnaire study sent to presidents and marketing managers in subsidiaries of seven divisions of six Swedish MNEs. In addition, a questionnaire was sent to corporate and divisional managers. Both surveys aimed at pinpointing each respondent's assessment of the capabilities of his/her own unit and those of other units as well as to provide information on the organizational and individual factors, which we were important for our study. A third methodological section consisted of follow-up interviews with divisional and subsidiary managers concerning how specific capabilities are performed, why transfers occur, and why specific units are identified as being particularly capable or incapable. Our approach provided us with a data base of quantitative observations as well as qualitative insights into some of the most central issues addressed in our study as well as in knowledge management research in general.

Chapter 5 also outlines the principal hypotheses to be tested in the dissertation. We explain how each construct in the models was operationalized. The chapter outlines and discusses certain methodological issues relating to levels of data collection and analysis, and the characteristics of the sample firms and their marketing activities. In addition, the overall research model is explained and discussed. The model has two sections, which are inter-twined but still analyzed subsequently. The first involves an analysis of whether perception gaps exist or not, and if any are found, explaining why they exist. For the time being, we are content by saying perception gaps are resulting from different opinions among managers in a knowledge transfer situation. We will define this important concept in Chapter 4 (see table 4.1.). The second section is designed to test whether evaluations of capabilities, including the

possible perception gaps, have an influence on capability transfers, i.e. the selection of transfer sources. Based on previous research, this section develops a transfer model.

Chapter 6 tests managers' awareness of how well marketing units perform specific activities. We asked corporate and subsidiary managers to evaluate the marketing capabilities of each subsidiary, and we tested the existence of perception gaps, i.e. differences between managers' evaluations. The principal instrument for measuring marketing capabilities is the market-orientation construct. The overall purpose with this analysis is to enable us to draw conclusions on differences and similarities in how managers assess how well particular marketing units perform certain activities. The fundamental premise is that knowledge management requires firms to know which units are capable and which are not. The question we seek to answer is whether managerial evaluations of any particular subsidiary's capabilities differ or not. We present and discuss the results of a multiple regression analysis based on the model derived in Chapter 5.

Chapter 7 discusses how transfers of capabilities actually occur and are managed in the MNE. Building on the conclusions from Chapter 6, we relate the patterns of transfer in each MNE to the identification process in order to evaluate how effectively the MNE uses its globally dispersed marketing capabilities. Our central proposition is that capability transfers are significantly facilitated if managers in the MNE hold similar views on how well certain units perform certain activities. The question we seek to answer is to what extent managers' assessments of subsidiary marketing capabilities explain actual transfer patterns. Are the most proficient units leveraged, or are there other factors that explain the – explicit or implicit – selection of source units in intra-firm transfer processes. We present and discuss the results of a multiple regression analysis based on the model in Chapter 5.

Chapter 8 concludes the thesis and presents the final theoretical and conceptual results as well as discussing managerial implications from our findings. It restates the principal findings and discusses the basic assumptions underlying the research questions. Based on the findings in chapters 6 and 7, we draw conclusions related to the MNE and its organizational structure. We also embed our conclusions in a theoretical context and suggest avenues for promising future research.

Chapter 9 summarizes the thesis. Finally, we provide an appendix including information on the Camino-project as well as the questionnaire design.

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[1] In this chapter the use of references is intentionally minimized to facilitate reading. Actual references are generously provided in subsequent chapters.

[2] Research on firms with activities spanning several countries has labeled the object of study in different ways. The most commonly used labels include the multinational corporation (MNC), the transnational corporation (TNC) and the Multinational Enterprise (MNE). We use the latter label, i.e. the Multinational Enterprise (MNE), in reference to firms that co-ordinate activities that span several countries.

[3] We will define these concepts more clearly in chapter 3.

[4] Abbreviation for "I owe you", which signifies a debt.

CHAPTER 2. KNOWLEDGE MANAGEMENT IN THE MULTINATIONAL ENTERPRISE.

This chapter critically discusses theories relating to knowledge management and to organizational decision-making in the MNE. It presents a thorough review of important literature, seeks to explain the background to our study, and why our research issues are important for the MNE. Starting from the mainstream assumption that knowledge management is rational and based on practically perfect information, we conclude that a more subjective approach is likely to change our understanding of knowledge management. In particular, we believe a subjective approach to bring new insights when discussing our principal question, i.e. factors deciding how practices flow in the multinational enterprise and to what extent knowledge management is possible. We realize most knowledge–management researchers tend to assume our research issue not to be problematic, and implicitly to advocate a rational approach. Based on a bounded rationality approach, we ask whether assumptions of rationality and objectivity limit and perhaps even distort our understanding of knowledge-management processes?

2.1. Introduction

This dissertation discusses multinational firms, i.e. firms that engage in foreign direct investment and own or control value-adding activities in more than one country. The MNE organizes and co-ordinates multiple value-adding activities across national boundaries, and internalizes cross-border markets for intermediate products arising from its activities (Dunning, 1993; p. 3). More specifically, the MNE internalizes, for instance, transfers of knowledge and capabilities. The issue of internal transfers of capabilities in the firm is in vogue since it is fundamentally important issue given the current globalization trend - MNE activities are becoming more geographically dispersed and MNE employees are becoming more culturally diverse. Empirical findings as well as most discussions about the firm emphasize that modern enterprises are characterized by extensive geographical coverage and highly dependent on specific capabilities. Empirically, we see:

- MNE's from OECD countries often earn a higher return on assets in foreign countries than in their home country. For North American MNE's, ROA in majority-owned, non-

financial foreign affiliates was 8-11 percent during the period 1989-1996, while the figure for their US operations was 6-8 percent (Mataloni, 1998). This differential is an explanation behind international expansion.

- During 1989-1996 the majority-owned, non-financial foreign affiliates of US MNE's grew significantly. Their share of their firms' overall manufacturing increased from 26 to 29 percent, and their share of their firms' employment rose from 27 to 32 percent (Mataloni, 1998). The same evolution is true for European MNE's. Thus, the share of production output and employees outside the firms' respective home country is increasing.

- Mergers and acquisitions have created increasingly larger firms that hold and/or integrate activities in significant numbers of countries and regions. For instance, we have recently seen large mergers and takeovers in the automobile (e.g. Daimler-Chrysler, and Ford-Volvo) and pharmaceutical (e.g. Pharmacia-Upjohn and Astra-Zeneca) industries. There are strong indications this trend will continue.

- Partly as a result of the merger mania, a growing proportion of CEO's and other top managers in the modern MNE are not natives of the firm's home country. For instance, at several Swedish firms the CEO is not a Swede. This trend is indicative of an overall globalization of firms in all dimensions.

- Ownership of firms is to an increasing extent geographically dispersed. The percentage of foreign ownership among all firms traded on the Stockholm Stock Exchange was around 33 percent in 1998. This is a significant increase during the last decade. Moreover, the figure is higher for the largest and most heavily traded firms. This evolution is an effect of the increasing globalization of financial markets – the firms' sources of financing.

These trends show that the modern MNE is becoming increasingly heterogeneous in terms of nationalities of employees, owners, and corporate as well as subsidiary managers. It is also internationally dispersed in terms of where activities are located and increasingly diverse culturally as new markets and subsidiaries are added. Simultaneously, management research and practical strategic thinking have become focused on knowledge, capabilities and activities. One fundamental re-orientation in strategic thinking during the last two decades –

possibly as a result of MNE trends – is the shift from a strong external focus (Porter, 1980) to also acknowledging internal factors as important to the workings of the MNE (Penrose, 1959; Peteraf, 1991; Barney, 1991). All in all, these developments create a paradox. How will an increasing heterogeneity within organizations and a growing desire to leverage capabilities globally be harmonized in knowledge management in the MNE.

2.2. The MNE

One *raison-d'etre* for the existence of the MNE is its potential and capacity for combining unique organization-specific input factors and/or capabilities with geographically located input and/or output factors through internalizing (Coase, 1937; Buckley & Casson, 1976) geographic transfers. These ideas have been synthesized in the so-called OLI[1]-paradigm (Dunning, 1977; 1980), which basically argues that the ability of MNE's to co-ordinate and integrate geographically dispersed resources is what constitutes their source of income. Thus, the main competitive advantage of multinational firms, i.e. what can be done more efficiently within a firm than through a market transaction, is to create and transfer[2] resources. The MNE is regarded as especially capable in transferring resources over large geographic distances. Initially, it was believed that the MNE built its advantages mainly on natural resources, land and/or inexpensive labor. Today, by contrast, a specific capability is considered to be one of the principal sources of competitive advantages. Interestingly, the proposition of the MNE and its OLI-advantage is also argued to hold when the resource relates to knowledge and capabilities (Kogut & Zander, 1992; 1993). In other words, even if the modern MNE still can be analyzed by the OLI-model, economies of scope as well as learning and operational flexibility are also important (Hedlund, 1993).

The issue of intra-firm transfers of capabilities within the MNE is rigorously anchored in the literature on international business in terms of both internalization of transactions and transfer of capabilities. Still, our study seeks to introduce a new approach to these issues. We will study and critically analyze the assumptions underlying existing research on knowledge management in the MNE. Our ambition is to elaborate on these assumptions and to derive implications for theory and practice from a conceptual and empirical analysis of the knowledge management in the MNE.

Closely related to the discussion of internalization advantages, i.e. the "I" in the OLI-paradigm, is the research question concerning the boundary of the firm. This question basically acknowledges that resources are input factors available either inside the firm - i.e. the internal hierarchy provides the resources, or via external connections - e.g. the external market provides the resources (Williamson, 1975). We will not, however, discuss how these two alternatives - firm vs. market - relate to each other, but will instead focus on the intra-firm issues. We have confined our study to the inside of the firm, and leave a comparison of capability transfers over a market as compared to inside the firm to others. We will not contrast the two views – i.e. markets vs. firms – in a discussion of the boundary of the firm.

We start with the basic assumption that the MNE derives an advantage from the internalization of dispersed resources. We will then explore how MNE's use this advantage and also discuss its benefits and limits. In particular, we will explore issues related to the growing body of research based on the firm's social structure and its ability to gain advantages from transferring existing capabilities within the firm (Kogut & Zander, 1992; 1993; 1996; Zander & Kogut, 1995; Nahapiet & Ghoshal, 1998).

2.3. The resource-based view of the MNE

Given that the MNE is seen as an "efficient" mode for transferring capabilities across geographic distance, one may wonder what is being transferred and why. According to the resource-based view of the firm (RBVF), firms build competitive advantages on critical resources that are unique and organization-specific (Penrose, 1959; Barney, 1991; Teece, Pisano & Shuen, 1990). These resources involve any type of input factors that are valuable in the production of physical goods, services or combinations thereof (Arvidsson, 1997).

It has been argued that a resource – and its manifestation in a capability – is valuable to the firm when four conditions are met (Peteraf, 1991)[3]. First, the capability should be more or less unique. There should not be other firms with identical capabilities, i.e. the production processes of different firms should be based on heterogeneous capabilities (Barney, 1989). Second, the capability should not be easy for other firms to compete against. There should be limits to competition (Rumelt, 1984). Restricted possibilities for competitors to compete mean that the capability will maintain its value over an extended period. Third, the profit

accrued from the capability must – at least to some extent - be particular to the organization. An idiosyncratic capability (Williamson, 1979) has its highest value inside the firm and is therefore unlikely to be traded or be moved from the firm through other means. There is imperfect factor mobility (Wernerfelt, 1989), which enables the firm to earn money even on capabilities that fundamentally reside in the head and/or hands of a single employee. Fourth, the conditions under which the firm created or acquired the capability must have been especially favorable. There were *ex-ante* limits to competition (Rumelt, 1987). In simple terms, these four provisos mean that the costs of creating or gaining access to a specific capability do not exceed the subsequent return from that investment. The four conditions in combination indicate that a valuable capability is unique, competitive, at its best use within a specific firm which also controls its financial return, and not too costly to access.

If we view the MNE as a collection of dispersed productive resources, we must understand what resources actually are and - importantly - what they can provide for the MNE. Based on Penrose (1959), we define resources as: *"physical things a firm buys, leases, or produces for its own use, and the people hired on terms that make them effectively part of the firm"*. In other words, a *"resource, then, can be viewed as a bundle of possible services"* (ibid, p. 67). Thus, *"...it is never resources themselves that are the 'inputs' in the production process, but only the services that the resources can render"* (ibid, p.25). Examples of services that resources provide include, for instance, the production process of a machine, information processing by computers and the work processes of human beings.

Resources are inputs to the services the firm needs in order to manufacture the products it wants to sell. The resources are generally obtained in discrete amounts. As a result, a complete bundle of services is obtained even if only a particular service is needed. Firms consequently have an incentive to expand their activities in order to benefit from existing but previously non-utilized services offered by each resource. The non-utilized but potentially utilizable services inherent in each resource are "free" to use.

An interesting side-effect to this phenomenon appears when a new resource is either acquired or created in order to achieve some articulated goal through the use of some service rendered from the resource. In addition to the primary service, there will be new "free" services to be rendered from the same resource. This indivisibility of resources leads to natural imbalances in the effective utilization of inherent resources, giving the firm an incentive to expand its

current activities. Theoretically, the process is self-perpetuating until revenues from added activities no longer exceed their marginal cost.

"*The economy of integration due to common costs boils down to this, that if a manufacturer has a certain unused capacity in equipment or in research or in finance (or brains of himself and staff), it may pay to 'balance up' by taking on as a side line new processes or products using that idle capacity*" (Penrose, 1959, p. 70, footnote 1.)

The quotation above refers to one important aspect of Penrose's theory of the firm. The growth of a firm is explained by resource imbalances, which create incentives to expand the activities of the firm by utilizing existing but idle resources. However, "*the avoidance of 'idleness' in resources is only one aspect of the problem posed by the indivisibility of resources and by the logical implications of the 'principle of multiples' for the planning of the most efficient scale of a firm's operations. A firm has an incentive not only to engage in operations large enough to eliminate pools of idle services, but also to use the most valuable specialized services of its resources as fully as possible*" (ibid, p. 71).

Thus, another aspect of Penrose's work is that idle resources may be utilized more efficiently even within the limits of the firm's current activities, i.e. without adding new activities. If there are benefits from transferring a certain capability from one unit to another, we would hypothesize that the MNE is striving to achieve such a transfer. We can not assume that this transfer is free, however. There are most likely several costs related to a transfer. Still, "*unused productive services are, for the enterprising firm, at the same time a challenge to innovate, an incentive to expand, and a source of competitive advantage. They facilitate the introduction of new combinations of resources - innovation - within the firm*" (ibid, p. 85). Ideally, the transfer not only reduces resource idleness, but also leads to innovation. In sum, a valuable transfer occurs when the organizational benefits exceed the organizational costs. In our study, a capability transfer is seen as a way to use the services inherent in existing resources – people and routines – as fully as possible. The x-inefficiency (Leibenstein, 1966) is limited. However, the four conditions outlined by Peteraf (1991) indicate that transferring a valuable capability between firms – but perhaps also within a firm – is no trivial matter. Not only may the legal boundary of the firm pose obstacles to resource mobility across firms, but perhaps geographical borders also restrict resource mobility even within firms.

2.4. Knowledge and capabilities as MNE resources

As previously indicated, our study is concentrated on knowledge and its practical manifestation in the form of capabilities. Ideally, a narrow definition of knowledge would contribute to a better understanding of the ensuing discussion, but this definition is difficult to reach and perhaps not even desirable. A more complex stance argues that: "*knowledge is a protean concept - similar to the Greek sea good, it can at any moment assume any form*" (Zander, 1991, p. 17). The very concept of knowledge may be termed tacit (Polanyi, 1969); i.e., it is understandable even if a clear-cut definition is difficult to articulate.

Moreover, knowledge has many different dimensions such as descriptive knowledge, historic knowledge, theoretical knowledge and procedural knowledge (Machlup, 1980). These dimensions refer to the use and character of knowledge. Although we are mainly concerned with procedural knowledge, i.e. skills and capabilities, we will not define knowledge in such a narrow sense. We prefer a broader definition of knowledge as a combination of information, practical skills, experience, education and intuition that together makes an individual or a collection of individuals well suited to analyze problems and implement action. We acknowledge the importance of descriptive, historic, and theoretical knowledge, but we are studying procedural knowledge. The latter is seen as a physical manifestation of theoretical knowledge, and learning is viewed as a change in procedural knowledge[4], or capabilities (Kogut & Zander, 1992).

We realize that learning is not a simple additive process. Learning may not lead to optimal behavior in all cases, and the speed of learning affects the results (Herriot, Levinthal & March, 1985). It is not always good to be a fast learner, one reason being that learning is dependent on unlearning. "*Unlearning is a process through which learners discard knowledge. Unlearning makes way for new responses and mental maps*" (Hedberg, 1981, p. 18). Thus, unlearning can be seen as a situation in which the actors change a fundamental "view of the world" – unlearning is subtractive (Nyström & Starbuck, 1984). The adoption of a new idea may require that some critical assumptions about how the world works change. Thus, not all learning is cumulative. One implication of learning could be to acknowledge ignorance. Thus, it is not cumulative in the sense of always building on the old view of the world even if it may be cumulative in the sense that the old view of the world was necessary for the new view to develop. An inability to unlearn is likely to restrict learning.

There are also other interesting aspects of the learning process. One type of learning, congenital learning, is the combination of the knowledge inherited by an organization at its conception and the additional knowledge acquired after its birth (Stinchcombe, 1965; Kimberly, 1979; Schein 1984; Boeker, 1988; 1989). It is the sum of all learning processes. More explicitly, experiential learning is based on the organization's own experience. While this kind of learning may sometimes result from a deliberate and systematic search, it is often the unintentional product of unsystematic efforts. There may be ad-hoc learning that brings unforeseen results. In addition, there is vicarious learning, which refers to learning based on the activities and experience of other organizations and individuals; it is the acquisition of second-hand experience (Huber, 1991). It is important to note that none of these learning-process dimensions can be assumed to exclude the possibility of learning something detrimental to performance. In essence, learning is not always a positive process.

Our discussion of knowledge and learning should cover the question of who the learner is and how the learning environment may influence the type of knowledge that is derived from the process. First of all, we need to establish who the learner is. Simon (1957; 1991), as well as Hedlund & Nonaka (1991), argues that learning is a process that takes place within individuals[5]. Organizations as such do not learn, even though organizations may hold knowledge. On a related line of reasoning, teams and organizations are regarded as tools that facilitate individual learning and function as mechanisms that help individuals to retain and develop knowledge (Kogut & Zander, 1992; 1993; 1996).

A more precise definition of learning has been given by Weick (1991), who states that learning is: "*the process within the organization by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed*".

Considering the assumption that individuals are the learners, organizational knowledge consists of individual knowledge that has become organizationally shared through codification, articulation and explicit communication, or through cultural embeddedness, socialization and implicit indoctrination. Thus, we can separate the question of "*who learns*" from the question of "*who may hold knowledge*"; i.e., organizations or groups may hold knowledge even if individuals are the only learners (for a thorough discussion see Hedlund &

Nonaka, 1991[6]). To repeat, we assume that individuals learn and that theoretical knowledge is manifested by capabilities or procedural knowledge.

Hedlund and Nonaka (1991) also discuss cognitive detection of new information as an important factor in their model of knowledge transformation, i.e. "*processes through which knowledge is added, restructured, recontextualized, reinterpreted, etc., or through which new knowledge is generated*" (ibid). In their discussion, individual ways of internalizing and reflecting on knowledge are essential factors in the learning process. Here, knowledge is assumed to spread either from individuals to the group to the organization and finally to the inter-organizational domain, or the other way around. The former process is called extension of knowledge; the latter, appropriation of knowledge. Thus, carriers of knowledge can be individuals, small groups, organizations, and relationships within the inter-organizational domain.

When discussing the learning environment, we should note that the learning process is influenced by whether knowledge is articulated or tacit (see Polanyi, 1969). Tacit knowledge is defined as knowledge that is intuitive, non-verbalized and unarticulated, while articulated knowledge is specified either verbally or in writing. As an effect, spreading tacit knowledge throughout an organization may require effective social interaction within the firm, while the spread of articulated knowledge is different - a blue-print copy describing technical aspects of a production process is easily distributed. As a consequence, codification of knowledge is important to the speed of transfer process (Zander, 1991).

To conclude this section, we will emphasize two interesting findings. First, primary learning takes place inside individuals; learning is individual. Second, knowledge – a result of learning processes – is more or less understandable to people other than the original learner; knowledge can be tacit. Moreover, knowledge has a cognitive as well as a practical dimension. We focus on capabilities – the practical dimension.

2.5. Transfer of capabilities within the firm – empirical studies

There are a number of studies on intra-firm knowledge transfers in MNE's. This attention is a natural effect of the focus over the past decade or so on knowledge as a fundamental source of competitive advantages for firms. Studying intra-firm transfers of knowledge is consequently a sub-category within the broader field of knowledge management, where the ultimate goal is to make efficient and effective use of a firm's inherent knowledge. The intra-firm-transfer approach is somewhat different from knowledge-management approaches that aims to understand creation of new knowledge and capabilities in firms. At the same time, when discussing intra-firm transfer of knowledge, we realize that knowledge transferred between subsidiaries of an MNE - even if not newly created - may be new to the subsidiary that receives the knowledge. While the distinction between creating new knowledge and transferring old knowledge is perhaps not always clear, our interest is in the transfer of existing capabilities from one unit to another within the same MNE.

An instrumental study of the transfer of knowledge in MNE's is that of Zander (1991), which focuses on inter- and intra-firm dissemination of technological knowledge. This study is not limited to intra-firm transfers but includes both internal transfers, which are desired by the firm, and external transfers, which are not desired by the firm. In other words, the internal transfer increases the return from a temporary knowledge monopoly, while the external transfer reduces the return by shortening the duration of monopoly. Zander (ibid) studies dissemination of technological knowledge driven from the top of the organization, where the dependent variable is the technology-transfer pattern. Units of analysis include both voluntary and involuntary dissemination. The study is based on 35 innovations and 82 transfers in 21 MNE's, and sheds light on many aspects of knowledge transfer, including mode, timing, and time to imitation by competitors. The findings we consider most important to our study relate to transfer timing, i.e. when the international transfer is made. The study shows that the probability of early international transfer increases, first, when a technology is articulable[7], i.e. relatively easy to express and communicate, and, second, when the manufacturing process is team-dependent. Also, if competitors are actively involved in a similar type of development process, the probability of international transfer increases. Thus, characteristics of knowledge, work processes, and competitive forces strongly affected patterns of dissemination (see also Zander & Kogut, 1995).

Another influential study – Szulanski (1995; 1996) – emphasizes that a firm's competitive advantage is based on effective internal transfer of knowledge, i.e. capabilities or best practices, which enables the firm to obtain rents from knowledge as a scarce resource. A fundamental premise of the study is that capabilities may be difficult to transfer between different units of the MNE. There is internal "stickiness" (Von Hippel, 1998). The most interesting finding in Szulanski's study, which is based on transfer as the unit of analysis, concerns three major barriers to internal transfer of practices. The first is the recipient's absorptive capacity (Cohen & Levinthal, 1990), i. e. its ability to receive and adopt practices. The second is causal ambiguity, i. e. the potential difficulty of knowing how a practice should be structured, and which factors explain the successful execution of a practice. This second factor is closely related to tacit (Polanyi, 1969) and/or context-specific characteristics of knowledge. Third, the barriers relate to the atmosphere in the relationship between the source and the recipient in a transfer process, i.e. the openness and friendliness – the "arduousness" – of the relationship. Szulanski (ibid) presents these findings as challenges to conventional wisdom, according to which the transfer of best practices is explained primarily by motivational factors such as direct monetary or career-oriented incentives. The principal conclusions by Szulanski (ibid) are that knowledge transfers relate mainly to individual learning ability, interpersonal relations, and the characteristics of knowledge.

A third important study is reported by Kostova (1996) and Kostova & Cummings (1997). This study concerned transfers of quality-management practices with a particular focus on hierarchically managed transfers, i.e. those implemented from the top down. Here the unit of analysis is the transfer. The fundamental factors explaining transfers were found to relate to the institutional environment of each actor and the institutional distance between sources and recipients. The study focused on the implementation of transferred practices. This approach is somewhat different from that of Szulanski (1995; 1996) and Zander (1991) who focused on characteristics of the actual transfer process and did not emphasize the recipient's implementation and consequent use of the practice after the transfer. The dependent variable in Kostova's (1996) study is the recipient's internalization of the transferred practice and, by extension, the effect on performance. Thus, in a sense, this study deals with post-transfer issues. It is based on information from 3845 respondents at 104 locations in 10 countries, all within a single MNE.

Kostova's (1996) three principal findings are the following. First, the institutional profile, i.e. the combined effect of the regulatory, cognitive and normative[8] pillars (Scott, 1995), of the recipient, and the institutional distance between the source and the recipient, i.e. the differences in institutional profiles, affected the success of transfer. A supportive institutional profile by the recipient and a smaller institutional distance between the source and the recipient tended to increase the probability of successful transfers. Second, the quality of the relationship between the two parties tended to increase the likelihood of successful transfers. This finding is similar to Szulanski's finding regarding the effect of arduous relationships (ibid, 1995; 1996). Third, the power structure and the mutual inter-dependence between of the recipient and the source significantly affected the success of transfer. Thus, both recipients considering themselves to be very dependent upon the source, which in all cases was the parent company, and recipients experiencing extensive autonomy showed high degrees of successful transfer. The measures for power structure and dependence were not reported to be consistent, however. Overall, the main findings point to the positive effect of similarity between sources and recipients on the success of transfers[9]. Again, interpersonal relations were found to be important for transfers.

Based on Zander (1991) and Szulanski (1996), there is a strong argument indicating the fundamental nature of the capability transferred to affect the transfer process. The degree to which knowledge is articulated, as opposed to tacit, and the lack of causal ambiguity regarding the nature and use of the knowledge facilitate transfers. Capabilities – in themselves – may be "sticky". It is not always easy to transfer knowledge from one unit to another. Von Hippel (1998) defined "stickiness"[10] as the incremental expenditure required to transfer knowledge to a specified locus in a form usable by a given recipient[11]. In other words, the costs of a transfer may outweigh the benefits.

Szulanski (1996) showed that the most likely reasons why transfer does not occur relate to the receiver's lack of absorptive capacity (Cohen & Levinthal, 1990) and/or an arduous relationship between the two units involved in the transfer. Another strong obstacle for transfers is that the recipient is not motivated to pursue and implement the transfer[12]. Moreover, the context in which information is presented could also influence the attention given it (see e.g. Lawrence & Lorsch, 1967). The absorptive capacity of individuals and units can be negatively influenced by the so-called NIH (Not Invented Here) syndrome (Katz & Allen, 1982), or the tendency to underestimate the benefits of ideas and methods from

outside. The basic factors that limit the frequency of transfers thus relate to whether the capabilities are difficult to understand, the relationship between source and recipient, and the motivation and ability of the recipient to absorb and learn new capabilities.

In this discussion we should also acknowledge that an intended transfer process may lead to a transformation of capabilities (for a discussion see e.g. Hedlund & Nonaka, 1991). A recipient may interpret the object or process transferred in his/her unique way and consequently transforming it. The capability may be changed in some aspects and will thus not be identical to that which existed in the transferor's organization. While the basic notion of transformation of knowledge is outside the scope of our study, we will discuss it in the final chapter of the dissertation.

In sum, the following are the principal conclusions from the empirical studies reported here. First, articulated knowledge is more easily transferred internationally. Second, the absorptive capacity of the recipient is crucial for transfers. Third, causal ambiguity hinders transfer. Last, actual implementation and use of transferred practices depend on the recipients' internalization of the basic meaning of the transferred capability. All of these factors relate to the implementation of the transfer. In other words, the studies intentionally emphasize the actual process of transferring an important practice from a source to a recipient, as well as post-transfer effects. We infer the underlying premise in these approaches to be that a highly capable source has been identified and that the recipient is a unit that will benefit from the practice to be transferred. We want to emphasize, however, that in view of the importance of causal ambiguity (Szulanski, 1995; 1996), one may wonder with which ease sources in the transfer process actually are selected. We lack a discussion of the pre-transfer aspect of knowledge management since the findings in previous studies relate primarily to the transfer and post-transfer aspects.

Table 2.1. Overview of three major in-depth studies of intra-firm capability transfer.

Author and focus	Main explanatory factors	Model and method	Empirical base	Results
Zander (1991) • Dissemination of manufacturing / technological knowledge. • Top-management-driven dissemination.	Technology (articulability, observability, complexity, team-dependence, process inflexibility, age); Firm (international exp., transfer exp., proprietary equipment, tailor-made equip., key employees); and, Environment (parallel development, imitation)	• Units of analysis are voluntary and involuntary dissemination • Dependent variable is technology transfer pattern	• 35 innovations • 21 MNE's	Nature of technology and competition are strong factors for internal dissemination but not for time to imitation by competitors.
Szulanski (1995; 1996) • Transfer of best practices. • Top-management-driven transfers.	Knowledge, Context, Motivation, Reliable source, Relationship, Absorptive and retentive capacity. Also, using controls for forces of differentiation.	• Unit of analysis is the transfer. • Dependent variable is stickiness.	• 122 transfers of 38 practices. • 45 bench-marking firms (all industries). • Three in-depth cases (Rank Xerox, Banc One, Centel).	Absorptive capacity, causal ambiguity, arduous relationship are key factors influencing transfer.
Kostova (1996); Kostova & Cummins (1997) • Transfer of Quality Management practices. • Top-management-driven transfers (from the US parent to foreign subsidiaries).	Institutional environment and distance, and Quality and power structure and dependence of relationships	• Units of analysis are the transfer and the subsidiary. • Dependent variables are Implementation and Internalization of practice.	• 1 US multinational. • Transfers to 103 units in 10 countries.	Institutional support and similarity are keys to success in transfer processes.

2.6. Principal approaches in knowledge-management research

The previous section emphasized the focus of knowledge-management research on transfer and post-transfer issues. Because of the apparent lack of discussion on the pre-transfer aspects, we want to address this dimension more thoroughly. Given transferability of a practice, one major pre-requisite for effective transfer of knowledge is that knowledge flows from the capable to the less capable. It is therefore important for the MNE to identify the specific capabilities of different subsidiaries. After this is done, the firm can outline which subsidiaries should learn a specific capability, and also which subsidiaries should serve as role models or transfer sources. Ideally, each subsidiary's specific capabilities, strengths, and weaknesses should be known by all other subsidiaries, since this information would facilitate a unit's search for ways to improve its own capabilities. If managers are only familiar with their own unit's capabilities, they will have difficulties in searching for ways to improve their unit. They will also be unaware of other units that could benefit by learning from their own unit.

We therefore raise the question of the extent to which managers know the capabilities of their own and other units. If we assume that units' capabilities are transferable to other units and usable there, limits to time and attention may potentially act as barriers to knowing the value of others' capabilities, and thus also to knowing the relative value of one's own capabilities compared to others'. Moreover, cultural differences or restriction to individual cognition could further limit the degree to which other units' capabilities are understood and acknowledged. In short, we will discuss how managers – as human beings – assess themselves and others. Can we assume that this process is unbiased, or can we expect biases that would lead to consistent misjudgments of one's own or others' capabilities?

To explore how the issue of managers' ability to evaluate capabilities is treated in research, we conducted a comprehensive review of the literature on knowledge management research[13]. The review focused explicitly on outlining the assumptions made in current research regarding evaluation of the capabilities of MNE subsidiaries (see table 2.2.). Many studies did not acknowledge that identifying capabilities could be a problem. In these articles there were no explicit assumptions regarding evaluation of capabilities. The articles not acknowledging the capability-identification issue tended to argue that knowledge is tacit but that this attribute

is only important in the actual transfer process. The majority of the articles, however, tend to assume that evaluating capabilities may be difficult. Most of these articles argue that knowledge is individual and tacit. Some hold that knowledge is collectively shared and that people in a community will have the same opinions on capabilities. Our conclusion is that in the majority of the articles it is explicitly or implicitly recognized that perceptions of capabilities, i.e. evaluations, may differ between individuals. There is very little discussion of the implications from this idea, however. A substantial number of articles, however, do not acknowledge that the issue could be a problem. The general approach in the articles is that knowledge should be considered a commodity that can be understood and evaluated. On the other hand, some articles explicitly assume that knowledge is a subjectively defined concept, and that misconceptions are natural features of managerial work (Argyris, 1991; Manzoni & Barsoux, 1998; Von Krogh et al, 1996; Waller, Huber & Glick, 1995).

Table 2.2. Assumptions or inferences regarding managerial evaluation of capabilities in the MNE in important articles/writings.

Article	Assumptions / inferences	Are subjective evaluations likely?
Aquino, Griffeth, Allen & Hom (1997)	"We theorize that perceptions of distributive and procedural justice affect employees' satisfaction with both outcomes and supervisors" (p. 1211). Perceptions of outcomes and others are not objective, and influence employee turnover.	Yes
Argyris (1991)	Phenomena such as "the doom zone", "defensive reactions", "externalization of blame", "self-insight", and "openness" all build on the idea that perceptions of reality may differ between individuals.	Yes
Argyris (1998)	Hierarchical inconsistencies – regarding empowerment freedom vs. control – are inevitable.	Yes
Aulakh & Kotabe (1997)	Capability measurement is straightforward.	No
Bailey, Chen & Dou (1997)	Assessment of one's own performance depends on culture. Americans tend to have a self-serving bias – a tendency to take credit for success and blame others for failure – while Japanese tend to have a self-effacing bias – a tendency to externalize reasons for success (others' skills or luck) and internalize reasons for failure (own inability).	Yes
Bamberger & Fiegenbaum (1996)	Performance is determined by reference points. When performance is below the objective, the actors will adopt (risky) behavior that is fundamentally different from the (safe) behavior when performance is above the objective [prospect theory]. The authors assume that strategy, i.e. reference points, is "the outcome of a rational, explicit, and top-down process" (p. 930). In the end, they acknowledge that strategic decision-makers may have different opinions regarding reference points. If there is a lack of consensus on reference points, performance is likely to suffer.	No?
Barry & Bateman (1996)	Social traps (dilemmas) occur when there are conflicts between individual goals and collective/long-term goals. "Rewards and disincentives are arranged such that actions that may be propitious for an actor denote longer term sanctions for the individual and/or for others" (p. 758).	?
Bartlett & Ghoshal (1988)	Normative integration between subsidiary and parent facilitates transfer success.	Yes
Bartlett & Ghoshal (1990)	NIH is possible.	Yes
Bartlett & Ghoshal (1994)	"The problem is...that the CEO should be the corporation's chief strategist, assuming full control of setting the company's objectives and determining its priorities".	?
Bartlett & Ghoshal (1995a)	Knowledge is developed by operative managers. Top management can intervene to "shake up operating units that have grown stale or comfortable".	Yes
Bartlett & Ghoshal (1995b)	The firm must be made individualized – as opposed to making individuals "organized". Recruitment is key. Unlike capital, knowledge is most valuable when those in the front line control and use it.	Yes
Bauer & Green (1996)	"Support was found for relationships between the quality of leader-member exchange and positive affectivity[14] similarity, performance, and delegation, but not for a relationship with gender similarity" (p. 1538). Managers tend to rate the performance of employees who are similar to themselves as higher than for others – especially when information is scarce.	Yes
Becker & Gerhart (1996)	"At the level of policy, best practice brings to mind very specific forms of performance appraisal or team incentive systems that might be benchmarked" (p. 784).	No
Becker & Martin (1995)	Impression management is defined as "any behavior that alters or maintain a person's image in the eyes of another and that has as its purpose the attainment of some valued goal" (Villanova & Bernardin, 1989:299; in Becker & Martin (p. 174)). Most research emphasizes the employees' willingness to look good at work. "However, it is also probable that people sometimes intentionally attempt to look bad – inept, unstable, or undesirable in some other sense" (p. 175).	Yes
Beyer et al (1997)	Perceptions are believed to be selective. The question is how.	Yes
Birkinshaw & Hood (1998)	The role of the subsidiary is influenced by factors (own choice and local environment) beyond the control of corporate management, however. Charters are defined as "a shared understanding between the subsidiary and the headquarters regarding the subsidiary's scope of responsibilities" (p. 782). In times of rapid change, there may be misalignment between the charter and the subsidiary's capabilities. "...the process of assigning a charter to the subsidiary is an explicit acknowledgment by corporate management that the underlying capabilities are valued" (p. 783).	Yes
Birkinshaw (1996)	"...this is further confirmation of the belief that mandates are earned rather than given". "The current study suggests that in many cases the mandate is fully understood only by the subsidiary that holds it".	Yes
Buckley & Carter (1997)	Paradox of knowledge[15] (external market)	Yes
Chesbrough & Teece (1996)	"Tacit knowledge is knowledge that is implicitly grasped or used but has not been fully articulated".	Yes
Coff (1997)	"Because managers are boundedly rational, they may not know to ask for required information, and employees may not know what to provide" (p. 380). "In the case of professionals, the external network of peers can help the firm evaluate performance" (p. 391). Potential managerial differences regarding evaluations of capabilities are likely under conditions of social complexity and causal ambiguity.	Yes

Table 2.2. Continued.

Article	Assumptions / inferences	Are subjective evaluations likely?
Cohen & Levinthal (1990)	Absorptive capacity includes "basic skills or even a shared language". Thus, potential managerial differences regarding evaluations of capabilities are possible but not likely.	Yes
Collis & Montgomery (1995)	Only competitors face the risk of not understanding competencies.	No
Collis & Montgomery (1998)	Potential evaluation problems are not likely to be an issue in knowledge transfers.	No
Cool, Dierickx & Szulanski (1997)	Performance is measured by actual rate of financial return divided by allowed rate of return. Evaluation of skill level is not an issue.	No
Coriat & Dosi (1998)	Learning is local and path-dependent. Internal governance structure is environmentally embedded.	Yes
Davenport (1994)	People do not always share information. The more a company knows and cares about its core business area, the less likely employees will be to agree on a common definition of it.	Yes
Delaney & Huselid (1996)	"Employees can be hired via sophisticated selection procedures designed to screen out all but the very best potential employees" (p. 951).	No
Delery & Doty (1996)	There are three theoretical bases of SHRM: universalistic (best practices), contingency (consistent with other parts of the organization), and configurational (horizontal / internal and vertical / organizational fit). Fundamentally, none of the three acknowledges potential managerial differences regarding evaluations of capabilities.	No
Dougherty (1992)	Interpretative barriers in cross-functional teams or projects	Yes
Doz & Santos (1997)	Knowledge can be collectively shared but social reality affects understanding.	Yes
Drucker (1994)	The study did not have clear assumptions regarding managerial evaluations of capabilities – the focus of the study was elsewhere.	?
Drucker (1998)	One key issue in information-based organizations is to create a unified vision in an organization of specialists.	Yes
Duarte, Goodson, & Klich (1994)	"The results suggest that, in both the short and long run, the performance of employees in high-quality 'leader-member exchange' relationships is rated high, regardless of their objectively measured performance. The ratings of employees in low-quality exchange relationships are consistent with their objective performance in the short run, but high in the long run, regardless of objective performance" (p. 499). "Once a relationship[16] is established, leaders expect in-group employees to continue to make performance contributions beyond those required by the employment contract. As a result, these employees may receive higher performance evaluations and rewards than other employees" (p. 500).	Yes
Dunning (1997)	The study did not have clear assumptions regarding managerial evaluations of capabilities – the focus of the study was elsewhere.	?
El Sawy, Eriksson, Carlsson & Raven (1997)	*"it is more difficult to synthesize knowledge from heterogeneous sources"*	Yes
Elsass & Graves (1997)	"Status judgments typically reflect societal and organizational status hierarchies, and as noted earlier, these hierarchies usually assign greater status to white males than to women and people of color. Moreover, since standards for behavior and performance are set by high status individuals, low status individuals, including women and people of color, may be expected to be less capable than high status white males". (pp. 949-950)	Yes
Engle & Lord (1997)	The results support the hypothesis that liking and attitudinal similarity are related to both supervisor and subordinate rating of LMX relationship. "A plausible interpretation of these findings is that perceptions of similarity lead an individual to identify with the other dyadic member and produce an affective bond that has a direct effect on social relationships" (p. 1004).	Yes
Ferdows (1997)	Corporate managers should assess the foreign units.	No
Galunic & Eisenhardt (1996)	The main reasons for charter loss were found to be the following: first, performance crisis, internal competition, corporate indecisiveness, and own ambivalence (start-up); second, focus problems, needs by other divisions, close corporate attention, and stigma (growth); third, misfit competencies, internal competition, top-management dissatisfaction with performance, and resting on old laurels (maturity). Performance is measured only on financial items.	No?
Galunic & Rodan (1998)	"Because individuals' mental models filter the inflow of information, they increase the tendency to perceive data congruent with one's own mental models and unconsciously ignoring information that might not fit" (p. 1199).	Yes
Goold & Campbell (1998)	There may be evaluation differences, i.e. that units evaluate the benefit of a new product differently.	Yes
Gregersen, Hite, & Black (1996)	"An important key to developing accurate expatriate performance appraisals is for the rater to understand clearly the foreign situation and the unique context within which the expatriate will perform. This understanding may be clouded by the raters' inexperience with foreign assignments, previous experiences with other overseas assignments, location in relation to the expatriate, national origin, language barriers, cultural values concerning appraisal, as well as by other contextual factors stemming from the increased complexity of the foreign situation, culture and relationships".(p.712-713).	Yes

Table 2.2. Continued.

Article	Assumptions / inferences	Are subjective evaluations likely?
Hagström & Hedlund (1998)	"It is difficult to translate to higher, abstract principles". "Even a simple list of competencies is an impermanent map".	Yes
Hagström (1990)	IS standardizes information flows, thus facilitating the control of varied and dispersed activities.	?
Hamel & Prahalad (1990)	Even if shared interpretations are important, the identification of capabilities is not problematic.	No
Hedlund & Rolander (1990)	Holographic organizations, i.e. information about the whole is stored in every part.	No
Heenan & Perlmutter (1979)	"Superiority is not equated with nationality...".	Yes
Heilman, Block, & Stathatos (1997)	"As expected, subjects rated female affirmative action hires as less competent and recommended smaller salary increases for them than for men and women not associated with affirmative action. This pattern held even when disconfirming performance information was provided" (p. 603).	Yes
Huselid (1995).	"HRM practices influence employee skills through the acquisition and development of a firm's human capital. Recruiting procedures that provide a large pool of qualified applicants, paired with a reliable and valid selection regimen, will have a substantial influence over the quality and type of skills new employees possess" (p. 637). Appraisals and incentives must be aligned.	No
Håkansson (1990)	A central function of corporate R&D is to ensure that important knowledge is shared, but the firm may lack the required level of technical capabilities for control.	?
Kanter (1995)	Potential managerial differences regarding evaluations of capabilities do not constitute a potentially problematic issue.	No
Kilduff & Day (1994)	A survey of chief executive officers shows that promotions in corporations are based on social presentability, visibility, organizational demeanor[17], and, political skill, as well as on competent job performance. However, the perception of job performance itself is influenced by impressions of whether individuals have prominent friends at work. "The evidence suggests that the skillful management of impressions can enhance an individual's chances of career success in organizations" (p. 1048).	Yes
Kilduff (1992)	"The MNC, then, is an arena in which conflicts between the routines of culturally diverse groups are bound to occur". "The sets of routines in an organization represents a negotiated settlement of competing interests rather than a menu of choices determined by rational analysis. Attempts by management to change routines can provoke renewals of conflicts previously settled".	Yes
Klein, & Kim (1998)	Potential managerial differences regarding evaluations of capabilities are not unlikely (LMX model).	Yes
Kobrin (1994)	The need for sharing tacit information increases the need for socialization and may create geocentric attitudes. Geocentrism is perhaps reinforced by the need for sharing tacit knowledge.	Yes
Kogut & Zander (1992)	"It is important to underline the presumption that the knowledge of the firm must be understood as socially constructed, or, more simply stated, as resting in the organization of human resources" (p. 385).	Yes
Kostova & Cummings (1997)	Individuals hold attitudes toward practices.	Yes
Kostova (1996)	Practices are infused with value.	Yes
Kotabe, Murray & Javalgi (1998)	The study did not have clear assumptions regarding managerial evaluations of capabilities – the focus of the study was elsewhere.	?
Kuemmerle (1997)	Operative managers and sites for exploitation and augmentation are selected on the basis of personal experience related to technology and the local environment. Even though the evaluation may be difficult, it is doable.	No
Lado & Wilson (1994)	"An organization's HR system can be viewed as a repository of knowledge about firm-specific knowledge, skills, abilities, relationships, and the work-related values of its employees. Such knowledge, which labor economists refer to as organizational capital, is specific to the organization's technology, structure, and processes, is socially generated through interactions among human resource professionals and line managers, and is embedded in the firm's unique history" (p. 709).	No
Lorange & Probst (1990)	Holistic thinking is a main factor in the MNE's strategic management process.	Yes
Madsen (1998)	"It can be concluded that, in the small- and medium-sized firms studied, managers' maps of export performance are often very static, narrow, and short-term oriented. Actual sales seem to be much more important than the enhancement of organizational capabilities and future profits". (p. 91).	Yes
Manzoni & Barsoux (1998)	Managerial differences regarding evaluations of capabilities are for real. In fact, they are likely!	Yes

Table 2.2. Continued.

Article	Assumptions / inferences	Are subjective evaluations likely?
Miller & Shamsie (1996)	"Thus, resources must be difficult to create, buy, substitute, or imitate" (p. 520).	Yes
Mosakowski (1997)	"Instead, I emphasize a world in which decision makers are uncertain about which actions will more likely lead to successful performance for their own firms or competing firms" (p. 416). Managers are assumed incapable of knowing everything.	Yes
Murray & Gerhart (1998)	"By paying for attributes (knowledge, skills, and abilities) of individuals, organizations hope to direct the attention of their employees to developmental opportunities and to encourage skill-seeking behavior" (p. 68).	No
Nonaka & Takeuchi (1998)	Tacit knowledge has a cognitive dimension. It includes schemata, mental models, beliefs and perceptions so ingrained that we take them for granted.	Yes
Nonaka (1991)	"New knowledge is always developed by an individual. Transfer of tacit knowledge requires socialization. Create tension and solvable contradiction".	Yes
Nutt (1998)	The study observes factors that act to initiate strategic decision-making processes. The report explores the relationship between stakeholder claims, decision-maker directions, and decision-making success to look for best practices. "Performance claims stemmed from policy statements and control activities. Each compared observed performance to a norm" (p. 204). The performance shortfall triggered the processes, which proved most successful.	No
O'Leary-Kelly, Martocchio, & Frink (1994)	Goals and objectives may be set individually or by a group and may be focused on individual or group-based performance. The goals affect individual and group performance	No?
Patel & Pavitt (1998)	Firm-specific technological competencies are a central feature of corporate coherence.	?
Phillips & Bedeian (1994)	"The LMX[18] model suggests that attitudinal similarity is an important influence on leader and follower interactions, being a prime determinant of successful on-going relationships" (p. 991). In other words, similarity is said to lead to liking and liking to favoritism.	Yes
Prahalad & Lieberthal (1998)	"HQ staff tend to be less aware that information must also be received from the other direction" (subs). "MNCs frequently lack the cultural understanding to get the mix of expatriate and local leaders right".	Yes
Quinn, Anderson & Finkelstein (1996)	"Great organizations are unabashed meritocracies; great organizations that fail are often those that forget the importance of objective praise and selective weeding".	Yes
Raelin (1997)	"...a competent trainer might provide an observable model of tacit skill for the trainee to follow and imitate. The tacit skill would thus be apprehensible and observable in use, even though not articulated or put into words (Wright, 1994)" (p. 564). A community of practice can develop a shared understanding of confusing information. "Once the collective work becomes tacit, it's like a wave that passes through people's bodies and culminates when everyone synchronizes themselves with the wave" (p. 570).	No?
Ralston, Gustafson, Cheung, & Terpstra (1993)	"...both culture and the business environment interact to create a unique set of managerial values in a country".	Yes
Randoy & Li (1998)	The study did not have clear assumptions regarding managerial evaluations of capabilities – the focus of the study was elsewhere.	?
Rosenzweig & Nohria (1994)	"...these findings support the view of MNCs as composed of differentiated practices, which in turn are shaped by forces for local isomorphism and for internal consistency".	Yes
Roth & Morrison (1992)	The capabilities of a subsidiary will determine whether it will have a mandate or not.	No
Roth & O'Donnell (1996)	Each actor in a firm – agent – is assumed to have his/her own goals that are to be maximized. Goal conflict is likely. Socialization may reduce goal conflict.	No?
Schrieheim, Neider, & Scandura (1998)	Potential managerial differences regarding evaluations of capabilities are not unlikely (LMX model).	Yes
Schulz & Jobe (1997)	"All tacit knowledge can potentially be translated into explicit knowledge".	No
Shamir, Zakay, Breinin, & Popper (1998)	"A leader's emphasis on collective identity was unrelated to his superior's performance appraisal, and the leader's ideological emphasis and display of exemplary behavior were strongly and positively related to the superior's appraisal" (p. 404).	Yes
Shoham (1998)	It is possible that different stake-holders have different opinions of performance. Awareness of this risk minimizes differences.	Yes
Sohn (1994)	"The results offer broad support for the proposition that for MNCs with social knowledge, the need to resort to ownership for control purposes is reduced". Thus, the likelihood of potential managerial differences regarding evaluations of capabilities is minimized by social knowledge, i.e. the ability to "understand, but not necessarily share, the value system or behavioral pattern of his or her counterpart" (p.296).	Yes
Sparrowe & Liden (1997)	"The quality of the member's exchange relationship with the leader, which is based upon the degree of emotional support and exchange of valued resources, is pivotal in determining the member's fate within the organization" (p.522). Leader-member relationships and liking are based on social exchange, i.e. exchange that extends beyond the requirements in the employment contract. Initial perceptions and expectations leaders and members hold of one another function as self-fulfilling prophecies. Similarity between leaders and members are important for the development and institutionalization of the prophecies.	Yes

Table 2.2. Continued.

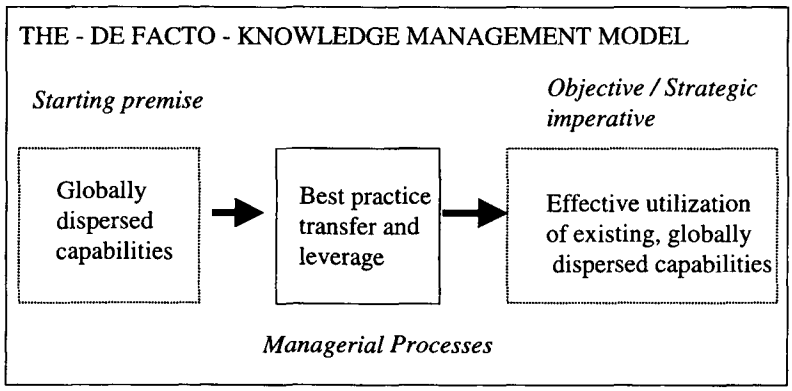
Article	Assumptions / inferences	Are subjective evaluations likely?
Spender (1998)	Knowledge is collective. "Communities of practice" or professional cultures build shared knowledge.	No
Styles (1998)	Evaluations differ potentially because of cultural differences. It is possible, however, to create measures which account for these differences.	No?
Subramaniam & Venkatraman (1997)	The study did not have clear assumptions regarding managerial evaluations of capabilities – the focus of the study was elsewhere.	?
Sutcliffe (1994)	"...the degree to which top managers' perceptions of environmental characteristics accurately reflect actual environmental characteristics will vary as a function of mediating filters, factors that impede or enhance organizational information processing" (p. 1361). The authors argue that performance monitoring and the accuracy of top managers' perceptions of the environment are positively related. However, "when managers pool their observations, they collectively formulate a better picture of the environment than managers in more centralized organizations (Weick, 1979)" (p. 1372).	No
Swanson & Ramiller (1997)	"The organizing vision, then, represents the community's effort to develop a common 'social account' (Jepperson, 1991), 'public theory' (DiMaggio, 1988), or 'story' (March, 1994) that explains the innovation's existence and purpose relative to its broader social, technical, and economic context, and that reduces the perceived uncertainties concerning the innovation's nature, its probable effects, and the particulars of alternative organizational responses (Milliken, 1987; 1990)" (p. 460).	Yes
Sölvell & Zander (1998)	Face-to-face contact is especially important for transfer of tacit knowledge.	Yes
Taggart (1997)	Subsidiaries can be characterized by the extent to which they are autonomous and the extent to which corporate management has an approach based on "procedural justice". The underlying idea is that corporate management may understand subsidiaries very well or not at all. The outcome will have consequences for the flow of knowledge.	Yes
Taylor, Beechler & Napier (1996)	"...we define HRM competence as the tangible (e.g., HR planning systems, international sales training programs, selection tests) and intangible resources (e.g., shared mindset, ability to attract qualified employees to work for the firm, affiliate managers' experience in negotiating with the local government) that allow a firm to outperform its competitors" (p. 963). They assume that"(a) the parent company possesses an HRM competence, and (b) top management has accurately perceived this to be a competence" (p. 969).	No
Teece (1998)	Knowledge is tacit. Transfer of knowledge often requires transfer of people.	Yes
Thomas & Ely (1996)	"Diversity should be understood as the varied perspectives and approaches to work that members of different identity groups bring".	Yes
Tsai & Ghoshal (1998)	"Inside an organization (especially a large, complex organization), a shared vision and/or a set of common values help develop this dimension of social capital, which in turn facilitates individual and group actions that can benefit the whole organization" (p. 465).	Yes
Tsui, Ashford, St. Clair & Xin (1995)	"We adopt the view of those researchers who have argued that judgments of effectiveness are inevitably subjective (e.g., Campbell, 1976; Scott, 1977; Steers, 1977; Tsui, 1984)" (p.1523).	Yes
Walker & Ruekert (1987)	The relevance and importance of different performance dimensions (i.e. effectiveness, efficiency, and adaptability) vary among stake-holder groups and depend on whether the focus is short- or long-term. A combination of objective and subjective indicators yields reliable measures.	Yes
Waller, Huber & Glick (1995)	Executive perceptions affect executive choices and actions.	Yes
Wayne & Liden (1995)	Impressions are manageable. "Subordinate impression management may have the most salient influence on supervisors when the relationship between the two is developing" (p. 236). The conclusion is that: "Demographic similarity and subordinate impression management behavior influenced supervisory performance ratings through their impact on supervisors' perceptions of similarity to subordinates" (p. 250).	Yes
White & Poynter (1990)	The horizontal organization, i.e. decision premises can be shared laterally.	Yes
Wikström, Normann et al (1994)	"...we have also chosen to focus on cognitive aspects, i.e. we are concerned with the information-gathering, analyzing and problem-solving human being. But we are disregarding the emotional and social aspects of the human being; people also have feelings, attitudes, interests, and wishes".	Yes
Von Hippel (1998)	"Information stickiness involves not only attributes of the information itself, but attributes and choices made by information seekers and information providers".	Yes
Von Krogh, Roos & Slocum (1996)	"...there is no longer a 'right knowledge', but many coexisting conflicting pieces of knowledge".	Yes
Wright & Snell (1998)	Strategic HRM seek to fit HRM practices, employee skills, and employee behaviors to the immediate competitive needs of the firm as dictated by the strategy. "This process contains input from the HRM function regarding strengths, weaknesses, opportunities, and threats related to the firm's human resources, although the extent to which this input exists in most organizations varies substantially" (p. 759).	No
Zander (1991)	"Technical knowledge tends to become associated with occupations and professions" (p.118).	Yes
Zou, Taylor & Osland (1998)	It is possible to create measures of – export – performance that account for subjective biases.	No?

Table 2.3. sums up our review of studies that – more or less – explicitly focus on knowledge-management issues. The results tell us that the majority of the articles – around 65 percent – explicitly or implicitly acknowledge that potential managerial differences regarding evaluations of capabilities may exist, while around 26 percent of the articles do not acknowledge such differences. Finally, in around 9 percent of the articles there were no obvious assumptions on potential managerial differences regarding evaluations of capabilities. The predominant underlying assumption in these articles is that potential managerial differences regarding evaluations of capabilities may exist. Still, a large proportion of the articles does not share this assumption. Moreover, despite many articles acknowledging the possibility of evaluation differences, there is little research on capability evaluations, and their effect on knowledge transfers. We conclude that even if it is conceptually acknowledged that capabilities may be difficult to evaluate, the de facto – and usually implicit – assumption in most knowledge-management research is that capability evaluations are not problematic.

Table. 2.3. The results of the literature review on assumptions regarding evaluations of capabilities.

Articles / writings reviewed.		Ones that acknowledge potential managerial differences regarding evaluations.		Ones that do not acknowledge potential managerial differences regarding evaluations of capabilities.		Ones without clear assumptions.	
Number	Percent	Number	Percent	Number	Percent	Number	Percent
110	100 %	71	~65 %	29	~26 %	10	~9 %

Figure 2.1. The de facto knowledge-management model underlying traditional research



From the preceding review of the literature, we have sketched the – de facto – underlying research model that reflects the prevailing view in knowledge-management research (figure 2.1.). The de facto model tends implicitly to combine factors as tacitness of knowledge, absorptive capacity, causal ambiguity, relationships between actors, and internalization of meaning, and group them as variables determining the outcome of the transfer. We believe that this approach is too simplistic and that it obscures important pre-transfer issues. Szulanski (1996) mentions the pre-transfer stage – using the term "formation of the transfer seed" – and acknowledges the need to be aware of important capabilities residing in the firm. This stage, however, is not critically discussed and analyzed. Implicitly, Szulanski (1996) assumes it is unproblematic. Moreover, our review of the literature shows that much research does not regard the process of evaluating capabilities as objective. In short, the current literature is devoted mainly to transfer issues – including the actual transfer and the implementation of practices received – whereas the pre-transfer stage has been given little empirical or theoretical attention.

To contextualize the discussion, our dissertation is analyzing transfers of best practices in their function as engines for enhancing efficiency – and perhaps effectiveness – in the organization. The basic idea being to increase efficiency in units performing below target levels by inducing them to learn from units performing above target levels. All else equal, the difference between efficiency in the under-performing units and the high-performing ones

was originally described as x-inefficiency (Leibenstein, 1966). Theoretically, x-inefficiency exists because "*neither individuals nor firms work as hard, nor do they search for information as effectively, as they could*" (ibid, p. 407). Thus, the x-inefficient firm is not as efficient as it could be. By implication, best-practice transfers is a mean to reduce x-inefficiency (Leibenstein, 1966) or organizational slack (Szulanski, 1995). Reasons for x-inefficiency may be lack of entrepreneurs that exploit arbitrage-like opportunities or market-sheltering activities (Liebenstein, 1978). More interestingly, x-inefficiencies are sustained even though managers may be aware of their negative effects because of psychological defense mechanisms (Argyris, 1991). Thus, a very important reason for x-inefficiency is managers' efforts to avoid embarrassment and personal threat, which prevents learning and possible improvement (Leibenstein & Maital, 1994). We consequently see many justifications for pursuing the issue of objectivity in capability evaluation.

Our conclusion is that much research on knowledge management implicitly assumes that evaluations of knowledge and capabilities are free from systematic biases. We must therefore consider whether evaluations of knowledge are perfectly rational[19] or whether we should incorporate possible evaluation biases in our discussion of intra-firm knowledge transfers. Evaluation is a decision-making process aimed at determining the capability of a specific subsidiary at performing a certain activity. If we are to understand this decision-making process, it is important to clarify the characteristics of it. This is what section 2.7. aims to do.

2.7. Decision-making in the MNE's knowledge-management system

"You can take the person out of the Stone Age, but you can not take Stone Age out of the person". In essence, *"for human beings, no less than for any other animal, emotions are the first screen to all information received"* (Nicholson, 1998).

Integration and global utilization of dispersed resources have been argued to require a mental attitude that presupposes an ability to consider and treat knowledge residing in units spread around the world as a valuable asset This attitude has been described as a geocentric mind-set (Perlmutter, 1969). A geocentric person objectively evaluates another person's capabilities without letting any prejudices affect the process. Another term in this sense used is a transnational (Bartlett & Ghoshal, 1990) mentality. A transnational mentality implies that managers of transnational companies see their tasks as enhancing and leveraging existing capabilities, involving all units of the organization in the process, and integrating multiple processes of innovation (Bartlett & Ghoshal, 1990).

In other words, in a model of how firms leverage capabilities, it is assumed that there must be an explicit or implicit decision that transfers should be implemented. We ask ourselves whether this decision can be assumed to be rational. In short, do managers rationally evaluate capabilities and effectively determine sources and recipients in the transfer process? To approach this issue thoroughly, we turned to research on managerial decision-making in general and in the MNE in particular.

2.7.1. The behavioral theory of the MNE.

Search processes for knowledge are important when we try to explain transfers and non-transfers of capabilities within the MNE. As a consequence, we structure our theoretical thinking on the behavioral theory of the firm, which is based on explicit assumptions regarding how managers search for information. In addition to the behavioral-theory approach, we will illustrate our discussion by using the "garbage-can" decision-making model as a metaphor for local decision-making at subsidiaries of the MNE. Thus, we will frame our study around theoretical constructs that have become widely accepted in organizational studies. The behavioral theory of the firm will provide most of the input to understanding

how the organization works, and it will also lead us to our main research questions. The garbage-can model will guide our search for important aspects in decision-making processes.

The actual process of framing problems as well as searching for, selecting and applying solutions is described by the "behavioral theory of the firm" (Cyert & March, 1963). Limits to time and attention, levels of aspiration, and characteristics of the search process are vital in determining the effectiveness of efforts to integrate geographically dispersed knowledge. Moreover, when the geographical aspect, the fact that the search area consists of globally dispersed units, is considered, limits to time and attention, ability, and different levels of aspiration become forceful, binding constraints on achieving effective use of globally dispersed resources.

"*Organizational discoveries, thus, are related to not only to an organization's performance and aspirations, but also to the successes and failures of solution mongers in meeting their own targets. In such a conception, solutions for one organization's problems are generated by the existence of problems in another; and a theory of organizational attention and search becomes a theory of a system of interacting organizations, rather than a single organization reacting to an inert environment*" (March, 1988; p. 5^{20}). One implication of the previous quote - and the garbage-can model applied to the MNE – is that subsidiaries are more or less isolated from each other. Thus, it cannot be taken for granted that information and knowledge flow freely and effortlessly between them.

On the other hand, one could argue that the MNE is a collection of dispersed organizational units with common goals, integrated operations and similar areas of knowledge. Thus, the MNE can be analyzed from a perspective of each subsidiary as at least somewhat integrated with corporate units, a viewpoint similar to those found in network research (see e.g. Mattsson, 1997; Johanson & Mattsson, 1994). The transfer of knowledge then depends on both the corporate unit and the subsidiary. Each subsidiary may have its own unique way of framing problems, of finding and applying solutions, of selecting persons working to solve problems, and of reacting, i.e. deciding when to take action. Or the subsidiaries may be similar. In addition, the corporate managers may be more or less skilled in achieving knowledge flows.

A theoretical approach to this issue can be found in the aforementioned "garbage-can" model (Cohen, March & Olsen, 1972) of decision-making processes, which assumes that decisions are based upon the available knowledge and other decision input that the local organization currently controls. In this model the decision-making process is seen as determined by exogenous but time-dependent streams of choice opportunities[21], problems, solutions, and people/decision makers. Thus, not only causal means-ends relationships, i.e. what could be called "intellectual" logic, determine the choice, but also the mere simultaneity of choices, problems, solutions and people, i.e. what could be called "temporal" logic.

The idea of "temporal" logic has been described as contextual rationality. This form of rationality is based on assumptions that the amount of managerial attention directed at a specific choice is determined in a competitive process where other choices also demand attention. Thus, the context in which choices are made determines not only the availability of attention but also the availability of people and their unique capabilities, awareness and experience of alternative solutions, and how the actual choice is articulated (March, 1988; p. 272).

An objection to applying the garbage-can model to organizations is the argument that the outcomes of a garbage-can decision process would tend to be chaotic. It has been argued, however, that even if the model as such has characteristics possibly leading to randomness in decision processes, factors outside the model bring stability to the process over time. Institutional factors such as professional cultures and norms (DiMaggio & Powell, 1983) act as a "lid" to the garbage can and prevent some types of decision outcomes (Levitt & Nass, 1989).

The garbage-can model can be used as a conceptual metaphor[22] for outlining the critical decision input variables for decision-making processes in the MNE. However, the MNE is then viewed not as one large garbage can but as a collection of dispersed but interlinked garbage cans. This view implies, first, the MNE contains several simultaneous streams of problems, solutions, participants and choice opportunities. Second, it may be difficult for managers to understand problems[23], solutions[24], participants and choice opportunities in other "garbage cans" than their own. Third, it will be difficult for persons from distant units to even be aware of and to access garbage cans in other units[25].

In short, the MNE can be modeled as a collection of dispersed garbage cans in which local decisions are governed mainly by "temporal" logic rather than "intellectual" logic. Still, outcomes of "garbage-can" decision processes will not be chaotic or random. Institutional forces put a "lid" on the garbage can. Consequently, problems, solutions, people, and choice opportunities are factors that significantly affect the outcome of attempts to transfer knowledge inside the MNE.

The behavioral theory of the firm (Cyert & March, 1963) helps us to understanding how each garbage can functions and why it is difficult to integrate their respective activities and knowledge. Here, it is assumed that decisions are based on bounded rationality (ibid; see also Simon, 1991). The amount and quality of collectable information are limited, as is the ability of individuals to analyze information and to draw conclusions based upon the analysis. In addition, it is assumed that rationality is local. Decisions regarding the local unit are made by locally confined actors. Bounded and local rationality in effect means that each local unit will make decisions based on local knowledge[26]. Thus, locally set goals become independent constraints that units strive toward satisficing (Cyert & March, 1963).

The assumption of local rationality relates to how search for new knowledge is conducted. Referring to Cyert and March (1963), we argue, first, that search is motivated by problems[27] where a problem is conceived as a failure on a goal indicator (Cyert & March, 1963, p. 122). Second, the search is simplistic, and being governed by two simple rules. The search is conducted in the neighborhood of the problem symptom - e.g., the search is focused on the sales department if sales levels decrease - and in the neighborhood of the currently used solution – e.g., the marketing campaign. In addition, the search proceeds from close to distant focus only when search in the closest geographical neighborhood, i.e. in one's own subsidiary, has failed. It is, for instance, only a secondary choice to widen the search area to include other subsidiaries. Moreover, the search tends to be focused on organizationally vulnerable areas, where there is slack and/or where the causal effects on results from changes in action patterns are less concrete (Cyert & March, 1963). For these reasons, the search for solutions to local problems is seldom directed at geographically distant units.

Since the search for knowledge is assumed to be problem-oriented, we also ask how the process of communication between a knowledge holder and a knowledge seeker can be expected to influence the transfer process. Let us assume that the knowledge holder is a

potential source of a solution to a particular problem the knowledge seeker wishes to solve. Ideally, the seeker will describe the problem, and the holder will then analyze it and try to solve it based on his/her knowledge. In an open and free exchange of information this process could perhaps be straightforward once the two parties had identified each other.

However, research on communication (Engquist, 1994[28]) has found that effective or valuable communication depends on the actors' abilities to communicate beyond the issue under scrutiny; communicating solely about the technicalities of problems cannot be expected to lead to effective transfer of knowledge. In other words, the ability to meta-communicate, i.e. to be able to communicate at several abstract levels, is considered a necessary but not sufficient condition for effective communication. Communication for the purpose of transferring capabilities should thus not be restricted to information exchange, but must be more elaborate if effective knowledge transfers are to occur. In light of this discussion, we infer that absorptive capacity (Cohen & Levinthal, 1990) is related to meta-level communication.

If people are problem-focused or technically biased in their communication and search efforts, effective two-way communication between a solution-seeker and a potential solution-provider is unlikely. Thus, communication can be biased toward the concrete level of a problem's technicalities because of a problem-focused search process, and because of limits to time and attention at the search unit. This effect may be reinforced within the MNE by the large geographic and cultural distances between the units and people that are communicating. Paradoxically, the MNE may potentially benefit greatly if its dispersed subsidiaries could meta-communicate but at the same time have characteristics which may limit the likelihood that this will occur. In combination, these circumstances may act as powerful barriers to the transfer of dispersed knowledge. In the worst case, there is also unresolved conflict within the organization (Cyert & March, 1963; see also Simon, 1957), with divergent opinions regarding which goals to pursue as well as how to pursue them. The situation is likely to result in managerial disagreement regarding the best matching of geographically or culturally dispersed solutions and problems. In other words, the behavioral theory of the MNE suggests that managers from different organizational entities are not unlikely to have different opinions on how to best match particular solutions to particular problems.

2.7.2. Systematic biases in managerial perceptions.

Moreover, there is much research taking the stance that people in general, including managers, are not objective. It has been argued, for instance, that *"we immediately and automatically appraise all that we encounter as a fundamental act of perception, producing tendencies to act*" (Arnold, 1945; 1970). One particular phenomenon which has been found to explain seemingly subjective behavior in certain situations is cognitive dissonance (Festinger, 1957). The basic idea of cognitive dissonance is that there are differences between one's norms and one's actions. One may for instance decline to share one's knowledge with others even though one believes that it is correct – in the sense of being socially desirable – to do so. Thus, there is cognitive dissonance between the norm and the action.

Three possible strategies to handle the dissonance are to change norms, to change actions, or to reduce the importance of the dissonance, i.e. to ignore it and learn to live with it. Another explanation of how to face cognitive dissonance is proposed by consistency theory (Axelson et al, 1968), which holds that people employ selective perception to handle cognitive dissonance. Selective perception occurs when people seek out, notice and interpret data in ways that support their current actions, thus reducing their cognitive dissonance. More specifically, it was found that people with high self-esteem as well as those with considerable control over their situation often were biased in their attitudes, i.e. showed higher degrees of cognitive dissonance and managed it through selective perception (ibid).

In the context of knowledge management, the existence of cognitive dissonance would imply, first, that managers in MNE's could accept a situation where knowledge is transferred from less capable units to more capable units and/or where transfers are not flowing from the most capable units. This situation would be one of "learning to live with cognitive dissonance", where the norm – that transfers should flow from the most/more capable units to the less capable units – differed from the actions – that transfers actually flowed in the opposite direction. One can not exclude *a priori* that this type of cognitive dissonance exists within MNEs. Second, from the findings that people with high self-esteem and control often are biased, one could hypothesize that corporate managers – on average – are more biased than subsidiary managers. At the same time, it is difficult to argue that the potentially strong tendency toward cognitive dissonance would be the only explanation for possibly biased assessments by corporate managers. Another explanation might be that these managers have

wider responsibilities and/or less time for decision-making and information collection on these particular issues.

The discussion on biases suggests the presence of a behavior sharply inconsistent with more or less effortless integration and global utilization of dispersed resources, which is based on treating all knowledge residing in units spread around the world as valuable assets (Perlmutter, 1969; Bartlett & Ghoshal, 1990). If managers in transnational companies see their task as enhancing and leveraging existing capabilities, involving all units of the organization in the process and integrating multiple processes of innovation (Bartlett & Ghoshal, 1990), we would not expect biases. To resolve whether we should expect biases or not, we turn to the literature on social psychology.

It is common knowledge in psychology and social psychology (see e.g. Atkinson et al, 1987) that human behavior is a function of a person and a context in which the behavior is shown. Furthermore, people do not react simply to objective features of a situation but to their own subjective interpretations or cognitive appraisals of the situation (Berger & Luckmann, 1967). In other words, social psychology – the study of social interaction – focuses on how social interaction influences choices and decisions. In order to act, one must decide on "*how things are*". This process is based on collection of data, detection of co-variation between two or more events, inference of causal relationships between events, and creation of theories on how the world "is" and "works".

In social psychology, it is acknowledged that there are several limitations to the rationality of this process. First, collection of data may be based on a biased sample for reasons of convenience or lack of time. The actual use of collected data is influenced by selective recall – vivid data are more often attended to and recalled than pallid data, even if the pallid data are equally or more reliable (Nisbett & Ross, 1985; Borgida & Nisbett, 1977). People are more likely to recognize and remember incorrect but colorful information than that which is correct but boring. Moreover, our aspirations to learn efficiently, schemata, or preconceptions lead us to categorize data in pre-determined groups (Hamilton, 1979). We may thus assign data a character that they may not have just because of our pre-existing views on how the world is. There is also the so-called primacy effect (Jones et al, 1968), which means that the first information received often has the greatest impact on overall impressions. Strong opinions are likely to be based on the first readily available data.

The next step in the process of forming an opinion on the capability of a unit is based on detecting co-variation between any two – or more – events. If one has formed a strong opinion on a certain unit, i.e. mentally established a "theory" on how the unit functions, one tends to overestimate the importance of co-variation between data supporting the "theory" (Atkinson et al, 1987; Heider, 1958; Kelley, 1967). On the other hand, when one has not formed such a "theory", there is a tendency to underestimate the importance of co-variation that actually exists. These tendencies keep people from changing their opinion even if available information advises them to do so. Another psychological factor related to problems of detecting co-variation is that of self-fulfilling stereotypes (Schneider, 1973). Thus, restrictions to isolate a unique cause-effect relationship, lack of consistent observations, and lack of consensus in interpretation do not stop individuals from inferring causality (Atkinson et al, 1987).

A common problem related to the inference of causality between events is the fundamental attribution error or the tendency to overestimate the importance of a person and underestimate the importance of a situation (Heider, 1958; Ross, 1977). This phenomenon also extends to self-perceptions (Bem, 1972). As stated previously, any event includes both people and circumstances, but our tendency is to focus the search for explanations of an outcome on the persons involved instead of giving equal weight to the circumstances. Thus, corporate managers may tend to overestimate the influence of subsidiary managers on a subsidiary's own success, while underestimating situational factors such as the influence of competitors, customers, suppliers and general macro-economic factors. As for a person's perceptions of his/her own performance, it has been found that negative outcomes often lead to externalization, i.e. attributing a poor outcome to factors outside oneself. Positive outcomes, on the other hand, often lead to internalization, i.e. giving oneself undue credit for success (Snyder et al, 1976). In the case of evaluating other people, the primary psychological determinants of liking have been found to be physical attractiveness, proximity, familiarity, and similarity (Atkinson et al, 1987). In sum, all these factors have bearing on assumptions regarding the objectivity underlying evaluations of capabilities. Subjectivity is likely.

In the context of managerial decision-making in knowledge management within the MNE, the characteristics of human inference-drawing that are discussed here indicate we should expect peculiar results. Two reasons why these phenomena are likely to appear in this context is that

important knowledge is tacit, thus increasing the likelihood of problems, and that knowledge management focuses of comparing how proficient units and managers are, which makes the issue sensitive and important for all. Psychological effects are highly relevant in this issue. In practice, the effects of drawing imperfect inferences could influence the designation of centers of excellence, the choice of role-model subsidiaries for the rest of the organization, the selection of communication and discussion partners, and the generation of organizational stories and myths. Cultural differences and infrequent face-to-face visits in the MNE may accentuate potential psychological biases in these processes.

Table 2.4. Overview of possible inference-drawing errors by managers when evaluating other people.

Conclusion	References
Vivid data are more often attended to and recalled than pallid data, even if pallid data are equally or more reliable.	Nisbett & Ross, 1985; Borgida & Nisbett, 1977.
Schemata or pre-conceptions make us see data in pre-determined ways. We sometimes assign data a character that it may not have just because of old views on how the world is. If one has a strong opinion – or "theory" – e.g., on the capability of a subsidiary, one tends to overestimate the importance of co-variation between data supporting the "theory". On the other hand, when one has no "theory", there is a tendency to underestimate the co-variation that actually exists.	Hamilton, 1979; Atkinson et al, 1987; Heider, 1958; Kelley, 1967.
The so-called primacy effect means that the first information received often has the greatest impact on overall impressions.	Jones et al, 1968.
Self-fulfilling stereotypes.	Schneider, 1973.
Problems in isolating a unique effect, lack of consistent observations, and lack of consensus in interpretation do not stop individuals from inferring causality.	Atkinson et al, 1987.
The fundamental attribution error is the tendency to overestimate the importance of a person and underestimate the importance of a situation. The attribution error is also true of self-perceptions. It has been found that negative outcomes often lead to externalization of explanatory factors, i.e. blaming other people or the circumstances for failures. On the other hand, positive outcomes lead to internalization, i.e. giving oneself undue credit for success.	Heider, 1958; Ross, 1977; Bem, 1972; Snyder et al, 1976.
Evaluations of other people are often based on psychological determinants of liking such as physical attractiveness, proximity, familiarity and similarity.	Atkinson et al, 1987.

In sum, there is much evidence suggesting that evaluations of oneself and others is influenced by factors other than objectively observed behavior. The theories of human behavior and social psychology referred to here lead us to question whether it is appropriate to assume rational and objective managerial behavior in research on knowledge management in the MNE.

2.8. Organizing knowledge management in the MNE

The discussion in the previous sections of this chapter has reviewed the principal areas of research on knowledge management. The organizational structure (Hedlund, 1986; 1993; Bartlett & Ghoshal, 1987a; Szulanski, 1995; 1996; White & Poynter, 1990) provides the framework for the knowledge-management process. It is based on information flows, decentralized decision-making and interconnectedness between organizational units. A second area is the characteristics of the knowledge per se (Von Hippel, 1998; Zander, 1991; Szulanski, 1995; 1996). The degree to which knowledge is articulated or tacit, and the organization's efforts and systems to share knowledge are also important factors in the knowledge-transfer process. A factor we want to emphasize when discussing knowledge management is causal ambiguity (Szulanski, 1996), or the difficulty for outsiders to understand organizational practices. This factor has a bearing on the selection of sources in transfer processes. If causal ambiguity is high, the selection of sources will be complicated. A third important area of research relates to managers and the characteristics of their decision-making process (Kostova, 1996; Kostova & Cummings, 1997; Simon, 1991; Hedlund & Nonaka, 1991). The areas outlined above concern the sources, the recipients, the knowledge-management system, and the characteristics of the capabilities to be transferred. The organizational structure, however, is particularly important in our study since we are interested in organizational decision-making in the context of knowledge management. In light of this, we will now turn to a discussion of the organizational structure and knowledge management.

2.8.1. The organizational structure and the knowledge-management system

Our ambition is to relate evaluations and transfer of skills to the organizational structure of the MNE. If individuals are the main creators of knowledge, or learners, the question of how capabilities are transferred from individuals to groups, organizations and/or inter-organizational domains (Hedlund & Nonaka, 1991) is important. It involves discussing which organizational entity, i.e. managerial unit, initially identifies and evaluates important capabilities, as well as who ultimately decides which skills are to become organizationally shared.

The hierarchy – as an organizational structure – provides a set of premises for decision-making, information storage, knowledge, power, and authority. More specifically, the hierarchical model assumes that decision-making, information storage, knowledge, power, and authority should be executed or located centrally. It is further assumed that there is more – of everything – at the top of the organization and less at the bottom. Therefore, a normative conclusion is that important decisions should be made by corporate managers, monitored by middle management, and executed by operative management. The basic reasoning behind these arguments is that the hierarchical structure brings improved efficiency via better control and co-ordination of activities (Williamson, 1975).

An elaborate discussion of hierarchy – as one model of how to organize the MNE – has been provided by Hedlund (1986; 1993). Hierarchy can be defined as a: "*system that is composed of subsystems, each of which is in turn hierarchically organized*" (ibid; Simon, 1962). As Hedlund (1993) argues, this statement has three implications. First, there are pre-specified and stable relations between all subsystems. Second, the subordinate parts within each subsystem only have meaning when combined with other parts. Third, the structuring of parts and subsystems is universal and unidirectional, so that the parts only fit together in one super-ordinate system. These implications favor stability – not change.

In a practical sense, the basic arguments for hierarchical knowledge management build on economies of scale and scope[29] through global co-ordination. Economies of scale or scope are created when a practice, a certain procedure for how to execute an action, is used repeatedly in old and new situations. Hierarchy presupposes that a centralized function like corporate management is best equipped to monitor subsidiaries and practices, and to co-ordinate capability flows between subsidiaries. Since corporate or divisional management is the organizational entity with an overview of all subsidiaries, it is considered able to manage co-ordination. In our view, a hierarchically structured knowledge-management system implies that corporate management selects source units in transfer processes, resorts to direct orders and/or incentive structures to get recipients to learn, and decides which practices should be transferred as well as when transfers should take place.

In contrast to the hierarchical model, the heterarchy (Hedlund, 1986; 1993) focuses on the decentralization of activity and thinking. The heterarchical model is based on empirical findings that multinational organizations depend on geographically dispersed core strategic

activities and co-ordination roles that are combined with normative integration mechanisms (Hedlund & Rolander, 1990). Other important characteristics of the heterarchy are that the organizational structure for co-ordination and integration is flexible and fluid, and that information flows horizontally rather than vertically (White & Poynter, 1990; Hedlund, 1986; 1993; Perlmutter, 1969; Heenan & Perlmutter, 1979).

A heterarchical MNE seeks to integrate knowledge through holographic (Thompson & Tuden, 1959) information processing and storage as well as corporate programs of experimentation that entail: "*heuristic search for opportunities and fast learning, and programmes for exploitation of historical strengths*" (Hedlund & Rolander, 1990; p. 41). Such systems for integration of information between organizational units lead to a situation where: "*the multinational will have increased possibilities to mobilize geographically dispersed resources for the activities that create most value*" (Hagström, 1990; p. 164). Hagström (ibid) concludes that appropriate information systems based on appropriate information technology enable the organization to unbundle and rebundle activities in novel ways. The organizational structure is then flexible and adapted to effective global knowledge management, for instance, via IT/IS systems.

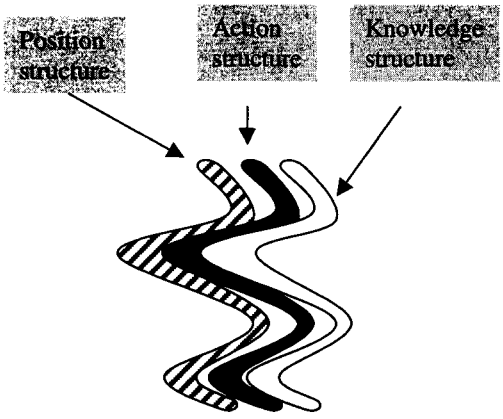
Following the same line of reasoning, White and Poynter (1990) emphasize three important factors in the management of internal knowledge flows. First, lateral decision processes are essential, since they bring together persons representing several key activities that are heavily influenced by the decision outcome. Second, there is a need for horizontal networks, which implies that an operative unit sets up and manages its own knowledge network. Third, shared premises for decision-making are required so as to enable dispersed organizational units to communicate with each other and to identify and pursue shared objectives. In our opinion, these arguments basically mean that identification of skills is preferably organized horizontally, and that a shared view of the world is crucial.

Another of research stream follows a similar approach. The literature on corporate – intra-firm – entrepreneurship discusses transformation or renewal of the existing organization (Stopford & Baden-Fuller, 1994). In this research, it has been found that subsidiary development in terms of new activities with high value-added are first and foremost a consequence of initiatives taken by the subsidiaries themselves (Håkansson & Zander, 1986; Ronstadt, 1977). For instance, autonomous action by subsidiary management may increase

the value of the subsidiary within the organizational context (Burgelman, 1983; Birkinshaw, 1996). A closely related factor is, of course, the incentive structure that meets the "intrapreneur" (Kogut & Zander, 1992), although incentives are not most important aspect in transfer processes (Szulanski, 1995; 1996). All in all, this research supports the importance of horizontal interconnectedness in capability transfers in the MNE.

To put our discussion into an organizational context, we should consider three dimensions of the internal structure of the firm: knowledge, action, and position (Hagström & Hedlund, 1998). The hierarchical model assumes – and prescribes? – that top management know more, do more, and – by definition – have more formal authority than other managers in the firm. In the typical hierarchical model, which is called the Hierarchy by Hagström & Hedlund (1998) – the three structures coincide (see figure 2.2.).

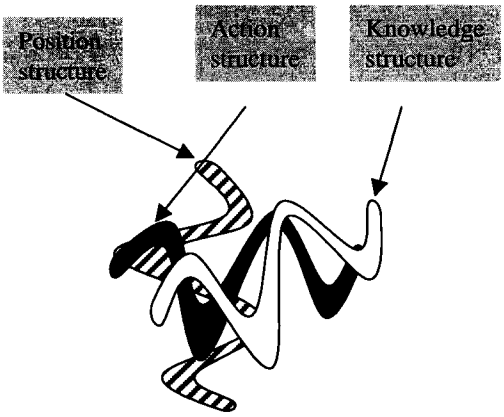
Figure 2.2. A Hierarchy based on coinciding structures for knowledge, action and position.



Theoretically, these three structural dimensions – knowledge, action, and position – may or may not coincide. As stated previously, the assumption is often that they do. By arguing that the three structures may not always coincide, Hagström & Hedlund (1998) build a dynamic model of the internal structures of the MNE. Even though their model could involve hierarchical structuring of the three dimensions, it does not assume this structuring to be identical for all three. The position structure is often bureaucratically defined in the sense that, for instance, the CEO, a subsidiary manager, and a sales manager all are appointed to specific positions. Therefore, the position structure tends to be hierarchical. The knowledge

structure is based on the inherent capabilities of individuals and will depend on the particular task and skills in focus. For some tasks, the position structure and the knowledge structure may coincide, but in others they will not. The action structure is the operational structure in which decisions are made and implemented. It may be based on the position structure or other more or less temporary structures such as a task force, a project team or a discussion group. In essence, Hagström & Hedlund's (ibid) argument is that the three structural dimensions do not coincide. Their model is outlined in figure 2.3.

Figure 2.3. The three-dimensional organizational structure based on knowledge, action and position structures.



According to the model, first, "*the positional structure is the most stable and the most 'hierarchical'*". Second, "*the knowledge structure is fleeting: diffused over geography and units, horizontal, flat, temporary, circular and rapidly changing*". Third, "*the action structure is by and large a mirror of the knowledge one*" (Hagström & Hedlund, ibid, p. 182). Our conclusion from this discussion of how organizational structures influence knowledge management is that the process is not likely to be characterized by "Hierarchical" management in the sense described by Hagström & Hedlund (1998). We would not intuitively assume that the structures of knowledge, position, and action coincide.

Conceptually, all structures of knowledge, action and position could coincide. However, such parallelism would require strongly shared views of the world and access to identical information. This situation is connected with the basic idea that the firm and the relations

between its members can create organizational advantages. These would then be based on the firm's social capital, i.e. the "*sum of the actual and potential resources embedded within, available through, and derived from the network of relationships by an individual or social unit*" (Nahapiet & Ghoshal, 1998). It is argued that a high value of the firm's social capital facilitates value creation and knowledge sharing through the intrafirm network (Wenpin & Ghoshal, 1998). Thus, social processes are likely to influence the transfer process in which knowledge is created and shared (Simon, 1991; Hedlund & Nonaka, 1991; Macneil, 1974; Arvidsson, 1996). Consequently, shared areas of knowledge, common organizing principles (Kogut & Zander, 1992), and a common identification (Denzau & North, 1994) of the firm are important when discussing evaluation of capability. Again, the question which we raise based on our review of the literature is whether different managers in the MNE will have similar views on the capability of individual subsidiaries.

2.8.2. Our conclusions regarding knowledge-management research

To conclude this chapter, we would argue that there are two particularly important factors in the pre-transfer stages of knowledge management that need to be discussed. First, there is the selection of sources from which capabilities are to be transferred. These sources should ideally be skilled subsidiaries that can share valuable experience and skills with other subsidiaries. In effect, the selection of transfer sources includes a selection of capabilities or practices to become transferred. Second, there is the selection of recipients for the transfer. These recipients should ideally be motivated for the transfer and in need of the capability in question. In addition, it is important to note that all transfer stages – from pre-transfer to post-transfer – are affected by the organizational structure as well as the characteristics of the capabilities to be transferred. Issues related to structure include centralization vs. decentralization of decision-making as well as practical implementation of transfers. The characteristics of capabilities relate to the ease with which a capability is described and articulated. The basic question in our thesis regards the selection of sources and recipients in the transfer process.

After having reviewed articles from leading journals as well as other important contributions to the field, we have identified several interesting issues. First, that the selection of sources and recipients in transfers is neglected in current research. Moreover, the model that – de

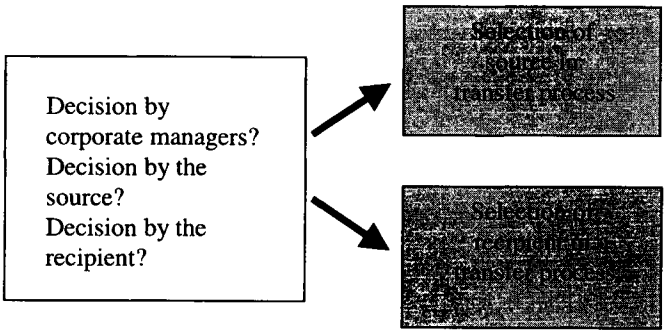
facto – underlies much knowledge-management research acknowledges obstacles to optimization – particularly concerning the actual transfer process – but implies that a higher frequency of knowledge flows tend to be better. The model is therefore rational in the sense that when imperfections in the actual transfer stage are accounted for, the flows are to be maximized. The restrictions on transfers are seen as barriers to be overcome. The main limitation to maximizing knowledge flows to be recognized is the potential strategic impact of competitors' imitative behavior. For example, more internal flows of capabilities may increase external imitation of crucial capabilities (Zander, 1991). More specifically, the imperfections are found only in transfer implementation and subsequent use of the transferred capabilities (ibid; Szulanski, 1995; 1996; Kostova, 1996; Kostova & Cummings, 1997).

In our thesis, we restrict ourselves to discussing pre-transfer issues. The implicit assumptions of the de facto knowledge-management model regarding sources and recipients can be summarized as follows: The selection of sources from which capabilities are to be transferred is not thoroughly problematized. In fact, the most apparent factor hitherto researched that has bearing on the selection of sources is causal ambiguity (Szulanski, 1995; 1996). Szulanski's (ibid) conclusion is that causal ambiguity restricts transfers, but there is no detailed discussion of how. Evaluating capabilities for the purpose of selecting transfer sources is not explicitly treated as a problem. Recipients, on the other hand, are acknowledged to have potentially irrational behavior. Recipients afflicted by the not-invented-here syndrome (Katz & Allen, 1982) may refuse to accept certain practices from certain actors for no logical reason. Still, the organizational system in which transfers are made is generally believed to favor optimal transfers. Last, the characteristics of capabilities may limit transfer effectiveness since difficulty in articulating knowledge is found to restrict the transfer process. To be specific, the major findings relate to transfer implementation and subsequent use of capabilities that have been transferred – and potentially transformed. Our conclusion is that because of factors such as causal ambiguity, the tacit nature of critical capabilities, and bounded rationality, we may expect evaluations of capabilities to be far from a simple matter.

In view of our discussion on hierarchy and heterarchy, we must ask which managers are expected to play the decisive role in knowledge-transfer decisions (figure 2.4.). Should this process be hierarchically centralized or totally decentralized? Is the solution somewhere in between these extremes? The knowledge-action-position model (Hagström & Hedlund, 1998)

clearly holds that the authority should lie with operative managers. After having mentioned this issue, Chapter 4 will outline our approach to the questions posed and discussed here.

Figure 2.4. The pre-transfer selection of sources and recipients.



2.9. Summary of the chapter

The modern MNE is currently held to be heterogeneous in terms of nationality of owners, corporate as well as subsidiary managers, and employees. To an increasing extent, it is also internationally dispersed in terms of where activities are located as well as culturally diverse as new markets and subsidiaries are added. At the same time, the fundamental theoretical reason why the MNE exists is its unique ability to internalize, i.e. integrate and exploit resources and capabilities, across geographic borders but inside its own organizational boundaries. Nowadays, capabilities have become one of the most important factors of production in the MNE. As a consequence, transferring capabilities inside the MNE has become a way to use the services inherent in existing resources – people and processes – as fully as possible.

Knowledge and its manifestation – capabilities – are not easily grasped, however. Primary learning is argued to take place within individuals, and not within organizations. Still, individual knowledge can become organizationally shared. Important capabilities are often tacit and may be difficult to transfer. There are empirical studies of capability transfers that provide answers to these questions. Three noteworthy studies – Zander (1991), Szulanski (1995; 1996) and Kostova (1996); Kostova & Cummings (1997) – were reviewed. The principal conclusions of these studies focused on issues related to the actual transfer of capabilities and the implementation of practices in the recipients' organizations. The main findings were that the characteristics of knowledge, the relations between sources and recipients, the absorptive capacity, and the internalization of meaning were significant factors affecting transfers. Moreover, causal ambiguity was found to be important.

We also acknowledged that previous studies were devoted mainly to issues concerning the actual transfer process, i.e. its implementation, and the subsequent use of the capabilities that had been transferred. There was little discussion of issues arising in pre-transfer stages. One question that we found had not been adequately addressed is how to select sources and recipients in the transfer process. We therefore raised what we regard as an important question: *how is the issue of the actual selection of sources and recipients in the transfer processes treated in the literature*? We saw a need to explore the current research on pre-transfer issues.

We then reviewed 110 articles that – in some way – discussed issues important in knowledge management and transfer of capabilities. To be specific, we focused on the explicit or implicit assumptions in the articles concerning evaluations of capabilities. We found that a majority of the studies – 65 percent – explicitly or implicitly assumed that evaluating capabilities could be problematic. Around 26 percent of the articles did not acknowledge that evaluating capabilities could be problematic. We consequently saw a paradox concerning a potential pre-transfer problem: while the most influential empirical studies de facto focused on transfer implementation and follow-up, most empirical and conceptual research implicitly acknowledged that evaluating capabilities could be a problem. In spite of this, there are few conclusions concerning how the pre-transfer issue of evaluating capabilities could affect knowledge management. We argue that there is an underlying model of knowledge management that does not address pre-transfer issues of this kind.

To shed more light on this somewhat inconclusive approach to the evaluation of capabilities, we turned to literature on decision-making and social psychology to determine which assumptions were reasonable regarding managers' ability to evaluate capabilities. In short, there was a conflict between assumptions of more or less perfect rationality and those of bounded rationality or even irrationality. We concluded that the prevailing de facto assumption in most knowledge-management research is that the evaluation of capabilities is a rather straightforward matter which is not expected to create problems. Thus, we believe that it is extremely important to question this implicit and predominant assumption in order to develop the field of knowledge-management research.

By looking at important aspects of knowledge-management research – the organizational structure, knowledge, and managerial decision-making – we elaborated on the traditional assumptions underlying current research and possible alternative assumptions. In this endeavor, we limited ourselves to discussing assumptions regarding the evaluation of capabilities. This task is challenging enough in itself. We will discuss subjectivity concerning one aspect of knowledge management by raising the question whether evaluating capabilities is an objective process – as is currently assumed – or a subjective one. We will not discuss assumptions of subjectivity in other areas of the knowledge-management processes. At the same time, however, we do not rule out that there may be other issues which in fact are subjective. We will elaborate on our approach to this question in Chapter 4.

1. To be clear, O stands for organization advantages, i.e. advantages that are unique to an organization and based on its resources and capabilities. L stands for local advantages and refers to specific circumstances that make a local market especially attractive. Last, I stands for internalization and refers to the MNE's ability to internalize markets in order to exploit both organization advantages and local advantages simultaneously.
2. By transfer we mean not only transfer of a behavioral pattern but also the knowledge underlying the pattern (see Kogut & Zander, 1992).
3. It should be noted that this discussion draws heavily upon Peteraf (1991).
4. Thus, learning per se is not always positive. It can be negative, leading to situations worse than the previous one. Furthermore, learning does not necessarily lead to change in behavior. New theoretical knowledge may not necessarily lead to new procedural knowledge that would produce a change in behavior. We must acknowledge that new theoretical knowledge may either strengthen or weaken the argument for employing the current behavior. Only in the latter case is it likely to stimulate changes in behavior. For a more thorough discussion, see Arvidsson (1999 forthcoming).
5. "All learning takes place inside individual human heads; an organization learns in only two ways: (a) by the learning of its members, or (b) by ingesting new members who have knowledge the organization didn't previously have." (Simon, 1991; p. 125).
6. This model assumes that organizations may hold knowledge not possessed by any individuals within the organization. This assumption is not, however, considered contradictory to the idea of individuals as the (only) learners. For example, in an extreme case the initial learners may have transferred their knowledge to the organization and then left the firm.
7. I.e. the opposite of tacit (Polanyi, 1969).
8. The regulatory dimension reflects laws and other institutionalized ways of behavior in a particular national or regional environment. The cognitive dimension reflects widely shared cognitive schemes in a given social entity such as a country or an organization. Lastly, the normative dimension reflects norms, values, beliefs and accepted human behavior in a particular setting.
9. See also Zander's (1991) results regarding imitation by similar firms.
10. The stickiness of knowledge is regarded to be the "eventfulness" of its transfer. That is, "stickiness" is when the transfer is costly, it consumes a non-negligible amount of time, and/or it may miss some or all of its stated goals.
11. This point is is worthy of emphasis because it indicates the importance of the transferor's ability to make it easier for the recipient to absorb that which is to be transferred.
12. Interestingly enough, the fact that, first, the transferor of knowledge lacked motivation and, second, that the receiver of knowledge could not retain that which was transferred did not have a negative impact on transfer. On the contrary, the correlation was positive. We can interpret the first case as a situation where the transferor's lack of motivation creates a need for the recipient actively to seek out the exact knowledge required and stimulate the recipient to absorb the knowledge effectively. The second case is open to an analogous interpretation. If the potential recipient of knowledge lacks the ability to retain the knowledge that is transferred, the transferor must devote a lot of effort to infuse the knowledge into the recipient, thus stimulating the recipient to absorb the knowledge effectively. Essential to both of these interpretations is the assumption that one of the actors is highly motivated to pursue the transfer.
13. The review was based on recent volumes of Organization Science, Academy of Management Journal, Academy of Management Review, Strategic Management Journal, International Marketing Review, and Journal of International Marketing. In addition, we included various other important articles and books covering these issues. The review may, of course, have missed potentially important contributions to this discussion. We believe, however, to have covered the most important arguments in this research area.
14. Positive affectivity is a person's disposition to feel enthusiastic, active, and alert.
15. A seller of knowledge will not reveal the value of the knowledge until a price is set, and the buyer will not set a price until the value is revealed (Arrow, 1971).
16. I.e. a high-quality relationship of leader-member exchange.
17. Attitude or disposition.
18. I.e. the Leader-Member eXchange model.
19. In the sense that only the knowledge in itself and the context in which it is to be applied affects its evaluation. Factors inherent in the persons evaluating the knowledge would thus be irrelevant.
20. Based on the introduction (pp. 1-21) in March (1988).
21. The choice opportunities could, for instance, be points in time when the organization actually chooses one particular way to frame a problem or one particular solution to apply to a particular problem. This point in time determines which particular types of problems, solutions and people are available and will affect the decision outcome.
22. By adopting a model based on the garbage can as a metaphor for organizational decision-making, we can explain why an organization may commit the same error several times, why organizational learning is faulty,

and why organizational codes of conduct can suddenly change dramatically etc. (p. 9 in March, 1988). In other words, why organizational learning is not a straightforward process that (eventually) will lead to optimality through stepwise reduction of mistakes and underachieving work processes.

23. We define a problem as a failure to meet a pre-set target. Thus, a problem can be generated either by poor performance and/or by high targets. Our study, however, will focus on attempts to solve problems by increasing performance rather than by decreasing levels of aspiration.
24. I.e. the available number of problem frameworks, solutions and people within the unit. This will have an effect on the need to look elsewhere for any of the factors that are needed.
25. The first proposition is related to Cyert and March's (1963) assumption that firms search for solutions primarily in the local environment. Consequently, when search and goal-setting are conducted locally, there is only one garbage can from which to collect decision input. However, if the search and goals of a particular unit can be based on decision input from a multitude of globally dispersed garbage cans, we can hypothesize that there will be an opportunity for better local performance. We cannot infer, however, that the expanded search automatically will lead to better organizational performance. This question is an empirical one. The second proposition relates to how the decision input residing in a specific garbage is understood by an actor from another can. If one cannot correctly read and interpret the labels on decision input in another garbage can, there will be a barrier to effective transfer. Knowledge in languages and culture, for instance, but also professional knowledge may be needed if this barrier is to be overcome. The last proposition relates to awareness of the decision input residing in the various garbage cans that are available in the MNE and of which input is most likely to be valuable. Limits to attention restrict the opportunity to be aware of other subsidiaries' capabilities.
26. We will view knowledge in terms of the ability to frame problems and apply solutions in relation to pre-specified goals. Thus, we will study the transfer of knowledge that is made in order to achieve the goals set for local units by the units themselves or by other organizational units.
27. I.e. "search is stimulated by a problem and directed toward finding a solution to that (particular) problem" (Cyert & March, 1963, p. 121).
28. Engquist's (1994) argument is based on three propositions. The first is the theory of logical types (Whitehead & Russel, 1910) - for example, if we are to understand a class of elements, the class itself can not be an element within the class. If a group of elephants constitute a herd, the herd can not constitute an elephant. Second, if one does not recognize the theory of logical types, one may become stuck in pathogenic or paradoxic communication. A so-called "double-bind" situation characterized by logical paradoxes disables effective understanding of the communication process (Bateson, 1955; 1972). Third, logical paradoxes are unwrought through communication at several distinct abstract levels. One can avoid logical paradoxes through meta-communication (Watzlawick et al, 1978).
29. Economies of scale achieved through transfers of capabilities are based on the idea that the initial learning, i.e. the investment in creating a successful practice, is treated as a fixed cost that is leveraged each time a new subsidiary adopts the practice. This treatment theoretically assumes that different subsidiaries constitute one organization with one production system. Thus, economies of scope is a complementary descriptive term, since each subsidiary could be regarded as a unique activity in a geographically dispersed value-chain. Economies of scope are achieved by transferring a practice from the marketing unit in France to that in Germany. In either case, the existing practices – and its underlying capabilities – are used more effectively if a successful practice is implemented.

CHAPTER 3. GLOBAL MARKETING AND MARKETING CAPABILITIES.

Chapter 2 discussed knowledge management in the MNE. The main inference which can be tentatively drawn from Chapter 2 is that capabilities may be difficult to evaluate, and that this difficulty may in turn cause problems in a transfer process[1]. The reasoning in Chapter 2 is based on models of decision-making in the firm, characteristics of knowledge and capabilities, and sociological and psychological studies of evaluations of self and others. Consequently, our discussion could be applied to any functional activity – R&D, manufacturing, or marketing – in the MNE. We have chosen to study marketing activities in the sense of downstream activities. Thus, "marketing" in the wider sense includes, for instance, marketing, sales and outbound logistics[2]. As a result, this chapter aims at discussing characteristics of global marketing activities in the MNE, and to apply the general discussion in Chapter 2 within the marketing function of the MNE.

This chapter presents marketing in its role as the functional area in which we apply our research questions. We select marketing since this activity is becoming increasingly important in the mature MNE, and consequently contributes a large share of the MNE's value-added. In addition, we believe MNE-researchers have left this functional activity somewhat under-researched as compared to, for instance, R&D and manufacturing. The chapter provides an in-depth discussion of global marketing based on conclusions regarding inter-market segments and capability transfer. In addition, the chapter defines critical concepts in marketing.

3.1. Introduction to our study of marketing-capability transfers

We would like to emphasize that our thesis concerns capability management in the MNE and is primarily intended to make a contribution in that research field. In addition, it will hopefully contribute to marketing research. It is also important to acknowledge the connections that may exist between any two fields of business research. The research fields of international business and international marketing are indeed complementary (Mattsson, 1997). To make our arguments clearer, we turn to a review of the literature on marketing research provided by Douglas & Craig (1992). This review (ibid) concluded that marketing research during the 80's shifted its focus from market-entry decisions to issues like

standardization vs. local adaptation of marketing-mix elements in different countries, and to the formulation of global marketing strategies. The authors (ibid) also made a call for further research in three areas. First, the issue of designing and implementing regional or global rather than local marketing strategies. Second, organizational efforts to develop mechanisms supporting transfers of products, ideas, experience, information, and skills related to marketing activities between countries and subsidiaries. Third, organizational flexibility in shifting resources and sourcing of input factors from one location to another in order to exploit environmental sources of competitive advantage. The review concluded that achieving these research objectives required an interdisciplinary approach, since: "*International marketing decisions and strategy can no longer effectively be examined in isolation*" (ibid, p. 313). We intend to pursue the second issue, the transfer of marketing capabilities, in detail using an interdisciplinary approach. In addition, our study will have impact on the first and third issues as well.

We broadly define marketing capabilities as: "*skills in understanding and satisfying customers*" (Day, 1994). This definition captures the essence of market orientation (ibid). Consequently, we have adopted a consistent and broad definition of marketing activities as: *activities aiming at understanding and satisfying customers*. Our main interest, however, lies in the organization and management of marketing activities as opposed to the actual implementation of marketing actions. To be more precise, our focus is on MNE's organization in relation to its marketing activities. A standard definition of marketing tells us that "*marketing is a social and managerial process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products of value with others*" (Kotler, 1994, p. 6). This definition of marketing includes both the intra-organizational aspects of marketing, i.e. the managerial dimension, and the exchange aspect, i.e. the inter-organizational dimension. These two aspects are also reflected in the American Marketing Association's definition of marketing management. It states that: "*marketing management is the process of planning and executing the conception, pricing, promotion, and distribution of goods, services, and ideas to create exchanges with target groups that satisfy customer and organizational objectives*" (Kotler, 1994, p. 13). Additional definitions of the principal constructs and other terms used in this thesis are provided in Table 3.1.

Table 3.1. Definitions of important concepts used in the thesis.

Important concepts	Definition
Multinational Enterprise (MNE)	A firm that engages in foreign direct investment, and owns or controls value-adding activities in more than one country.
Capability	Procedural knowledge concerning a specific activity and/or issue.
Marketing	"A *social and managerial process by which individuals and groups obtain what they need and want through creating, offering, and exchanging products of value with others*" (Kotler, 1994, p. 6).
Marketing management	*"The process of planning and executing the conception, pricing, promotion, and distribution of goods, services, and ideas to create exchanges with target groups that satisfy customer and organizational objectives" (Kotler, 1994, p. 13).*
Marketing capabilities	"*Skills in understanding and satisfying customers*" (Day, 1994)
Marketing activity	Activities aiming at understanding and satisfying customers.
Marketing unit, unit	The organizational entity responsible for performing marketing activities in a specific geographical area.
Marketing practice	A routine in marketing activities that is intended to fulfill a particular purpose.
Transfer of knowledge	The fundamental process in which knowledge – cognitive and/or procedural – is acquired by one individual through the help of another, who often is the holder of the knowledge. There may be intermediaries in the process. The transfer can be implemented by a number of means such as employee-rotation, temporary work groups, the use of IT/IS systems, and transfer of best-practice.
Transfer of best practices	The process whereby one marketing unit more or less copies a capability residing in another unit. While acknowledging that there is a continuous transfer scale with an identical copy at one end and a transformation at the other, we limit ourselves to situations where subsidiaries copy a capability residing in another unit.

We have chosen to study knowledge management concerning marketing activities in the MNE. One of the reasons is that there has been a call for research on the combined effect of internal organization and external, macro-environmental factors on international marketing (Dalgic, 1994). In addition, much discussion in research on marketing activities is normatively biased in the sense of addressing issues related to collection of market-based information and deriving suggestions on how to act upon it (see e.g. Sinkula, 1994). While the question of transferring capabilities within MNE marketing activities has been acknowledged as important (Douglas & Craig, 1992; Johansson, 1997), we would argue that the issue of global organization and management of marketing activities remains relatively unexplored. There is a need for a study like ours.

We approach marketing activities from a capability perspective; our concern is with capabilities and practices in marketing activities. In a broad sense, we are interested in the MNE and especially one of its fundamental activities – marketing. Thus, MNE is the main object of our study. The phenomenon of the MNE, however, consists of several dimensions and activities (see e.g. Porter, 1985) which have very different characteristics, and we will limit ourselves to studying that activity called marketing. This choice would seem consistent

with the reasoning of Cavusgil (1997), who argued that: "*the unique explanation a marketing orientation brings to the IB phenomena is the 'customer/market interface'*". With this approach, we will draw conclusions relevant to theoretical research as well as to the practical management of global marketing capabilities, but we will discuss these findings in relation to the MNE as such.

Our study uses market orientation as the primary indicator of capability, and discusses knowledge management, which is interesting given the connection between market orientation and organizational learning. The ability to be market-oriented is held to be valuable because it: "*focuses the organization on (1) continuously collecting information about target-customers' needs and competitors' capabilities and (2) using this information to create continuously superior customer value*" (Slater & Narver, 1995). The argument is that being market-oriented – if complemented by an entrepreneurial and supportive organizational climate – is an indication that the organization is a learning organization (ibid). The market-orientation concept is associated with the ability to learn and upgrade one's capabilities. In addition, it has been stated that: "*a theory of marketing information processing grounded in organizational learning holds tremendous promise in accomplishing these ends*" (Sinkula, 1994), i.e. the ends of understanding both the processing and the utilization of market information. Thus, it is desirable to develop marketing research by drawing on the literature on organizational learning. Still, while this thesis is intended to contribute to a discussion of market orientation and learning, we must admit it mainly discusses learning in the sense of leveraging existing knowledge within an organization.

Our approach to studying marketing activities in MNE's is fundamentally based on a network approach, with the subsidiary located in the intersection of intra-firm and customer dependence. This approach is commonly accepted when studying international marketing (Mattsson, 1997). Network research (see e.g. Håkansson, 1982; Ford, 1990; Forsgren, Holm & Johanson, 1995) has a strong tradition in Sweden (Johanson & Mattsson, 1994). In light of this, our study is relevant to the discussion of marketing activities as means of creating strategic partnerships and value-chain integration, and consequently also as an organization-wide responsibility (Webster, 1992). The argument is basically that external cooperation and integration are becoming increasingly important, an indication that marketing is not an arms-length activity but a matter of relationships (see e.g. discussions by Mattsson, 1995; Ford,

1990). If relationships are important, the entire organization can contribute to the creation and maintenance of a relationship. Therefore, marketing activities must not only be integrated with other activities – such as R&D and manufacturing – but also globally co-ordinated. The latter is exemplified by a trend in multinational firms aiming to supply a similar or even identical product – physical good and/or service – to different subsidiaries of the same multinational customer. This approach can be labeled global account management (Johansson, 1997). As a consequence, the internal organization needs to be structured in such a way that information and capabilities can flow between subsidiaries in different countries. The importance of international relationships is growing with the globalization of customers and suppliers alike (Johanson & Mattsson, 1988). Economies of scale as well as strategic reasons are leading companies to adopt a global product supply strategy. This evolution indicates the increased importance of marketing in terms of contribution to actual value-added as well as its role in enabling global MNE strategies. All in all, these factors underscore the need to synchronize marketing activities internationally.

When discussing marketing, we acknowledge that it is generally the most geographically dispersed of all MNE activities. Thus, it is most likely to involve large differences in capabilities and performance levels among dispersed units. At the same time, this particular activity is sometimes specially adapted to the local market, so that it may not always be useful to transfer marketing capabilities between markets. While there are those who argue that transfers of marketing capabilities can be valuable (Sheth, 1997; Quelch & Hoff, 1986; Day, 1994), we believe that this question is unresolved empirically. We are therefore seeking to ascertain, first, whether capability differences exist and, second, how transfers occur. In our opinion, these issues have not been thoroughly researched. Furthermore, the processes underlying specific marketing activities may involve aspects which indeed are highly transferable to other markets and units (Quelch & Hoff, 1986). There may be meta-level learning (cf. double-loop learning by Argyris & Schön, 1978) that is transferable between subsidiaries. For example, even if a firm benefits from having different approaches to customers in two different countries, knowledge concerning how to collect customer information may still be valuable to transfer from one market to another.

Therefore, this study is focused on marketing capabilities of subsidiaries in large MNE's. Our decision to study marketing capabilities is based on the simple observation that they are the

most geographically dispersed capabilities in the firm[3]. Moreover, it is rare to find a study that explicitly focuses on marketing activities in MNE subsidiaries, whereas manufacturing and R&D activities have been studied many times (see e.g. Birkinshaw & Morrison, 1995; Birkinshaw & Hood, 1998; Håkanson & Nobel, 1993; Kuemmerle, 1997). One reason for this difference is that manufacturing capabilities could be argued to be easier to identify, measure, and transfer because of their physical character (cf. Grönroos, 1990; Shostack, 1977; Majkgård, 1998). Thus, another reason for us to selecting marketing activities is that capabilities in this area are arguably less tangible and concrete than R&D and manufacturing capabilities. Evaluating a capability may then be a particularly critical factor for knowledge management in marketing activities. Methodologically, if marketing capability proves not to be difficult to evaluate, we can infer the same conclusion regarding knowledge management focusing on R&D and manufacturing capability.

3.2. Internationalization of the firm and marketing

A global perspective on marketing and marketing capabilities is based on how firms are internationalized. We consequently view global strategies – in any activity of the firm – as consequences of historical internationalization processes. Once the firm has pursued its internationalization, it is likely to attempt a global strategy. We base our discussion on one of the most important streams of research on the internationalization processes of firms – the Uppsala model (Johanson & Vahlne, 1977; 1993; Johanson & Wiedersheim-Paul, 1975). We view global strategies as natural consequences of sustained international growth, i.e. foreign investments and a subsequent desire to integrate and co-ordinate activities internationally. We should acknowledge, however, that some researchers challenge this gradual perspective on internationalization (Knight & Cavusgil, 1996[4]).

The Uppsala model has its roots in Cyert & March (1963) in the sense that uncertainty about foreign customers and the inherent risk in pursuing business in foreign markets is a key variable. One way to manage this risk is through market transactions. The firm entering a foreign market may, for instance, sell its products through contractual arrangements with external sales agents. This step will not necessarily eliminate business risk, but the purpose is to engage intermediaries skillful in managing this particular risk. A short-term strategy to

counter risk in dealing with foreign markets is characterized by negotiating a more certain environment. An agent can be hired to deal with risk and uncertainty. A long-term strategy, however, is likely to be different. In this case, the firm can slowly adapt to a foreign environment through organizational learning, which in turn may decrease risk and uncertainty. Decreased risk stimulates additional investments, which increase learning. A cycle of decreased risk, increased learning and increased investments is maintained (Johanson & Vahlne, 1993). The Uppsala model acknowledges that firms face risk and uncertainty when starting operations abroad, and that they are initially reluctant to make large capital investments. The risk and uncertainty are overcome through experience and learning. As the firm slowly increases its capital investments, it improves its knowledge of specific foreign markets and of overseas operations in general. The model treats internationalization as a process in which firms gradually gain knowledge about the foreign business environment, and which results in progressively increased investments (Johanson & Vahlne 1977; 1993). In practice, the incremental investments may follow an establishment chain (Johanson & Wiedersheim-Paul, 1975). This chain of sequential foreign investments may start with exports from domestic factories. Thereafter, the firm gradually increases its internationalization by contacting a local sales agent in the foreign market. As long as the experience is successful, this process continues. It may lead to the establishment of a foreign sales subsidiary, and finally a manufacturing subsidiary (ibid).

The model portrays internationalization as having several distinct stages. One could argue, however, that the stages are indistinguishably linked in a continuously evolving process, and that it is merely their manifestations[5] that develop stage-wise. Attitudes and cognition evolve continuously, while behavior, which in this case would be investment patterns, develops in stages. Interestingly, once managers have gained substantial international experience, and the firm has built up a portfolio of geographically dispersed activities, global integration is the next step. At some point in time, the MNE will face increasing difficulty in growing abroad, and will have a strong incentive to improve efficiency by integrating its globally dispersed operations.

In the case of marketing, the internationalization process and the establishment chain implies a gradual change from local to global marketing, accompanied by attempts to transfer marketing capabilities. In organizational terms, these processes are characterized by

sequential moves from export departments, to an international division – perhaps with efforts at regional integration, to a global product division, to a global matrix structure, and, eventually, to an integrated network structure (see Johansson, 1997) supported by appropriate reporting and incentive structures. With each stage in this trajectory of organizational evolution come new capabilities and a potential desire to integrate activities globally. Thus, a global mind-set (Perlmutter, 1969) is crucial in attempts to pursue a global marketing strategy. Having a global mind-set and globally dispersed activities – probably characterized by economies of scale and/or scope – inevitably stimulates the development of a global marketing strategy. However, despite forces acting towards globalization, a multi-domestic[6] marketing approach may sometimes be favored, especially when there are strong differences among consumers in terms of religion, culture and/or social expectations. The internationalization process model (Johanson & Vahlne 1977; 1993) is actually assuming multi-domesticity, i.e. each market is a unique learning process and there is little synergy between these learning processes, which means that we add the assumption of internationalization meta-capabilities that are valuable in many different markets (Johanson & Mattsson, 1988)[7]. Our study is consequently based on the conceptual idea of global marketing strategies.

In short, the main drivers toward global marketing are markets, competition, costs and government regulations (Johansson, 1997). Global marketing is linked to international trade and investment, open economies, co-ordinated multi-country MNE strategies, a search for new revenues and profits, and ambitions to improve the firm's capabilities (Johansson, 1997). It is not empirically clear, however, in which direction marketing is heading. Is it becoming totally global, totally local, or something in between? In any case, even if local adaptation always is important; "*It is difficult not to be optimistic about the future of global marketing*" (ibid, p. 657). All in all, global marketing has the potential to become an asset for the MNE. Especially when capabilities develop organically in subsidiaries, and may thereafter be exploited globally via transfers of best practices or some other mechanism[8].

3.3. Global marketing and transfer of marketing capabilities

In a fundamental sense, the main purpose of marketing activities is to connect the firm to its customers in a two-way process. What the firm produces must be explained and sold to customers, and the views of customers on existing and potential new products must reach development and manufacturing departments inside the firm. The main issue concerns exchange, and the firm can be assumed to execute exchange in different ways. One of them is conceptually based on neo-classical microeconomic theory. In this case, a firm adopts a distant and instant philosophy using the price mechanism as the main channel for customer communication and product transactions[9]. One alternative is to internalize the transaction inside the boundaries of the firm (Williamson, 1975; Dunning, 1980). A third alternative is a more intimate stance toward customers in which detailed communication and long-term co-operation governs the transaction climate. One interpretation of the latter, which is related to Schumpeterian views (see e.g. Kirzner, 1973) and industrial system change (see e.g. Dahmén, 1970; 1988), has been labeled a network approach (Håkansson, 1982). In reality, of course, these alternatives are points on a continuous scale where pure market transactions are at one extreme and pure internalization of transactions within the hierarchy is at the other (Williamson, 1975). The assumptions on how exchange is executed in the network approach lies somewhere between the two extremes[10]. In other words, our study is based on exchange relationships in imperfect markets, which also is the argument behind adopting a network approach. Our approach is very similar to Birkinshaw & Hagström (1999).

The network approach focuses on the inter-organizational relationships between local marketing units and their business partners, including suppliers, customers, and competitors. In this approach, the local organization and its relation to local actors are vital for understanding how the MNE organizes marketing activities. Transactions are assumed to be contextual and long-term in nature, and, therefore, more prone toward local decision-making regarding marketing messages, approaches and campaigns, although centralized support, coordination, and control are not excluded. Under this assumption, it is highly likely that local subsidiaries will build up unique capabilities in their unique relations with local customers. It is through interaction with the local customers that local subsidiaries can develop their unique capabilities. As a consequence, the benefit from intra-firm transfers of locally developed marketing capabilities is potentially high.

"In the relationship approach a specific transaction between a seller and a buyer is not an isolated event but takes place within an exchange relationship characterized by mutual dependency and interaction over time between the two parties" (Mattsson, 1995).

Some of the fundamental ideas in the network approach are based on work by Alderson (1957). He argued that supply and demand are heterogeneous, and that there is a consequent need to match heterogeneous supply with heterogeneous demand. The matching is done through negotiation and mutual adaptation between sellers and buyers. Since the heterogeneity also means that alternative suppliers and customers for a specific demand may not exist, long-term relationships between sellers and buyers could become established. By adding two other perspectives – resource dependency (Pfeffer & Salancik, 1978) and social-exchange theory (Cook & Emerson, 1978) – the network approach argues that firms are likely to create strong relationships with the most important resource providers, and that these relationships also include the social aspect of actually "getting to know" one another. Moreover, the firm develops relationships with other firms that have relationships with third parties, and so on. The network becomes a set of interconnected relationships (Cook & Emerson, 1978).

Ghoshal & Bartlett (1990) and Ghoshal (1986), who launched the differentiated-network model of the MNE, have adopted the network approach for the multi-unit firm. This model regards the firm as a group of dispersed organizational units that share some goals but do not share others. The subsidiaries belong to local, external networks as well as the corporate network (Håkansson & Snehota, 1994) and consequently face different stakeholders with different claims. With this approach, the MNE can be seen as an internally differentiated interorganizational network (Ghoshal & Bartlett, 1990; Bartlett & Ghoshal, 1988). There are two ways to interpret the differentiated-network model. The first is that a division or a subsidiary is differentiated from others in the sense of being specialized to perform specific tasks (Galunic & Eisenhardt, 1996; Galunic, 1994). The second is that subsidiaries within a division perform similar tasks in different ways because of the specific local context. The latter interpretation suggests subsidiaries by implication are able to develop their own unique capabilities and that the MNE must strive to tap these subsidiaries for critical skills that could be leveraged throughout the whole firm (Jarillo & Martinez, 1990; Bartlett & Ghoshal, 1986).

This interpretation is the one we adopt. Thus, capabilities are assumed to originate in local environments and are likely to differ among subsidiaries in the MNE (Håkansson & Snehota, 1994). Our network approach acknowledges subsidiaries local, external network as being important for developing unique capabilities and its global, internal network as being important for the firm's global exploitation of unique capabilities initially developed in a specific subsidiary.

Transfer of capabilities may be valuable when capabilities differ among subsidiaries. The network view accommodates this possibility. Ultimately, the benefits from identification and transfer of skills depend on whether practices can be standardized among different markets[11]. The standardization debate originally contrasted economies of scale and standardization against benefits from adaptation and differentiation (see e.g. Buzzell, 1968; Keegan, 1969). A similar approach emphasized by Porter (1986) has had a strong influence on research in international business. Lately, more contingency-based approaches have been adopted. A contingency-based approach basically acknowledges the influence of the local subsidiary's external environment on the subsidiary's intra-firm environment. For instance, it has been argued that the cultural background of managers influences their decisions on global or international management (Tse et al, 1988). These types of local factors would consequently limit the benefit from transferring practices in terms of both the likelihood that the event will actually occur and the likelihood of success; in other words, such limitations increase the stickiness of capabilities (Von Hippel, 1998).

We would like to develop the standardization discussion, however, by drawing an analogy to discussions in international business research. In a debate primarily pursued by Hedlund (1993), the traditional hierarchy is compared to an alternative – the heterarchy. Even though Chapter 2 discussed these concepts in detail, we will briefly mention them here. A hierarchy is based on the principle of centralized decision-making and decentralized implementation. In the context of standardization, a hierarchical approach would mean that the practice, which is to become standard for a firm's marketing departments around the globe, is defined and dictated by a corporate marketing center. The operative subsidiaries would then only have to implement that which has been decided centrally. A heterarchical approach (Hedlund, 1993) would mean that standardization would be implemented in an organic fashion. One subsidiary would perhaps develop unique skills that initially would flow to neighboring countries and

then to more distant ones. In the end, the firm's marketing departments may have a standardized approach as a result of a natural selection and implementation process that was not hierarchically controlled. We believe it important to acknowledge this distinction in a discussion of marketing transfers since standardization debates tend to assume that all decision-making is centralized and hierarchical. In short, standardization could be organic.

Marketing capabilities with low degrees of local-market specificity, i.e. usable in more than one geographical market simultaneously, are important in frameworks referred to as international, multinational, multi-regional and/or global marketing activities (Levitt, 1983; Albaum et al, 1989; Kotler, 1994; Cateora, 1993; Keegan, 1989). These different typologies of marketing strategies can be subsumed under the broader category of international marketing (Jeannet & Hennessey, 1995). Their common denominator is that marketing is conducted in more than one country simultaneously. Factors that generally are said to favor unique approaches and organizing principles for each market include specific market characteristics such as the physical environment, the population, the macro-economic factors, the cultural and social factors, the language, the industry conditions, the institutional frameworks surrounding the market and the firm, and the legal restrictions.

There is also evidence of benefits from transferring practices between operating units in different countries. This outcome appears especially promising if we focus on market-unit capabilities, i.e. the underlying organizing principles of marketing activities, rather than on the outcome of these processes, i.e. the marketing campaigns and messages being communicated (Quelch & Hoff, 1986). It has also been predicted that transfer benefits are likely to increase in the future. According to Sheth (1997), for instance, four change processes – global coverage of firm activities, mass customization of product offerings, relationship as the main medium of transactions, and the "trickle-up theory"[12] – indicate that the transnational similarities in marketing activities are increasing. Thus, international marketing is likely to be transformed into global marketing with strong emphasis on transnational similarities and cross-functional integration, i.e. greater integration both between marketing units in different countries and between marketing and other activities in the value-chain.

There is evidently debate in research on marketing activities over issues such as the conceptual domain of marketing, definitions of the phenomenon, and its relationship with

other concepts, as well as the underlying assumptions of the research (Toyne & Nigh, 1997). One question addressed in this debate is what international marketing (IM) really is. This discussion is central to our study. The idea of transferring capabilities is based on the premise that there is a value in transferring marketing practices – the capabilities or organizing principles (Kogut & Zander, 1992) behind marketing skills – among subsidiaries.

As indicated above, a central issue in research on international business, the MNE and international marketing relates to the extent to which decision-making and control are centralized (Hedlund, 1993), and builds on the general framework of configuration and co-ordination (Porter, 1986). The basic idea is that if activities are geographically dispersed and a coherent global approach toward customers is desired, the activities have to be co-ordinated across geographical space. If everything is situated in one location, little geographical co-ordination is needed. The degree to which firms place activities – marketing or other types of activities – in a single location is dependent on economies of scale or the advantages of standardization versus the advantages of local adaptation (Bartlett & Ghoshal, 1988). In general, the advantages of local adaptation in marketing activities are held to be relatively great. It has also been argued that there are advantages to standardization in different types of marketing activities (Quelch & Hoff, 1986), and consequent benefits from the transfer of practices and capabilities (Day, 1994). Our view of marketing activities in the MNE is based on the assumption that the benefits from transferring capabilities geographically inside the firm are greater than zero.

International marketing has been described as hybrid between marketing research and international-business (IB) research (Samiee, 1997). Historically there has been a lack of coherent views on how to define and treat international marketing (IM), however. An analogy to IB research has been made with the argument that: "*IB is a potpourri of functional fields...with occasional theorizing and conceptualizing which does not yet come together into a coherent package of received wisdom*" (Hawkins, 1984; in Samiee, 1997). In an attempt to bring some order into the "potpourri", Samiee (ibid) defines international marketing as: "*the pursuit of business activities beyond a firm's home market in a cross-cultural sense*"[13] (p. 544). This definition implies that IM is done within the MNE and spans several cultures.

The definition of IM given above rests on the assumption that culture is an important factor in the marketing activities of firms. The definition reflects objections by Samiee (1997) to Bartels' (1962) unwillingness to acknowledge any differences between domestic marketing and international marketing. Bartels' (ibid) argument is that there are no differences between domestic and international marketing since domestic marketing acknowledges the importance of the environment in which the firm operates. There are several counter-arguments. First, environmental characteristics differ so much among countries that the international dimension brings a whole new meaning to marketing. Second, issues such as standardization, parallel market effects, and counter-trade are not discussed in domestic marketing. Third, the institutional differences between markets and nations necessitate special treatment of marketing (Samiee, 1997). All in all, international marketing is argued to be something distinctly different from domestic marketing.

To enhance understanding of international marketing, Toyne & Walters (1993) build on IB research and outline three different versions of international marketing, depending on whether the firm's marketing strategy is best described as market extension, multi-domestic or global. This classification is used by Samiee (1997) to identify the key component of international marketing. A common denominator in all three strategic alternatives outlined by Toyne & Walters (1993) is the idea of international inter-market segments. These segments are defined as: "*the presence of well defined and similar clusters of customers across national boundaries that possess the same characteristics and which are identified by using similar criteria*" (Samiee, 1997). The importance of inter-market segments is that they allow firms to serve market niches in several domestic markets simultaneously. This idea is based on Levitt (1983), and is related to a firm's fundamental ability and willingness to co-ordinate and control marketing activities on several markets (Cavusgil, 1997). Inter-market segments allow firms to exploit economies of scales in designing and launching marketing campaigns, and/or to search for and exploit potential capability transfers between subsidiaries (Day, 1994).

Ugur and Verhage (1992) have empirically tested the idea of inter-market segments. They showed there were similarities between customer segments transcending national boundaries despite significant national differences between the customers. Their study found that significant differences between customers' risk perception and brand loyalty in nations such as the USA, Mexico, Holland, Turkey, Thailand and Saudi Arabia, which, however, did not

rule out inter-market segments. The authors (ibid) concluded a global marketing approach to be possible and rewarding if consideration is given to the size of the market as indicated by segmentation opportunities. The idea of global marketing strategies based on inter-market segments has other supporters as well (Jain, 1989; Kale & Sudharshan, 1987; Verhage, Dahringer & Cundiff, 1989), even if there also are critics of global marketing (Kotler, 1986). In short, the concept of inter-market segments is based on the existence of more similarities between different customers in different countries than between different customers within a country. A French Volvo buyer may have more in common with an American Volvo buyer than with a French Renault buyer.

The discussion on inter-market segments needs some elaboration, however, since there are two slightly different aspects of what an inter-market segment stands for. The first relates to economies of scale and standardization of design and execution of actual practices; it in turn is an argument for centralized planning and decision-making in marketing activities at a few geographic locations – or perhaps even one location. According to Porter (1986), with this approach there would be little need for co-ordination since planning how to execute activities would not be dispersed at all. A standardized approach based on inter-market segments could be organized and designed by a corporate marketing department and thereafter implemented locally by each subsidiary's marketing staff. The only co-ordination required would be in helping local marketing staff to implement the marketing campaigns. If there is a shared medium of inter-market communication – e.g. a Pan-European TV-network - the need for co-ordination is minimized.

The second interpretation relates to capabilities, the organizing principles (Kogut & Zander, 1992) behind marketing activities, created and developed by the firm's operative marketing units across the world. If a specific marketing capability is developed by a subsidiary, there are possible benefits from transferring these skills to other subsidiaries. Such transfers are especially relevant when the practices refer to the firm's inter-market segments. If the transfer only involves actual practices, the centralized approach may be appropriate, but the transfer also involve second-order learning. In this case, a centralized approach is probably not appropriate since close horizontal co-ordination may be advisable (White & Poynter, 1990). Finally, it has been argued that when the scale advantages of centralized standardization are compared to the advantages from transferring subsidiary capabilities, the latter yield the

greatest benefits. "*Overall then, the driving factor in moving toward global marketing should be the efficient worldwide use of good marketing ideas rather than any scale economies from standardization*" (Day, 1994). Still, the theoretical foundation for studies of global transfers of marketing capabilities is underdeveloped (Gatignon, 1997). Additional studies are needed.

We conclude that there are many factors supporting our approach to studying transfers of capabilities between marketing activities in the MNE. The main support is provided by the concept of inter-market segments and the argument that second-order learning always can be transferred even if actual practices are difficult to transfer. Moreover, as Sheth (1997) and Douglas & Craig (1992) point out, the trend is turning in favor of increased flows of marketing capabilities between subsidiaries in the MNE. In sum, organization-level arguments to globalize marketing activities include, first, standardization advantages[14]. Second, probabilities of future convergence of preferences between markets and customers. Third, global strategic considerations that force the MNE to compete against global competitors in several markets simultaneously, and, last, favorable market conditions as well as ambitions of corporate and subsidiary managers (Johansson, 1997).

Thus; "*Globalization is no longer an abstraction but a stark reality, that virtually all firms, large and small, face*" (Craig & Douglas, 1996). As a result: "*Choosing not to participate in global markets is no longer an option. All firms, regardless of their size, have to craft strategies in the broader context of world markets to anticipate, respond and adapt to the changing configuration of these markets*" (ibid).

3.4. Marketing capabilities

This section will report on the measures of marketing capabilities that we use. To start with, we outline what a market-oriented approach implies, and we then discuss and report on research concerning this construct. Thereafter, we report on the firm-specific measures of marketing capabilities on which the study is based. To be clear, the study is not based on the assumption that, for instance, Market Orientation is the best practice in the firm in the sense of having priority over all other types of capabilities. We simply infer that Market Orientation is an important capability and if the firm wants to exploit locally developed Market

Orientation skills globally, it has to understand the Market Orientation skills of its subsidiaries. This means that the MNE may transfer best practices. Theoretically, a market orientation practice may be transferred from Germany to France, while a strategic marketing practice is transferred from France to Germany.

3.4.1. Market orientation

3.4.1.1. Background of the market-orientation concept

Fundamental to any study of marketing based on the market-orientation construct is the explicit or implicit contrast between a market orientation and a product or manufacturing orientation. It is often stated that firms tend to be biased in terms of either a technological focus or a customer focus (see e.g. Slater & Narver, 1998 and Christensen & Bower, 1996). The underlying question is whether a technological orientation or a marketing orientation drives the firm. This question lies outside the scope of our research, but since it is important and interesting, we will briefly touch upon it. Many Swedish firms have started from a technological base – often through technical innovations[15] – and then slowly become more market-oriented. Still, it is sometimes argued that Swedish firms lack appropriate skills in market-oriented activities. No matter whether firms fundamentally are biased in terms of technical or market orientation, we will briefly outline the implications for the firm of increased efforts to become more market-oriented.

In a market-oriented approach, the firm assigns high importance to its existing and/or future customers. Instead of focusing on products, stressing R&D and/or manufacturing activities, the firm strives to integrate the customers into its strategy. The reasoning behind a market-oriented approach is that it is difficult to achieve strong technological superiority over competitors – or a monopolistic position – enabling the firm – more or less – to ignore its customers' specific needs. In many cases, customers have power, and the firm must adapt to it. This approach, however, implies that the firm is very dependent upon its customers[16]. In an evolutionary perspective, a market orientation means that customer relationships will have considerable influence on the firm's future. Impetus for change is likely to come from customers. Still, if the firm is overly focused on either technology or customers, it may fail to notice important changes in the business environment, and perhaps fall victim to stagnation

(cf. Levitt, 1975). There is always a balance between being overly product-oriented and being overly market-oriented.

3.4.1.2. Market orientation

We will now turn to our actual measures of marketing capabilities. First, we discuss market-orientation capabilities in more detail. Thereafter, we present and discuss marketing capabilities that are especially important for each of our sample firms. As appropriate, we have defined marketing capabilities on the basis of existing theoretical research and empirical findings in this area. The construct called "Market Orientation" has been gaining increasing acceptance and use in marketing research over the last decade (Deshpandé, Farley & Webster, 1993; Kohli & Jaworski, 1990; Jaworski & Kohli, 1993; Narver & Slater, 1990; Slater & Narver, 1995; Day, 1994; Deshpandé & Farley, 1998; Söderlund, 1994).

We believe that the market-orientation construct is highly usable for several reasons. First, it has been thoroughly tested in different settings and has proved to be a robust indicator of marketing capabilities. Second, it has been accurately operationalized; it is therefore easy to replicate the studies of market orientation. Third, it has proved to be related to financial performance in a variety of settings. It is therefore a measure of an important marketing capability. Fourth, it is fundamentally related to learning and action in marketing activities, and since our study is focused on knowledge management in the marketing activities of MNEs', it is especially relevant for us.

A review of definitions of market orientation informed us that the following are the most commonly used:

- "*A set of beliefs that put the customer's interest first*" (Deshpandé, Farley & Webster, 1993).

- "*The ability of the organization to generate, disseminate, and use superior information about customers and competitors*" (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993).

- *"The coordinated application of inter-functional resources to the creation of superior customer value"* (Narver & Slater, 1990; Slater & Narver, 1995).

- Based on the three previous definitions, a fourth definition describes marketing capabilities as: *"complex bundles of skills and accumulated knowledge, exercised through organizational processes, that enable firms to coordinate activities and make use of their assets"* (Day, 1994).

- *"The set of cross-functional processes and activities directed at creating and satisfying customers through continuous needs-assessments"* (Deshpandé & Farley, 1998).

Conceptually, we are especially interested in the characteristics of market orientation that relate to learning, i.e. that are indicators of a learning capability. It is argued that market orientation focuses on continuous collection of information about customers' needs and competitors' capabilities, and using the information to create superior customer value (Slater & Narver, 1995). Market orientation is assumed to be based on organizational norms and value systems to further the collection and the sharing of information in order to act upon it. Therefore, Slater & Narver (1998) argue that market orientation fundamentally is related to generative (Senge, 1990) or explorative (March, 1991) learning, as opposed to a focus on existing customers and products – a customer-led orientation (Christensen & Bower, 1996) – which leads to adaptive (Senge, 1990) or exploitation (March, 1991) learning. Consequently, we may argue the use of market orientation gives us a dynamic measure of marketing capabilities. This interpretation has been supported by innovation research. It has been argued that a market orientation is essential to success in the innovation process (Dougherty, 1992; Leonard-Barton, 1995; Quinn, 1985).

The conclusion from this discussion is that market orientation is an indicator of a dynamic and cross-functional approach to meeting and satisfying customers. Market orientation is not only a marketing activity. *"A business is claimed to be market-oriented only when the entire organization embraces the values implicit therein and when all business processes are directed at creating superior customer value"* (Slater & Narver, 1998, p. 1003). We consequently argue that market orientation relates to meta-level learning (cf. double-loop

learning by Argyris & Schön, 1978) that is likely to generate knowledge possible to transfer between subsidiaries and markets.

In this context, an overview of important studies yields the following:

- Deshpandé & Farley (1998) compared three different scales of market orientation (Narver & Slater, 1990; Kohli, Jaworski & Kumar, 1993; Deshpandé, Farley & Webster, 1993). All three were found to be reliable, valid and correlated with performance. Furthermore, they were robust in cross-cultural comparisons.

- Market orientation has a positive correlation with performance. This finding has proven valid in a variety of settings and circumstances such as both commodity and non-commodity businesses (Narver & Slater, 1990), as well as varying degrees of market turbulence, competitive intensity and technological turbulence (Jaworski & Kohli, 1993). An example of an area that this holds is in hospital management (Wenn, LaTour & Bobby, 1994). Moreover, the positive effect of market orientation on performance holds not only at the overall firm level but also at multiple operative levels in the firm (Ruekert, 1992).

- Maltz & Kohli (1996) focused on the extent to which market intelligence, which we interpret as an indicator of marketing capability, is disseminated across functional borders in the firm. The study involved non-marketing managers at high-tech equipment manufacturing companies. The main conclusions related to dissemination frequency and dissemination formality, i.e. whether the message was received from an official source such as an executive manager. One interesting finding is that of a formality effect, which indicates that intelligence received through formal channels was used more often by recipients than that obtained through informal channels. The study also found that the frequency with which market intelligence is disseminated is related to inter-functional distance, joint customer visits, senders' positional power, receivers' organizational commitment, and trust in the sender.

In order to measure market orientation, we turned to the definition and operationalization provided by Kohli & Jaworski (1990) and Jaworski, Kohli & Kumar (1993). As stated above,

they define market orientation as the organization-wide generation of market intelligence, dissemination of the intelligence to different departments, and organization-wide responsiveness to it. This construct originally was used at the SBU-level but – in analogy to Ruekert (1992) – we decided to use it at the subsidiary level. We pre-tested 32 of their market-orientation items in our pilot study, and – in light of the outcome of our pilot study – finally arrived at 21 items which were found to be robust measures of market orientation (table 3.2.).

Table 3.2. The items used to measure Market Orientation and its four underlying dimensions (Kohli et al. 1993).

Collection of intelligence	Intelligence dissemination	Design of responses	Implement responses
People from other <Firm> sales units regularly interact with our customers.	We have meetings with other <Firm> sales units at least once a quarter to discuss market trends and developments.	It takes us forever to decide how to respond to competitors' price changes (reversed).	The choice of products that we sell depends more on internal politics than real market needs.
We do a lot of in-house market research.	We often discuss customers' future needs with other <Firm> sales units.	Market-segmentation principles drive product development in <Firm> (reversed).	The activities of different sales units in <Firm> are well co-ordinated.
We are slow to detect changes in customers' product preferences (reversed).	Data on customer satisfaction is regularly disseminated to all in our unit.	We tend to ignore changes in customers' product or service needs (reversed).	We are quick to respond to changes in competitors' pricing structures.
We often communicate with those who can influence end-users' purchases.	There is minimal communication between our sales unit and other sales units in <Firm> on market developments (reversed).	Our business plans are driven more by products than by market needs (reversed).	When we find that customers are unhappy with the quality of our products, we take corrective action immediately.
Our sales unit regularly collects intelligence on competitors.	When other sales units discover something important about competitors, they are normally slow to alert our sales unit (reversed).		When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.
We are slow to detect changes in our industry structure (reversed).			
We periodically review the likely effects on customers of changes in our business environment.			

Acknowledging the limited application of the market orientation construct to international marketing, Dalgic (1994) suggests that market orientation tends to be positively associated with proactive international marketing, active exporting, and profitability in international markets. At the same time, more research on the combined effect of internal organization and external, macro-environmental factors on international marketing is needed (ibid). The implication is that market orientation could vary between subsidiaries, a prerequisite for potential positive effects from transferring capabilities between operative units. Ultimately, this question is an empirical one.

We are interested in using the market-orientation construct as an indicator of learning capability – as has been proposed by Slater & Narver (1995) – since we are studying knowledge management in the MNE. We validate this perspective by relating the concept to

previous research findings, which support the notion of market orientation as a learning capability. The construct has been related to rate of technological change, and size and cost structure relative to the largest competitor (Narver & Slater, 1990); top-management emphasis on market orientation as well as reward systems, market and technological turbulence, organizational commitment and "esprit de corps" (Jaworski & Kohli, 1993); and entrepreneurship, facilitative leadership, organic structure, and decentralized planning (Slater & Narver, 1995). On the other hand, there are findings indicating it to be related to buyer power, supplier power, seller concentration, entry barriers, rate of market growth (Narver & Slater, 1990); as well as risk aversion, conflict and connectedness between organizational units, formalization and centralization of decision making, departmentalization of the organizational structure, and competitive pressures (Jaworski & Kohli, 1993). In sum, market orientation can be argued to involve learning (Slater & Narver, 1995).

Our chief interest lies with evaluations of capabilities and their effect on the knowledge-management process, i.e. intra-firm management of existing knowledge, in the MNE. We must therefore limit our study to organization-related factors in our analyses of marketing capabilities based on the market-orientation construct. The most relevant variables include connectedness and conflict, decision-making autonomy of subsidiaries, "departmentalization" or isolation of subsidiaries, and the entrepreneurial environment in which subsidiaries are located. In addition, customer characteristics, size, firm effects, and experience of subsidiary managers in marketing activities are important. The main reason we emphasize these particular factors is that we want to develop a conceptual understanding of factors that can explain differences in market-orientation among subsidiaries since a prerequisite for transfers is that capabilities differ among subsidiaries. In Chapter 6 we will test whether market orientation varies among subsidiaries in the MNE.

3.4.2. The sample firms' own indicators of important marketing capabilities

In addition to the market-orientation construct as a representation of marketing capabilities, we included up to eight other measures for each firm. First, there were two generic constructs. These were general marketing capabilities, which basically was left undefined, and the ability to link up with the customers' value-chains (Day, 1994). In our study, the ability to link up with the customers' value-chains was described as an ability to integrate the firm's value-

chain activities (Porter, 1986) with the customers' value-chains in order to build closer and more value-adding relationships with customers (Normann & Ramirez, 1993). This measure of capability is closely related to a network approach. Second, each firm was allowed to add six firm-specific constructs in order to capture firm-specific descriptions of important marketing capabilities. Table 3.3. outlines these constructs.

Table 3.3. Firm-specific capability items.

Firm	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Firm 1	Underwriting	Actuarial work	Handling claims	Technical service		
Firm 2	New-product introduction	New-customer prospecting	Distribution sales	Implementing corporate campaigns	Servicing special tools customers	
Firm 3	New-product introduction	New-customer prospecting	Customer segmentation and targeting	Efficiency in inquiry and order handling processes	Sourcing of products outside <Firm>	Sales staff training and development
Firm 4	Adding value to the "Time to Market" process	Adding value to the "Time to Customer" process	Forecasting future demand for products	The ability to integrate sales levels with manufacturing	The ability to integrate our activities with R&D units	
Firm 5	Product planning	Logistics and distribution	Managing dealer relationships	Communicating the <Firm> brand	After-care of customers	
Firm 6	Strategic marketing	Sales and support to General Practitioners	Sales and support to Hospitals	Promotion, advertising and public relations		
Firm 7	Sales per cow	Capital-goods sales management	Service levels in after-market services	Total number of items sold	Growth of customer base	

The reasons for including the firm-specific items were to allow the firms to use their most important measures of capabilities, to maximize the understanding of the concepts by the respondents, and to adapt the study to each firm's organization and activities. These measures were consequently used mainly for intra-firm comparisons, while the market-orientation measure was best suited for inter-firm comparisons. It should be noted that only market orientation has a multiple-item operationalization that can be compared with assessments of capabilities. All the other capability measures are based on only one item. Therefore, we use the firm-specific dimensions mainly in a discussion of whether marketing capabilities differ among subsidiaries within each MNE.

The measures also tell us something about each firm's priorities in its capability-management efforts. Firm 1, for instance, relies heavily on technical skills and claims handling. Both Firms 2 and 3 emphasize new products and new customers. Firm 4 is devoted to creating effective co-ordination between manufacturing, logistics and sales. Firm 5 has various important dimensions such as logistics, managing their dealer network, and communicating the brand image. Firm 6 emphasize the general practitioners and hospitals. Firm 7 already has a strong

position in its industry and focuses on opportunities to sell more to existing customers and to provide effective after-sales service. This brief analysis provides a basic understanding of each firms' strategic priorities in terms of customer relations.

3.5. Summary of the chapter

This chapter discussed important characteristics of marketing and positioned our study in a managerial as well as conceptual field of marketing. Definitions of important concepts were also provided. After having acknowledged the importance of global marketing research, we adopted a historical perspective on global marketing. From reviewing the results of research on the firms' internationalization processes, we concluded that global marketing is a stage naturally reached when a firm has built up a physical presence in many markets and substantial experience in doing international business. The benefits from global integration and co-ordination are most likely to be reaped once this stage has been achieved. We also acknowledged the importance of a global mind-set if the firm is to launch successful global marketing strategies.

We then addressed marketing research concerning global leverage of local capabilities. We briefly outlined two different perspectives on marketing and, based on a network approach to marketing, emphasized capabilities are likely to vary among different subsidiaries because of each subsidiary's unique position between local, external forces and global, internal forces of adaptation. The former forces are attributable to local customers, suppliers, competitors, and other institutions, and the latter to the MNE's requirements of global co-ordination. In this perspective on marketing activities, which we adopted, it is relevant and important to study intra-firm transfer of marketing capabilities. In addition, we outlined a number of factors that enhance or limit the value of transfers of marketing capabilities. Marketing researchers proved to have strong and conflicting opinions on this subject. The major battle stood between proponents of local adaptation and those in favor of global standardization. In the end, we acknowledge the benefits of internationally co-ordinated marketing efforts based on inter-market segments as a decisive argument in favor of global marketing. In fact, inter-market segments are important in any discussion of knowledge management in marketing since capability transfers depend on some similarity between markets – at a basic or

superordinate level. In addition, meta-capabilities usable in several markets is another argument favoring global marketing.

We discussed marketing capabilities, initially focusing on market orientation. We adopted the claim by Levitt (1975) that a market-oriented approach – as opposed to a product or technological orientation – tends to stimulate long-term growth and survival. Still, we acknowledged the limitations to market orientation. We then discussed our measures of market orientation, general marketing aspects, and firm-specific marketing capabilities. Our main measure of marketing capabilities is that of market orientation, and we therefore thoroughly defined this concept and discussed it in detail. We also reported on previous studies that have used this construct, as well as on other generic and firm-specific measures of marketing capabilities used in our study.

Thus, we have outlined our particular approach to marketing research in detail. We noted the importance of a study such as this one, and we outlined how it relates to other research areas. Researchers have previously acknowledged the connection between the market-orientation construct and organizational learning (Slater & Narver, 1995; Sinkula, 1994). We add another dimension to this discussion by our study of how managers evaluate the subsidiaries' market-orientation capability. Another area to which our study may contribute concerns co-ordination of marketing activities in the MNE. We refer to two kinds of co-ordination: first, co-ordination between marketing departments of geographically dispersed subsidiaries, and, second, co-ordination between marketing and other activities in the MNE such as R&D and manufacturing. We have outlined our proposed approach of combining international business research with marketing research.

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1. In this discussion, we also indicated that we primarily focus on transfer of existing capabilities. While we recognize that transfers may lead to transformation, i.e. creation of new capabilities by re-combining old capabilities, or even pure innovation, we limit ourselves to transfers of existing capabilities.
2. We use "marketing" in a meta-sense, and this concept consequently includes marketing – in the sense of direct activities such as a marketing campaign – as well as sales and outbound logistics.
3. Whether marketing capabilities also exhibit greater variance than other, less dispersed capabilities is an open question (which we cannot address here), but certainly the identification of internal leading-edge capabilities is harder than in R&D or manufacturing operations, where there are typically far fewer locations to consider. In essence, there is ample research supporting the basic premise that capabilities vary among subsidiaries (Leibenstein, 1966; Stalk & Hout, 1990; Szulanski, 1996).
4. There is a debate on how firms are actually internationalized. The internationalization-process perspective (Johansson & Vahlne, 1977; 1993) which we present can be contrasted with the "born-global" view (Knight & Cavusgil, 1996) that firms basically can be global from their inception. We would like to add, however, that discussions of internationalization – whether based on the internationalization process view or the "born-global" view - generally fail to acknowledge the importance of individuals. For instance, even if a

firm is "born global", its managers may very well have significant global experience from other firms – perhaps gained in a process of sequential internationalization. Thus, the idea of born-global firms is interesting but does not necessarily refute the internationalization-process perspective.

5. That is, first exporting, then a local sales agent, then a sales subsidiary, and finally a manufacturing subsidiary.
6. Multi-domestic markets reflect the situation where each product market has local customers with very particular preferences and functional requirements, and where these preferences and requirements differ from market to market (Hout et al, 1982).
7. Cf. the author's (Johanson & Mattsson, 1988) discussion of "international integration", i.e. increasing co-ordination between a firm's positions in different national networks.
8. This can be contrasted to a centralized approach in which corporate management develops capabilities which thereafter are diffused to subsidiaries.
9. The marketing-mix approach, which focuses on the existing characteristics of the marketing organization of the seller and the existing characteristics of customers, is by implication somewhat static. The approach tends to view relations to customers as short-term and transaction-oriented. Thus, our study of intra-firm transfer of locally developed marketing capabilities would not fit in a marketing-mix approach to marketing. We therefore adopt the network-based view.
10. As stated in chapter 2, we will not include a discussion of markets and hierarchies (Williamson, 1975) in this thesis. These issues are not a part of our research question.
11. Transfer could also be intended to integrate complementary capabilities leading to new capabilities – re-combinations – but these types of transfers are not included in our analysis.
12. The idea that new technology initially is implemented in low-end applications, i.e. consumer markets, and is gradually extended to high-end applications, i.e. more sophisticated industrial markets. The resultant economies of scale in production based on large consumer markets provide funds for subsequently upgrading the sophistication of the product.
13. This definition is consistent with other influential definitions such as the one used by the Journal of International Business Studies.
14. Examples are cost efficiency, economies of scope in marketing global brands, quality improvement, and possibilities of targeting global customers and segments (Johansson, 1997). Drawbacks, however, are also mentioned. These include the risk of having products that are not sufficiently customized or unique. Also, protectionism and strong local competitors may limit the benefits of a standardized approach (ibid).
15. The firms in our sample include Volvo, which was spun off from the ball-bearing pioneer SKF; Alfa Laval Agri, which was based on Alfa Laval's invention – the separator; Ericsson, whose creation and subsequent growth was based on inventions in the manufacture of telephone equipment; and, Sandvik, which was founded on technical inventions in steel production (the Bessemer process).
16. All firms are, of course, dependent upon their customers, but market orientation implies that a firm must adapt to its customers and not vice versa. At the same time, however, if the firm is able to provide its customers with a unique and important product or service, its power increases. Thus, the balance of relative dependence in a firm-customer relationship is likely to shift back and forth depending on factors such as competition, skills, desires, and personal ties.

CHAPTER 4. THE RESEARCH APPROACH.

Chapter 4 proceeds from the conclusions drawn in the previous chapters and outlines the ideas on which the dissertation is based. It states the central assumptions in current knowledge-management research and our perspective on this research issue. The chapter provides a revised model of knowledge management in the MNE in which a pre-transfer stage – evaluation of subsidiary capability – is crucial. We infer that any model on knowledge management must include the evaluation of capability as a vital explanation behind transfer effectiveness.

Knowledge management is an important issue in the modern firm. A survey done by Ernst & Young and Business Intelligence Ltd. – and reported by Riesenberger (1998) – shows that 87 percent of the 563 surveyed senior executives in North America and Europe said they were operating in a knowledge-intensive business. The types of knowledge reported to be the most important were the following: first, knowledge about customers; second, knowledge about best practices and effective processes; third, knowledge about the firm's own competencies and capabilities. We can firmly state that our study – which addresses the second and the third of these three types of knowledge – is interesting and relevant for managers!

This chapter will outline and define our research approach in detail. To start with, it will outline the framework which we later adopt in our analysis of capability management in the MNE. After having noted what perceptions actually are, we clarify our research questions and provide an overview of our research approach in relation to the traditional approach – what we call the de facto model of knowledge-management research. We specify the assumptions and prerequisites of the de facto model and clarify what we add to it. We then present our research framework and research approach. We explain and specify our principal concept – the perception gap – in a model, and we relate perception gaps to the processes of knowledge transfer. To be clear, perception gaps are characterizing situations in which managers hold different opinions on a particular matter (see Table 4.1. for a precise definition). Using our research approach, we build a model of knowledge management that is not based on strict rationality but incorporates less than perfect information and rationality. Thereafter, we present the research model and hypotheses concerning evaluations as well as transfers of

marketing capabilities. We end the chapter by stating some limitations to our study and by concluding this presentation of our research approach.

4.1. Outlining the focus of the dissertation

To set the stage for our study, it is insightful to review the history of the word "perception". It was first used in natural sciences which shows that even this research area was traditionally based on the belief that human beings constructed the world rather than that the world existed independently of mankind. *"Historically, perception was a branch of optics. Till the 17th century it was commonly assumed that vision depended upon rays issuing forth from the eye, rather than emitted from the object and striking the eye"* (Bullock, Stallybrass & Trombley, 1988; p. 636-637).

In general, perception is defined as *"awareness of appreciation of objects and situations, usually by the senses"* (ibid). This definition is based on two alternative theories of perception. First, *"perceptions are selections of reality: i.e. they are essentially like, and made of the same stuff as, objects of the external world"*. Second, *"perceptions are not any kind of selections of reality; but are rather accounts, descriptions, or, most interesting, hypotheses of the object world"* (ibid). The latter definition indicates that there may be alternative interpretations of the world of objects, while the previous one is based on the assertion all perceptions are true images of reality. Still, even this interpretation allows people to focus on different selections, or pieces, of the world of objects. The second definition acknowledges that perceptions may be incorrect, i.e. the perception of the world of objects is not necessarily identical to the actual world. The latter definition of perception provided above is applicable to situations in which managers observe events and act on the basis of their interpretation of these events.

The beliefs about human nature this study wants to address relate to the question whether managers, as human beings, can be assumed capable of assessing knowledge and its manifestations, i.e. capabilities, with perfect rationality. We suggest that perceptions of capabilities may be far from objectively given for any set of objective facts but instead be interpretations of more or less subjective perceptions. This discussion of assumptions on

human nature is far from new (see e.g. Bourgeois, 1985; Argyris, 1991), but it is rare (for exceptions see Hellgren & Löwstedt, 1997; Manzoni & Barsoux, 1998; O'Dell & Jackson, 1998) to base an analysis of knowledge management in multinational enterprises on assumptions that acknowledge subjective behavior and attitudes. However, we shall do so in this dissertation. We will pursue the following two research questions:

1. Are managers able to evaluate correctly the capabilities of operative units in the MNE, and do different managers hold different assessments of the same unit's capabilities?

2. Do the evaluations of capabilities by managers and potential differences between evaluations affect the patterns of transferring capabilities in the MNE?

We base our approach on the discussion in Chapter 2 which outlined three prerequisites for effective use of globally dispersed resources through transfers of capabilities between subsidiaries. We acknowledge transfer can be done horizontally, i.e. directly between subsidiaries, or vertically, i.e. indirectly between subsidiaries via corporate/division headquarters[1]. The three prerequisites are:

- *First prerequisite*: Subsidiaries have different types of capabilities and/or are not equally capable of performing a specific activity.

- *Second prerequisite*: Transfers are valuable for the MNE even when restrictions and costs resulting from counterproductive forces are accounted for.

- *Third prerequisite*: Firms are able to identify which subsidiaries are especially capable; i.e., managers are able to evaluate subsidiaries' capabilities.

The first prerequisite is a fundamental necessity for even attempting to achieve capability transfer and should be a basic assumption rather than a testable hypothesis in any study on the transfer of knowledge. Nevertheless, we have collected data for the purpose of shedding light even on this prerequisite. Any study of capability transfers must acknowledge the possibility that there may be no differences in the capabilities of different subsidiaries and thus no potential gains from transferring capabilities. After all, if the historic transfer systems have

been successful, we would not expect large differences in capabilities between subsidiaries. In an extreme static model of knowledge-transfer processes, the end state could be identical capabilities at all subsidiaries. In a dynamic model, on the other hand, innovation by at least one subsidiary can always initiate new transfer processes.

The second prerequisite has been dealt with quite thoroughly in previous research on capability-transfer processes (see e.g. Zander, 1991; Szulanski, 1996; Kostova & Cummings, 1997). The main conclusions from these studies are that articulated knowledge is more easily transferred internationally, the absorptive capacity of the recipient is crucial for transfers, causal ambiguity hinders transfer, and the actual implementation of practices depends on whether the recipients internalize the basic meaning of that which is transferred. All these factors relate to the implementation of the transfer process.

The third prerequisite, however, has not been thoroughly researched and is still largely untested. If we assume the third prerequisite is always met, we are basically arguing that evaluations of capabilities are perfectly rational. At the same time, there is much research indicating we can not habitually expect managers to be perfectly rational. The behavioral theory of the firm (Cyert & March, 1963) assumes that decisions are based on bounded rationality (ibid; see also Simon, 1991). There are limits to the amount and quality of collectible information. There are also limits to individuals' ability to analyze information and to draw conclusions based upon the analysis. In addition, a bounded-rationality model assumes rationality is local; i.e., it is locally confined to actors participating in decisions regarding the local unit. Bounded and local rationality in effect means that each local unit will make decisions based on local knowledge[2]. Locally set goals become independent constraints, with the implication that units strive toward satisficing these local goals (Cyert & March, 1963). Thus, organizational and managerial restrictions rule out perfect rationality in decision-making regarding knowledge management. To explain these restrictions, we turn to three factors discussed in social psychology: access to asymmetric information, selective attention to information, and selective interpretation of information (Cyert & March, 1963; Atkinson et al, 1987).

Access to information is essential to informed opinions of any kind. How information is distributed in the organization affects the learning process (Huber, 1991). With data and

information, a person is able to develop higher states of knowing, i.e. create knowledge (Earl & Scott, 1998). One variable in a model of how managers evaluate subsidiary capability is consequently rather straightforward. If two people have access to the same information, it is likely they will have similar opinions on a particular matter. If they do not have access to the same information, their opinions are not unlikely to be different. Access to information can be seen as a necessary but not sufficient criterion if perception gaps are to be avoided[3]. In short, access to information is important for rational decision-making. In the strict sense, perfect information would result in identical opinions provided information processing is not imperfect – in the sense that it differs between individuals. Access to information is the first variable in our research model for explaining perception gaps.

Given that managers have access to the same set of information, the next issue relates to what they will do with that information – how they process it. It has been argued that "*attention, categorization, recall, and information integration are conducted by means of either an automatic or a controlled process*" (Feldman, 1981), and it is usually the automatic process that dominates (ibid). By implication, attention to certain specific types of information is automatic and perhaps unconscious. Two managers in the same firm may focus their attention on different pieces of information from identical pools of information, essentially because different levels of priority are assigned to particular pieces of information. One manager may focus his/her entire attention to one specific piece of information which another manager completely ignores. Phrased differently, the question is whether priorities are universally assigned or whether there are individual differences in how priorities are assigned. Attention to information is the second variable in our research model for explaining perception gaps.

After having discussed access and attention, we turn to interpretation of particular pieces of information. The way information is interpreted, i.e. the process by which distributed information is given more or less shared interpretations (Huber, 1991), will affect action in the organization's knowledge-management process. A discussion of potential selective perception by managers is outlined by Waller, Huber & Glick (1995). On one hand, there is the argument that selective perception by functional managers is likely to be affected by their functional experience and tasks while selective perception by executive/administrative managers is not (Walsh, 1988). When one becomes an executive manager, the tasks and information will be broader in nature and lead the individual toward a more universal view of

the world. In addition, the organizational reward system is likely to institutionalize a broader scope in terms of attention to – and interpretation of – information. In essence, executive/administrative managers are believed to avoid perception biases and to be more open-minded. In a sense, Walsh (ibid) argues that executives rationally approach current tasks without being biased by previous experience.

On the other hand, it is argued that "*events in peoples' work lives affect which data encountered in the future they filter out, search for, attend to, or recall*" (Waller, Huber & Glick, 1995). It is perhaps not possible to change perceptions and approaches to work just because one's immediate managerial responsibilities change. The latter approach is supported by research on habitual approaches to problem-solving (Luchins, 1942; 1959; McGrath & Kelly, 1986). This line of thinking has been referred to as selective perception (Dearborn & Simon, 1958). The conclusion drawn by Waller, Huber & Glick (1995) is that managers' historical experience and work indeed affect their perceptions. Moreover, it is shown that managers' perceptions of organizational effectiveness – as opposed to their perception of the environmental surroundings – are particularly affected (ibid). We consequently infer that managers are likely to have different perceptions of how the organization operates. Thus, our third variable – selective perception – is firmly grounded in conceptual as well as empirical research.

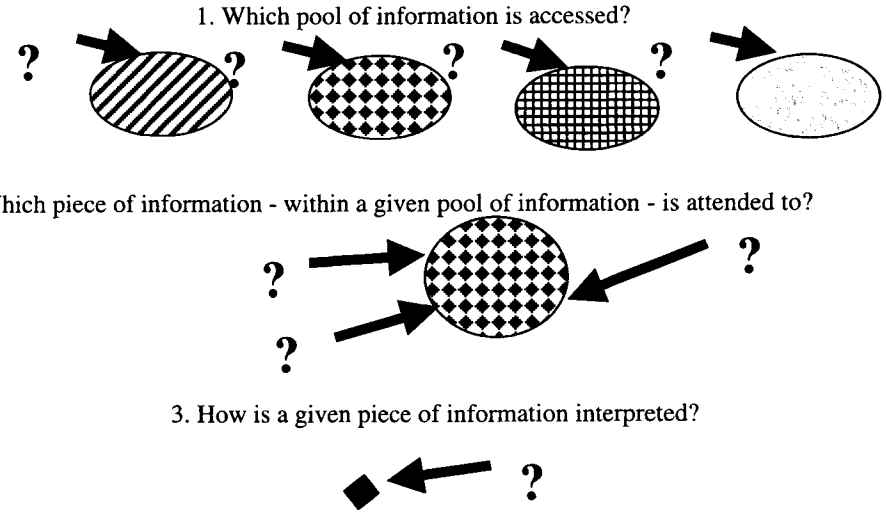
In essence; "*Homo sapiens is Homo valuens. As the sort of creature we are, we are impelled by our nature to form for ourselves not just a cognitive picture of the real world but also a view of our own place within the order of things, preeminently including a value orientation that gives meaning and significance to our efforts in this realm. The human being is an amphibian: a creature that dwells not just through its body in the actual-world realm of reality but also through its mind in the thought-world realm of possibility*" (Rescher, 1993; 246).

To summarize and conclude, our model, which aims to explain potential perception gaps between corporate and subsidiary managers, is based on three factors. The first involves symmetric – or asymmetric – access to information by different managers. The second relates to the attention each manager devotes to a specific piece of information. The third factor is the individual manager's interpretation of a specific piece of information. All these factors

could help us explain differences or similarities in managerial perceptions, i.e. in the "larger" sense including the more restrictive term of selective perception as described by Dearborn & Simon (1958) and Waller, Huber & Glick (1995), of a particular phenomenon.

Our model is similar to the one proposed by DeNisi, Cafferty & Meglino (1984). In their model (ibid) four factors – acquisition of information, organization and storage of information, retrieval of information from memory, and integration of information to form a judgment – are assumed to explain performance appraisals. In our model, which is based on the fundamental concept of bounded rationality (Simon, 1991), their second factor is replaced by attention, and their third and fourth factors, by interpretation (Figure 4.1.).

Figure 4.1. Access to information, attention given to information, and interpretation of information.



In view of the relative lack of research related to the third prerequisite for transfers described above, we question whether it is reasonable to expect MNE managers to effectively identify capable units. In addition to the organizational and managerial restrictions, there are those related to problematic human inference and decision-making as well as the specific characteristics of knowledge and capabilities. All these factors support our expectation that evaluating capabilities is difficult.

In practice, objective and subjective evaluations of financial performance are highly correlated (Dess & Robinson, 1984). There is little evidence of coherent pictures in evaluations and measures of capabilities, however. Consequently, we cannot exclude *a priori* that managers will have different opinions on the capability of a specific subsidiary. This potential difference is what we will refer to as a perception gap[4] regarding knowledge-management practices. We define a hierarchical perception gap as: "*a difference between division and subsidiary managers' perceptions of how capable a subsidiary is to effectively solve its operative problems*"[5].

The perception gaps may be stable and sustained over time because organizational learning is pursued in isolation. Each operative unit may independently adapt their rules of attention and search as they learn about themselves and the environment in which they operate (Cyert & March, 1963; Simon, 1991). Perception gaps imply difficulties in knowing what others know and what others need to know (Hayek, 1948) and indicate that "outsiders" – managers outside the particular unit – may have difficulties in evaluating the capabilities of a subsidiary unit.

Table 4.1. Some important definitions.

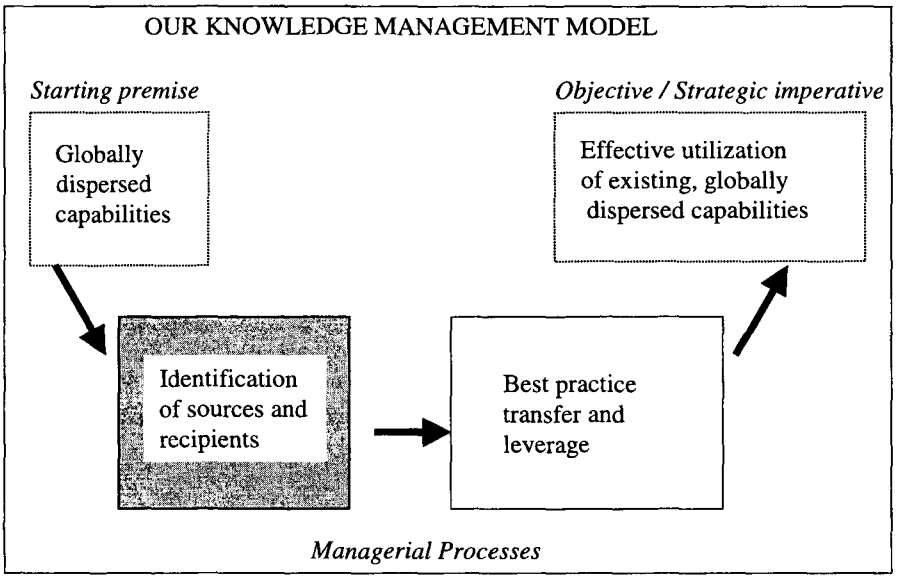
Concept	Definition
Perception gaps, gaps	A difference between managerial perceptions regarding a subsidiary's capability to solve its operative problems effectively. There are two kinds of perception gaps. First, hierarchical gaps may exist between a corporate and a subsidiary manager. Second, horizontal gaps may exist between two subsidiary managers from different subsidiaries.
Evaluation, assessment, rating, ranking	A manager's perception of a unit's level of ability as compared to other units in the firm.

4.2. Structuring the approach

Chapter 2 outlined the – de facto – model of knowledge management that implicitly has guided research on knowledge management. This model was based on three factors. First, capabilities differ between subsidiaries, which also serves as the premise of the model. Second, stickiness of knowledge can be overcome – the main thrust of the model and the factor on which most research has been done. Third, organizational effectiveness is increased by transferring capabilities – the goal of the transfer process.

The model of knowledge transfers we propose adds a fourth factor to the three in the traditional model. The premise, i.e. the first factor, is still that capabilities are geographically dispersed and that they differ between subsidiaries. We then add our factor, which becomes the second factor in our model; it concerns the *identification of sources and recipients in the transfer process*. This factor includes evaluations of capabilities in potential sources and recipients and is a pre-transfer factor that determines the fundamental conditions for the outcome of transfer process. The third factor is identical to the second factor in the traditional model and includes implementation of the transfer and leverage of skills. The fourth factor, and the ultimate objective, is that existing capabilities are used more efficiently if leveraged across geography. Our model of the knowledge-management process is shown in figure 4.2.

Figure 4.2. Our knowledge-management model[6].



We argue traditional research on knowledge management in the MNE takes the implicit stand that the members of the MNE are united – and correct – in their views on identification and management of critical factors leading to superior capabilities. This approach underlies the – de facto – model of knowledge management. At the same time, the modern MNE is becoming

increasingly heterogeneous in terms of employees and national coverage. Moreover, the most important knowledge is often tacit. As a result, it becomes important to study whether the assumed coherence among managers in terms of capability management actually is true. We consequently challenge the assumption that evaluating capabilities is straightforward. The follow-up question relates to the possible effects on global management of dispersed capabilities if it is difficult to evaluate capabilities. Selection of source units in transfer processes could become problematic, and it may not be the "best" practices that are transferred among subsidiaries. Instead, the "worst" practices may penetrate the organization.

The idea that managers hold different perceptions about the world around them is not new. Managers have been found to perceive primarily those aspects of a generic type of situation that relate to his/her functional activities. From these findings, it has been concluded the selection of which data to process in a given situation, as well as how to perceive it, is an individual, internal process (Dearborn & Simon, 1976). Consequently, knowledge will be distributed and differentiated (Tsoukas, 1996). There is also research concluding there are incentives for individuals to distort the image others hold of him/her (Denrell, 1998).

In order to test our ideas, we must first measure managers' views of which units are performing extraordinarily well. Second, we need to compare the views of corporate and subsidiary managers and relate this comparison to organizational and unit-specific factors in order to discuss how opinions on capability are formed. Third, we must relate patterns of transferring products, services, and practices between units to the views on which units are most capable in order to discuss overall effectiveness of the capability management within the firm. The ultimate result is a discussion of the MNE's knowledge-management processes in relation to differences and similarities in corporate and subsidiary managers' views of capability management. This discussion will help us to draw conclusions on effective global management of dispersed capabilities. Our main research question relates to managers' ability to evaluate the capability of all the operative units in the MNE. Thus, compared to influential empirical research on transfers (Szulanski, 1995; Kostova, 1996; Zander, 1991), our study is unique in that it focuses on the firm's identification of capable units and then relates transfer patterns to the actual capability of sources.

Our research approach is focused on the MNE, defined as a firm owning and controlling operations in more than one country. The focus on knowledge management does not limit us to a specific activity of the MNE. Instead, historical empirical research will be guiding us. Much research on knowledge management has focused on activities such as R&D and manufacturing, the main reason being that these activities are characterized by substantial economies of scale and standardization gains, which in turn mean potentially high rewards from transferring capabilities between subsidiaries. There is much less research done on transfer of capabilities in marketing activities. Marketing activities are sometimes said to be highly adapted to each local market (Kotler, 1986). If this was always true, benefits from transferring marketing skills would be small, and we would see little transfer of marketing capabilities between subsidiaries. Our study and the overall trends in international business, however, indicate a contrary evolution. In addition, there are theoretical and conceptual discussions in which it is argued that certain types of marketing capabilities are characterized by economies of scale. Learning costs may, for instance, be leveraged if units that are capable in a certain activity can transfer this ability to other units in the same MNE. As reported in Chapter 3, there is debate concerning whether marketing capabilities are transferable and, if so, which types are transferable and which are not (see Quelch & Hoff, 1986; Samiee, 1997; Jain, 1989; Kale & Sudharshan, 1987; Verhage, Dahringer & Cundiff, 1989; Kotler, 1986). We adopt the view that inter-market segments (Samiee, 1997) enable transfers of marketing capabilities (Jain, 1989; Kale & Sudharshan, 1987; Verhage, Dahringer & Cundiff, 1989). Moreover, there may be meta-level learning (cf. double-loop learning by Argyris & Schön, 1978) that is likely to generate knowledge, which can be transferred between subsidiaries and markets.

When testing the issue of perception gaps, we also benefit from using a sample in which the hypothetical likelihood of perception gaps is high. As indicated in the discussion in Chapter 3 on the relative intangibility of service activities, marketing activities are often adapted to the local environment and therefore likely to be difficult to evaluate by corporate managers. Marketing capabilities may be subject to perception gaps precisely because of their intangibility. Thus, if we reject the notion of perception gaps in regard to marketing activities, we may infer that we also should reject it for other activities that are more tangible, and less context-specific.

Our ambition is to study activities and capabilities that are characterized by possibilities for successful transfer of skills between subsidiaries. We believe that the forces and the conditions influencing potentially successful transfers may appear in several different dimensions and shapes. First, in the literature on transfer of technological skills and capabilities, the characteristics of that which is to be transferred, such as its tacitness (Polanyi, 1969), have been found to affect the existence and success of knowledge transfer (Von Hippel, 1998; Zander, 1991; Teece, 1998). Second, the relationship between the parties involved, i.e. recipients and sources, has been found to be important for successful transfer (Szulanski, 1995; 1996). Third, the institutional surroundings in the form of organizational structure and culture are important for the adoption and subsequent use of the transferred practice (Kostova, 1996; Kostova & Cummings, 1997). Fourth, the strategy and organizational structure are important for integration and co-ordination of dispersed activities in the MNE (Bartlett & Ghoshal, 1987a; 1987b; Hedlund, 1986; 1993; White & Poynter, 1990). Fifth, managerial behavior matters in terms of the efforts and objectives that characterize knowledge-management processes (Simon, 1957; 1991; Cyert & March, 1963; March, 1988). All of these considerations are included in the third factor of our knowledge-management model, i.e. the "Best practice transfer and leverage" factor. We will consequently apply some factors traditionally found in the literature on knowledge transfer in R&D and manufacturing to the field of marketing. At the same time, we will include factors related to marketing research in our research model since most previous research is based on manufacturing and/or R&D activities. These factors include, for instance, intra-organizational / hierarchical dependence (Jaworski & Kohli, 1993; Slater & Narver, 1995), and local market competition (Narver & Slater, 1990).

To repeat, the factors outlined above constitute variables influencing, or even determining, the extent and success of capability transfers once the particular sources and recipients have been identified. Under certain assumptions these factors will explain whether and when different marketing units can learn from each other. It is clear, however, that current research has not devoted much attention to how sources and recipients initially are selected. Still, research has shown decision-makers in a firm often hold different perceptions of how an industry functions (O'Reilly et al, 1989; Wiersema & Bantel, 1992), but with no detrimental effect on performance (Bourgeois, 1985) - especially not in certain situations (Murray, 1989). At the same time, demographic homogeneity has been seen to facilitate communication

(Wagner et al, 1984), and thus also the transfer of knowledge (Zenger & Lawrence, 1989). Thus, we see contradictory conclusions on how the heterogeneity in managerial beliefs affects performance.

A study in the hospital sector showed there in fact were quite substantial differences in how administrative and operative staff evaluated the market-orientation capability of the operative units (Wenn, La Tour & Bobby, 1994). Moreover, it was found that the evaluations by operative managers correlated strongly with both revenues and another important measure of performance, occupancy levels. The goal of the study was: "*to determine the degree of difference that exists between line administrators and chief marketing officers in hospitals regarding the extent of the hospital's marketing orientation*" (ibid; p. 2). The study found the correlation between administrators' and operative managers' evaluations to vary between – 0.03 to +0.18 for five different measures. The strongest correlation (+0.18) was not significant (α = 0.182). The conclusion drawn in the study is that there in fact were significant differences in how the managers evaluated capabilities. In our terms, there were perception gaps. Moreover, the evaluations of operative managers were the ones most closely related to performance.

The question is whether evaluation of skills is a simple task or not. In general, identification of sources and implementation of the transfer of articulated knowledge are likely to be much easier than if the knowledge is tacit. Restricting the discussion only to the issue of whether knowledge is tacit or not, Earl & Scott (1998) have proposed that the tacitness of knowledge may lead to situations where "*you do not know what you know*" (figure 4.3.). The basic idea in Earl & Scott's model is based on Polanyi's (1969) proposition that certain types of knowledge are invisible. Earl & Scott (ibid) hypothesize the tacitness of knowledge alone is a factor leading to cases where managers "do not know what the firm knows". In our view, tacitness of knowledge is one of several factors that could prevent managers from knowing what their subordinates can do and how capable they are. Therefore, we cannot be satisfied with the discussion by Earl & Scott (ibid). It is vital to go beyond their treatment of situations in which firms "do not know what they know".

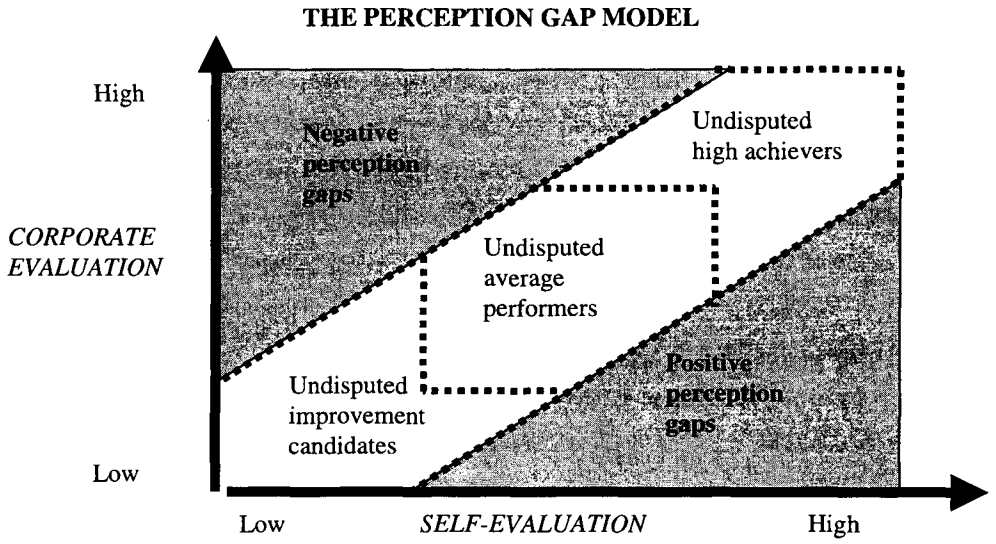
Figure 4.3. Knowledge and knowing (Earl & Scott, 1998).

KNOWING	KNOWLEDGE	
	What you know	**What you do not know**
Knowing	*Explicit knowledge*	*Planned ignorance*
Not knowing	*Tacit knowledge*	*Innocent ignorance*

4.3. Characteristics of perception gaps

The perception-gap concept acknowledges managers may disagree and/or are incorrect in their evaluation of a particular subsidiary's capabilities. The managers may be wrong in the sense of being poorly informed or having made poor conclusions, but they may also be subjectively biased; their judgment may be influenced by their own subjectiveness and possibly by emotions not founded in fact. However, leaving the issue of managerial objectivity aside, we assume that managerial assessments of who is capable and who is not – whether "correct" or "incorrect" – will determine how knowledge management is structured in MNEs. It is thought that governs behavior (Hellgren & Löwstedt, 1997). Corporate and subsidiary managers base their decisions in the knowledge-management process on their perceptions of capabilities. These decisions will then form the basis of the MNE's knowledge-management system. The extent to which evaluations of capabilities are shared will affect the likelihood of agreement or disagreement on issues related to knowledge management. Our ideas are outlined in Figure 4.4.

Figure 4.4. The perception-gap model[7]



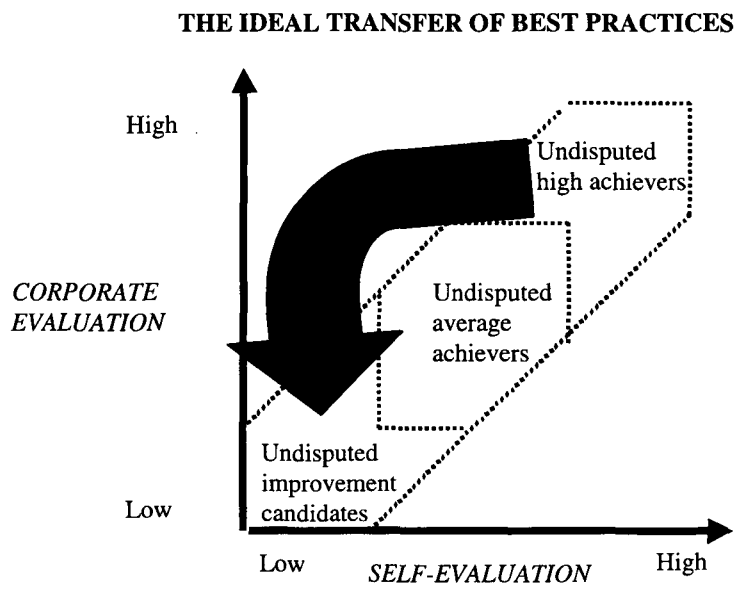
If corporate management and managers at, for instance, the German subsidiary agree on how capable the German subsidiary is, there is no perception gap. Their shared opinion will determine whether the German unit is treated as an "undisputed high achiever", an "undisputed improvement candidate", or something in-between, such as an "undisputed average performer". Thus, if evaluations of capability are indeed objective and all managers are well informed, a subsidiary will be an undisputed high achiever, an undisputed average achiever, or an undisputed improvement candidate. However, if the managers do not share the same view regarding the German unit's competence, there will be a perception gap. In this case, there are two possible alternatives. First, subsidiary managers may think that the subsidiary is highly capable while corporate managers do not – a so-called positive perception gap. Or, corporate managers may consider the subsidiary to be highly capable while subsidiary managers do not. This situation will be labeled a negative perception gap.

Our interpretation of the multinational enterprise can be seen as a "Multi-Perceptional Enterprise" (MPE), which relates to the discussion in Söderlund (1993). He studied decision-makers' environmental models, i.e. how managers perceive and construct an image of the world that surrounds their organization and their decisions. Söderlund's (ibid) study of sub-suppliers in the automotive industry concluded that there were differences in how the managers perceived the industry. We see this finding as an indication that our idea of perception gaps has validity. Our research, which is on how managers perceive capabilities, can be seen as a study of a sub-category of Söderlund's (ibid) perceptions of the world. We focus on perceptions of marketing capabilities.

4.4. Consequences of perception gaps

The discussion so far has concerned the identification of how capable MNE subsidiaries really are in marketing activities. The main issue has related to whether the identification process should be seen as objective or subjective, and whether managers agree on how capable a specific subsidiary is. The reason for our discussion is the premise that what managers believe about capabilities is expected to determine their decisions on which units should act as sources in a process of transferring capabilities. Evaluations of capabilities are important as inputs to the transfer process. If evaluations are objective and correct, we would expect an efficient transfer process (see Figure 4.5.).

Figure 4.5. The ideal transfer pattern[8].



If the identification process is objective and the managers are correct, the knowledge-management process will be relatively straightforward even if several problems remain to be overcome. In this case, the process should aim at developing accurate measures of the capabilities in question, evaluate all units, identify which units could act as sources and which should be recipients, and devise an organizational structure that facilitates transfers. The main problems in this situation may be to develop accurate measures of capabilities and to create an organizational structure which is appropriate in regard to incentives, centralized vs. decentralized decision-making procedures, scope of profit centers, systems for socialization, information flows, etc. Another important issue would concern the codification of capabilities.

If the identification process is found not to be objective, there will be other types of problems which the knowledge-management process must address. In this case, the process should focus on developing shared visions of actual capabilities, on reaching agreement on the importance of certain types of capabilities for the overall activities of the firm, and on

developing a shared understanding of the capabilities of each unit as well as how the units may help each other. If the firm wants to leverage existing skills via transfers of best practices, the most important requirement is the creation of shared values and ideas.

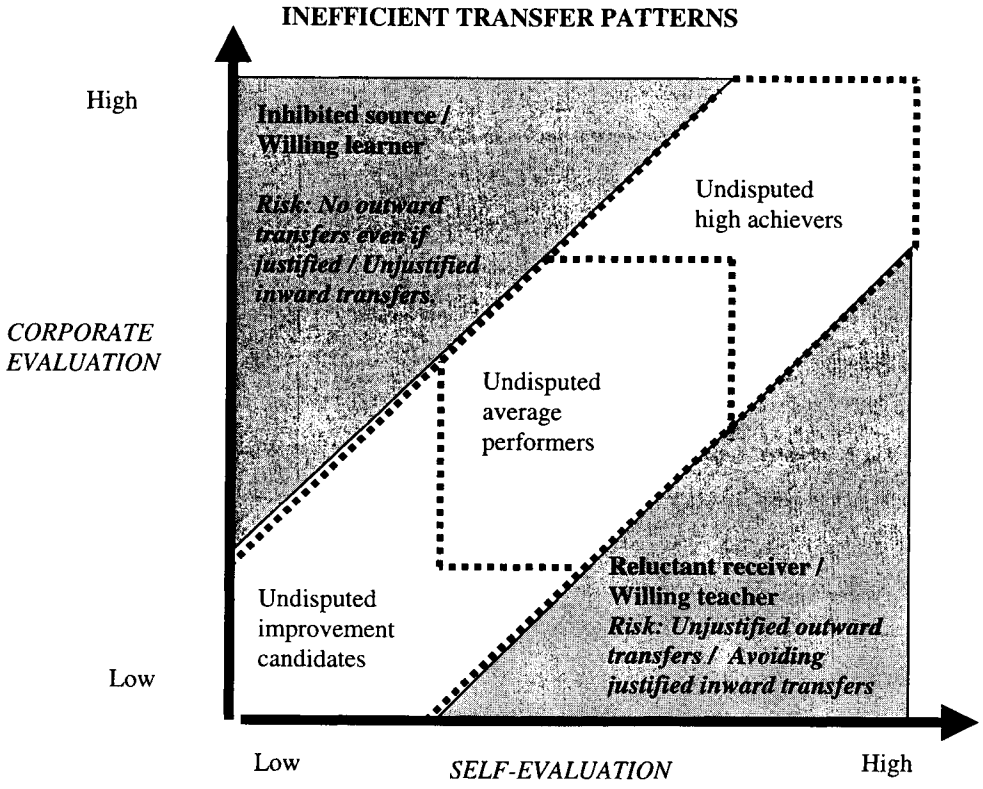
In this discussion, we must raise the question of who sets the agenda and makes the decisions, such as selecting sources and recipients, in the transfer processes. For instance, decision-making could be centralized, with the corporate hierarchy determining the influence and authority of each manager depending on his/her rank. Or it could be a decentralized and organic process in which each manager's interest and ability determine the outcome. The decision process could also reflect a heterarchy (Hedlund, 1986; 1993). In the selection of sources and recipients in the transfer process, the main issue is whether the one who decides – whoever it is – makes accurate evaluations of subsidiary capabilities. If the source chosen turns out to be rather incapable, the process may lead to transfers of worst practices. Only if capable subsidiaries are accurately identified and selected can we expect transfers of best practices. If corporate and subsidiary managers evaluate the capabilities of a potential source differently, we can expect problems related to motivation.

The practical consequences of perception gaps include, for instance, the "not-invented-here syndrome" (Katz & Allen, 1982). If the designated recipient in a transfer process does not believe that anything can be learned from the source, perhaps because of high self-esteem, he/she is of course not likely to be very receptive, i.e. having a poor absorptive capacity. High self-esteem may or may not be justified. If it is justified, the recipient is likely to be an "undisputed high achiever", but if it is not, there may be a positive perception gap (see Figure 4.4.). In such a situation the unit with a positive perception gap is likely to be resistant to learning and may be called a "reluctant receiver" (Figure 4.6.). In the opposite case, corporate managers believe a subsidiary to be highly capable but the unit does not agree indicating a negative perception gap (see Figure 4.4.). Consequently, what would happen if an identified source with low self-esteem and a low opinion of its own capability is expected to teach other units how they should perform certain activities? If corporate management designates this unit as a source in capability-transfer processes, the subsidiary with its negative perception gap may become an "inhibited source" (Figure 4.6.). The reason for its unwillingness to share its experience and capabilities may be poor self-esteem.

In both of these two cases – the "reluctant receiver" and the "inhibited source" – the transfer process is likely to be problematic and perhaps unsuccessful. Characteristics of either the source or the recipient may distort the transfer process. The ideal case is when an undisputed "*high achiever*" acts as a source in a transfer to an undisputed "*improvement candidate*" (see Figure 4.5.). In this situation, the fundamental goal of knowledge transfer – that the less capable learn from the most capable – may be achieved. Of course, there may also be benefits when transfers flow to undisputed "*average performers*" from undisputed "*high achievers*". At the same time, undisputed "*high achievers*" may also have quite substantial inflows of capabilities, perhaps because of close contacts with other subsidiaries and/or a high absorptive capacity. In the process of transferring capabilities to other units, the undisputed "*high achievers*" may learn many new skills.

If there are perception gaps in the MNE, with disagreement over which subsidiary is most capable and should be the source, the source selected may actually be an incapable unit. If there are perception gaps, there is disagreement, and someone is likely to be wrong. If a manager with an incorrect opinion has power in the MNE, the source selected may be less than perfectly capable. And when opinions of subsidiary capability are systematically in conflict, a very incapable unit may become selected as the source. There is then a danger that the intended "transfer of best practices" will turn out to be a "transfer of worst practices". For instance, a "worst practice" may be transferred if there are flows from a – de facto – incapable "willing teacher" (Figure 4.6.).

Figure 4.6. Possible inefficient transfer processes[9].



Despite the risk of "transfers of worst practices", the transfer process may bring standardization advantages that increase overall system efficiency even if it is not the optimal practices that are leveraged. If work standards differ greatly between subsidiaries, the advantages of a common approach may result in higher overall efficiency even if the efficiency of some units may decrease. In other words, the total increase in the efficiency of poor units should exceed the total decrease in the efficiency of the most capable units. The standardized approach may reduce costs through shared training, development of similar work processes, etc.. It may also increase customer satisfaction through identical treatment of customers worldwide, although there is a risk that some customers will receive poorer

treatment than they are used to because of the standardized approach. Moreover, the standardization of work practices may be a condition for future efforts to upgrade the efficiency of current practices and may inspire a common interest in improving those practices.

When knowledge management is discussed at an overall level, it is not clear whether a lack of perception gaps is preferable to the existence of perception gaps or vice versa. If the firm is on the "right" track in terms of what the knowledge-management system is achieving, agreement, i.e. a lack of gaps, is preferable. It is then better if all managers are "right". This situation would be ideal situation for leveraging existing skills across the firm. However, if the firm is on the "wrong" path, disagreement or perception gaps may become valuable. If the firm is on the "wrong" track, managerial conflicts may reveal why and which way the firm could go instead. A side-effect of these conflicts could be that the intended knowledge transfer process becomes a critical discussion of the firm's overall strategy and future.

In a manner analogous to March's (1991) discussion of exploration and exploitation, in which two fundamental goals for a firm are contrasted, we can discuss the advantages and disadvantages of agreement vs. disagreement. One of the goals – exploration – relates to the long-term need for a firm to upgrade its knowledge and hopefully be a fore-runner in terms of creating new knowledge, skills and capabilities in its industry. Exploration is intended to further the effectiveness and long-term prosperity of the firm. The other goal – exploitation – is pursued to enhance short-term efficiency and to maximize profitability with a fixed set of resources, which in our case is the knowledge residing in a firm. In this setting, perception gaps can be expected to act as barriers to exploitation but beneficial inputs – or even prerequisites – for exploration.

All in all, evaluation of competence is not unlikely to be characterized by significant degrees of subjectivity, which implies that significant considerations perhaps should be made in current research on knowledge management in the MNE. Thus, much of the research is not based on realistic assumptions about human behavior, the characteristics of knowledge, and the learning processes. We intend to contribute to this field of research by bringing an element of realism into the thinking and writing on knowledge management.

4.5. Research models and hypotheses

The purpose of this section is to formalize the previously drawn conclusions as hypotheses and to create research models for testing these hypotheses. We will proceed in two steps. First, we will discuss hypotheses on perception gaps and the transfer of capabilities in relation to evaluations of competence. Second, we will build research models for perception gaps as well as the transfer of capabilities in relation to evaluations of competence. Last, we will show how the constructs that will be used in the models were operationalized. We will focus on the hierarchical perception gaps, i.e. possible gaps found in comparing corporate management's opinions regarding a specific subsidiary with the opinion of that subsidiary's management.

4.5.1. Hypotheses on managerial evaluation of capabilities

On the basis of previous research, perception gaps are due to at least three different circumstances. First, managers could have access to different information mainly because of the organizational structure. This information discrepancy may be overcome by rearranging the organizational structure through the introduction of information systems, and creating new incentives to share information, etc. Second, based on an identical pool of information the managers could - deliberately or unconsciously – be alert to or to ignore different information (Dearborn & Simon, 1976; March, 1988). This situation could result from constrained search processes, incentives, and culture as well as the education of the individual him/herself. Third, managers could interpret identical information differently and act differently based on the same information (Nisbett & Ross, 1985; Atkinson et al, 1987), largely as a result of each individual's background and goals as well as the contextual circumstances.

Our null hypothesis regarding capability assessments infers evaluations of each unit by the managers of that unit to coincide with the evaluations made by corporate managers; i.e., there will be no perception gaps.

H_0: Perception gaps do not exist.

Our alternative hypothesis infers perception gaps exist. We have phrased our null hypothesis on the basis of the de facto – and often implicit – view in literature on knowledge management that evaluations of a unit's capabilities are value-free, i.e. objective. In this way, we minimize the risk of rejecting a true null hypothesis, i.e. to reject a true indication that corporate and subsidiary managers share a common understanding of which units are capable and which are not. Consequently, we phrase the null hypothesis as above even though the pilot study indicates that we could phrase it the other way around, i.e. that perception gaps do exist. We will test the null hypothesis on our entire sample after having isolated firm effects, since the entire concept of perception gaps regarding capabilities of subsidiaries is based on the idea individuals may have subjective opinions regarding subsidiaries' capabilities. Moreover, we assume that the organizational context will have a significant impact on the existence or non-existence of perception gaps. Firms are likely to differ substantially regarding the way capabilities are perceived within the firm. If we do not find support for the null hypothesis, we reject it as a general truth, although it may still hold for some firms. If the null hypothesis is rejected, our conclusion will be that one can not always assume that managerial evaluations of capabilities are correct.

If the null hypothesis is rejected, we will – based on previous discussions and findings – test the explanations for potential perception gaps using three alternative hypotheses:

H_1: Perception gaps are explained by asymmetrical access to information.
H_2: Perception gaps are explained by selective attention to specific pieces of information.
H_3: Perception gaps are explained by selective interpretation of pieces of information.

4.5.2. Hypotheses on selection of sources in capability-transfer processes

The identification of capable units is merely the first step in a process aimed at leveraging existing skills as efficiently as possible. Therefore, we must relate the discussion and findings regarding identification of sources in the knowledge-management process to actual transfers. Regardless of the result when testing our hypotheses on perception gaps, we will explore how evaluations of capabilities relate to the patterns of capability transfers within the MNE. The

basic proposition that follows from the discussion above is that evaluations of capabilities are important input factors in the selection of sources in the capability-transfer process. Using the traditional knowledge-management model presented in Chapter 2, we hypothesize:

H_{4a}: Corporate managers' evaluations of capabilities determine the selection of sources in the capability transfer processes.
H_{4b}: Subsidiary managers' evaluations of their units' capabilities determine the selection of sources in the capability transfer processes.

Hypotheses 4a and 4b above are derived from the null hypothesis, i.e., that evaluations of capabilities are shared, as the traditional knowledge-management model basically states. In hypotheses 4a and 4b it is implicitly assumed that evaluations of capabilities are shared by different managers and determine the selection of sources in the transfer process. There is another side to these hypotheses, however. Even if evaluations are shared, they may not constitute the fundamental explanation for the selection of sources. We can not exclude other factors like organizational habits, managers' personal ambitions, old relations, or financial performance, to govern the selection of sources in the transfer process. A transfer process should ideally satisfy two criteria: first, managers should agree on evaluations of capabilities, and, second, capability evaluations should determine the selection of sources and recipients in the transfer process. Thus, an effective knowledge-transfer system would build on transfer from highly capable subsidiaries to the less capable subsidiaries[10]. The two hypotheses 4a and 4b give us the possibility of testing whether capabilities actually flow from the seemingly most capable subsidiaries.

If the alternative hypotheses regarding evaluations of capabilities are supported, i.e. that perception gaps exist, we can use hypotheses 4a and 4b to see which of the two types of evaluations that has most explanatory power in the selection of sources. Is the selection process centralized or decentralized in cases of conflict? Also, do gaps affect the transfer frequency? To enable such a discussion, we make the following hypothesis:

H_5: Perception gaps limit the effectiveness of the transfer processes.

This hypothesis is intended for the case where perception gaps exist and consequently refers to situations where the capability of a specific unit is in dispute. In these cases, we may expect corporate management to either centralize decision-making regarding sources and recipients in the transfer process or to control decentralized transfer processes through a centralized incentive system resulting in efficient transfer flows. The alternative is a more decentralized knowledge-transfer system, which basically reflects the subsidiary managers' views on their own capabilities and on the capabilities of their sister subsidiaries. All in all, we expect transfers to be more frequent when perception gaps do not exist, since the search for sources and recipients will be less complicated.

The hypotheses presented above are based on two assumptions: first, managers and firms want to transfer capabilities in marketing across geographical and intra-organizational boundaries; second, managers believe transfer of capabilities will enhance the overall use of the MNE's dispersed global resources.

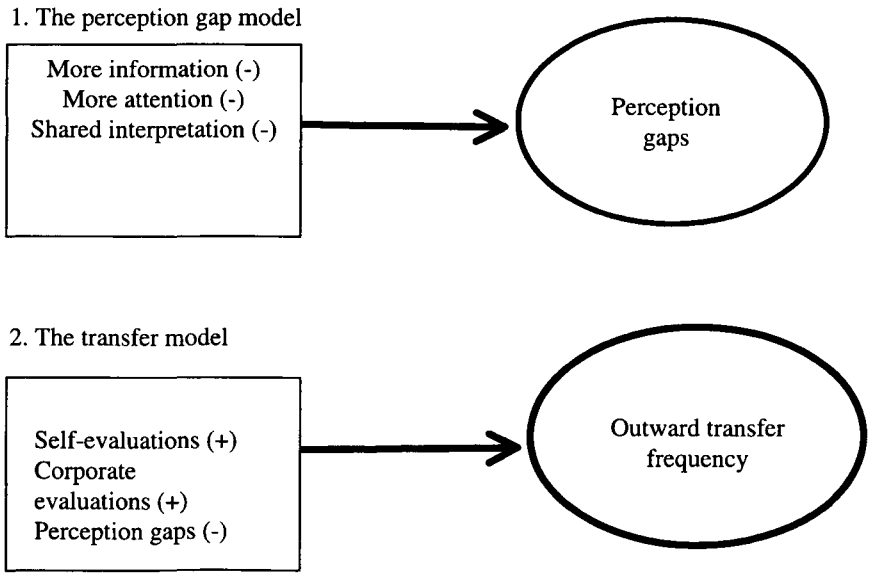
In our model, we will control for the following:

- Communication and inter-connectedness are the fundamental conditions for transferring skills and is expected to facilitate transfers.
- Tacit knowledge is more difficult to transfer, and restrictions on codifying and teaching one's knowledge are expected to limit the transfer flow.
- The strategic importance of the local market will explain outward transfer of practices. If the unit is operating in an extraordinarily strong local market, the likelihood that the unit will develop strong skills is high, and outward transfer from this unit will then be likely.
- The most standardized indicators of capability are financial performance measures. We can not exclude the possibility that outward transfers of practices will be explained by financial performance. Also, the marketing experience of the subsidiary manager is likely to affect transfer frequency.

4.5.3. The complete model

The discussions in the two previous sections are summarized in Figure 4.7. The model will be tested in two steps. First, we relate perception gaps to three specific explanatory variables. Here, access to more information by corporate managers, more corporate attention to a specific subsidiary, and shared corporate-subsidiary interpretations of information are expected to decrease the extent to which perception gaps exist. Second, we relate effectiveness of the transfer process, i.e. the frequency of outward transfers from a specific subsidiary, to perceptions of capabilities. The traditional transfer factors are used as control variables. We expect that perception gaps will decrease the frequency of outward transfers from a specific subsidiary. We will also use the corporate and subsidiary evaluations as such, however. As previously indicated, it is interesting to see which of the two best explains outward transfers. Moreover, if subsidiaries base transfer flows mainly on how they evaluate their own capability, the perception gaps are less likely to influence the transfer process. The entire process will be rather decentralized.

Figure 4.7. The entire research model.



4.6. Limitations of the study

To be clear, we should note the following limitations in the study:

- It is mainly based on Swedish MNE's, and there may be restrictions to generalize about MNEs from other countries. However, since the initial hypotheses were derived from the qualitative pilot study of a US-based MNE, the findings are likely to be applicable even to non-Swedish MNE's. At the same time, our sample firms are owned to a significant degree by non-Swedish citizens and have had a major proportion of their operations outside Sweden for many decades. Thus, we can not exclude a priori that our results also apply to non-Swedish MNE's.
- It is empirically focused on marketing activities, although the thesis primarily discusses international business.
- The firms included in the sample are all from different industries. There is one firm from a service industry while all the other firms are involved in manufacturing. The statistical analyses consequently include dummy variables for firms.
- The survey only covers a certain point in time and may not detect possible trends or time lags.
- Attention is devoted primarily to raising and discussing issues in pre-transfer stages, i.e. fundamental issues that precede the actual implementation of the transfer.

4.7. Concluding our research approach

It has been argued that a well functioning knowledge-management system is a flexible system without rigorous top-down management and control (Hedlund, 1986; 1993; Ghoshal et al, 1994). The basic reasoning in these approaches is that since practical skills reside with operative managers, corporate management will have problems in the knowledge-management process (Bartlett & Ghoshal, 1987a; 1987b). This system is built on the belief that subsidiaries take their own initiatives to develop their unit in terms of taking on new activities with higher value added (Håkansson & Zander, 1986; Ronstadt, 1977). The paradox exists as the practical skills are resident in the operative managers, and corporate managers may not be able to assess effectively how capable these managers and subsidiaries are.

Moreover, this paradox is likely to be particularly pronounced when capabilities are tacit in nature.

Furthermore, managers are not expected to be perfectly rational, so the process may be even more distorted. The behavioral theory of the firm (Cyert & March, 1963) assumes decisions to be based on bounded rationality (ibid; see also Simon, 1991). There are limits to the amount and quality of collectible information, as well as limits to the individual's ability to analyze information and to draw conclusions based upon the analysis. In addition, rationality is assumed to be local, i.e. decisions regarding each local unit are made primarily by locally confined actors. In essence, bounded and local rationality mean that each local unit will make decisions based on local knowledge. Thus, we assume local goals to be independent constraints which units strive toward satisficing (Cyert & March, 1963). This view is consistent with the basic assumptions in the differentiated network model of the MNE.

To explain why there could be differences between managers' assessments of capability, we turn to three factors discussed in social psychology. These factors are access to asymmetric information, selective attention to information, and selective interpretation of information (Cyert & March, 1963; Atkinson et al, 1987). Thus, our discussion of knowledge management is fundamentally based on assumptions related to bounded rationality, i.e. the assumption that man is not a perfectly rational creature. Moreover, if we are to understand the concept of selective interpretation, which basically assumes that man not only is boundedly rational but sometimes even systematically irrational, we have to discuss social psychology in more depth. In essence, why and how individuals act is basically explained by their cognitive structuring of events and how these are interrelated (Kelly, 1955; Axelrod, 1976; Sims et al, 1986). Thus, the individual's mind controls what actually happens, i.e. what is interpreted as having happened (Hellgren & Löwstedt, 1997).

It is common knowledge in psychology and social psychology (see e.g. Atkinson et al, 1987) that human behavior is a function of a person and a context in which the behavior is shown. It is also known that people do not react simply to objective features of a situation but to their own subjective interpretations, or cognitive appraisals. In other words, social psychology is the study of social interaction. In social psychology, the process by which a person determines "how things are" is held to be based on collection of data, detection of co-variation between

two or more events, inference of casual relations between events, and creation of theories on how the world "is" and "works". There are several limitations to the rationality of this process, however. Managers are not always "scientific".

It is not entirely clear, however, whether or not these subjective processes are likely to lead to agreement on evaluations of capabilities. Even very subjective evaluations may be shared. Phenomena such as group-think could cause a large group of managers to agree on very erroneous views of the world. Methodologically, of course, it is also very difficult to prove what is correct and what is not. In fact, since we are mainly concerned with whether views are shared, we may – for the moment at least – avoid the discussion of what is objectively true. Having adopted the differentiated network approach to the MNE, we wonder if each subsidiary holds its own unique view of its own capability and those of other subsidiaries. Moreover, since corporate as well as subsidiary management are assumed to be boundedly rational, it is hypothesized that they have their own unique opinion on the capability of each subsidiary.

Consequently, we argue that different managers in the MNE are not unlikely to have different opinions on the capability of any specific subsidiary, in light of factors related to social psychology and bounded rationality as outlined above. Moreover, the potentially tacit nature of capabilities and the intangible nature of marketing activities are likely to accentuate these differences. If we find disagreement on the marketing capabilities of subsidiaries, we expect it will influence the transfer process – more specifically, the selection of transfer sources. We will label differences between how corporate managers evaluate the capabilities of a specific marketing unit and how the unit evaluates its own capabilities as perception gaps (for more on the concept as such, see Asakawa, 1996). In our case, the gaps concern marketing capabilities.

We define a perception gap as: "*a difference between division and subsidiary managers' perceptions of how capable a subsidiary is to effectively solve it's operative problems*".

As discussed above, the perception gap may increase over time as an effect of isolated organizational learning. Each unit may independently adapt its rules of attention and search as

it learns about itself and the environment in which it operates (Cyert & March, 1963; Simon, 1991). Thus, the gap could become a systematic difference between subsidiaries over time.

The purpose of this study is to enhance our understanding of how MNE's transfer and integrate geographically dispersed capabilities by studying how firms evaluate capabilities of different subsidiaries to perform certain activities within the field of marketing. In so doing, we hope to expose some hitherto empirically unexplored factors related to knowledge transfer and knowledge management in MNE's. These factors focus on how well corporate and subsidiary managers assess the performance of different marketing units within the MNE, how well subsidiary managers assess their own marketing units' performance, and how harmonized the assessments of specific units by different managers actually are. The consequences of the assessments are hypothesized to influence the patterns of knowledge transfers within the MNE, and consequently the extent and effectiveness of the leveraging of dispersed capabilities within the firm.

To sum up the discussion, we infer the following: First, the MNE is dependent on - and benefits from - internal integration of dispersed resources, including the integration of dispersed capabilities. We recognize that this integration may lead the firm to centralize a particular function for economic and practical reasons. Transfers and co-ordination would then be superfluous. Second, knowledge creation and learning are processes taking place primarily within the minds of individuals but being influenced by social processes. Third, knowledge "*resides in the heads and hands of people*", so that the identification of capable subsidiaries may be problematic. If knowledge creation takes place within individuals who are affected by their unique social environment, we would argue that evaluation of capabilities is also individual and – to judge from findings in social psychology – possibly subjective.

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1. While we acknowledge transformations of capabilities through re-combinations and transfers, we focus on actual transfers of existing capabilities. Also, our terminology differs somewhat from earlier research. We define horizontal transfers as the ones flowing directly among subsidiaries, and vertical transfers as those flowing indirectly among subsidiaries via corporate/division headquarters. Another way to use these term is to define vertical transfers as moving technology between different stages of development; from basic research to applied research to development to production (Mansfield, 1975; Teece, 1976). In the same manner, horizontal transfers has been defined as transfers moving technology from one context – a firm, a country or an industry – to another (ibid). Thus, we use the terms differently.

2. We view knowledge in terms of the ability to frame problems and apply solutions in relation to pre-specified goals. Thus, we will study the transfer of knowledge for the purpose of achieving the goals set for local units by the units themselves or by other organizational units.
3. It is of course possible that people who do not even have access to one similar piece of information regarding a particular matter still hold similar perceptions of the matter. However, such a situation would appear unlikely and – should it occur – would be random in its nature.
4. For an analogy to the concept as such, see Asakawa (1996).
5. Thus, perception gaps could exist between any type of managers. We define a horizontal perception gap as existing between managers from different subsidiaries regarding capabilities of one of the subsidiaries.
6. The model refers to practices in the plural because there may be several capabilities, i.e. practices, each of which has a different best achiever. In essence, we would expect one top achiever per capability.
7. See the preceding note.
8. See the preceding note.
9. See the preceding note.
10. We should acknowledge, however, that transfer in itself may bring standardization advantages that increase the overall efficiency of the current system even if the system still is sub-optimal.

CHAPTER 5. METHODOLOGY.

This chapter outlines the methodology used to capture the phenomena the study is addressing. The principal source of the data used is a survey sent to corporate and subsidiary managers in seven divisions of six Swedish firms. In addition, we conducted a pilot study. The chapter outlines the principal hypotheses to be tested in the dissertation, explains how each construct in the models was operationalized, and discusses specific methodological considerations in the study.

5.1. Introduction

We initiated this research with a qualitative pilot study that ultimately led to the main study. The aim of the pilot study was to analyze centers of excellence and transfers of marketing capabilities. An additional result of the pilot study was findings regarding uncertain identification and poor corporate-wide awareness of the centers of excellence' capability. These findings led us to our main study. For the quantitative part of the main study, we designed a questionnaire with the aim of measuring subsidiaries' marketing capabilities in different ways. The variables we included in the analysis were to a large extent taken from literature and research on transfer of knowledge in the MNE. Much of this literature, of course, is biased in favor of capabilities primarily related to manufacturing activities. Therefore, we believe that our effort to study marketing activities is valuable. The quantitative survey data was complemented by qualitative data from interviews, and the main conclusions drawn in this study are based on the combination of these data sets. Consequently, the thesis project is based on three methodological parts: first, a qualitative pilot study; second, a large quantitative survey directed at subsidiary and corporate managers; third, follow-up interviews at the firms surveyed. This chapter will discuss methodological issues in terms of how the study was designed and carried out, and the benefits and restrictions of the methodology used. Table 5.1. outlines the research process.

Table 5.1. Outline of the research.

Inductive reasoning based on previous research and literature.
Qualitative pilot study focused on centers of excellence and transfers of best practices (3M).
Design of a capability-evaluation study related to transfers of marketing capabilities in the MNE. Introductory interviews at each firm, and quantitative survey directed at subsidiary and corporate managers in Skandia, Sandvik, Ericsson, Volvo, Pharmacia & Upjohn, and Alfa Laval Agri.
Analysis and follow-up interviews with corporate and subsidiary managers of the firms surveyed.
Final analysis and completion of the thesis.

5.1.1. The qualitative pilot study

We first conducted a qualitative study of transfers of best practices in the European operations of a US based MNE. During this qualitative phase we noticed the emergence of "best practices" in certain marketing subsidiaries, such as "key-account management" and customer-integration practices. This observation led us to focus our attention on the wide variation in marketing capabilities from one subsidiary to the next, even within the same MNE, and to design a study for the purpose of analyzing factors that could lead to such variations. The qualitative pilot study included five face-to-face as well as two telephone interviews with a total of seven marketing managers from four different countries. We also met face-to-face with three corporate managers. Moreover, the interviews made us aware of the potential differences between managers regarding their views on the capabilities of specific subsidiaries. More specifically, the findings from the pilot study, which are presented in Chapter 6, raised the specific issues analyzed in this thesis.

5.1.2. The main study

Thereafter, we put together a draft questionnaire that was presented, discussed, and tested at one Swedish MNE. The questionnaire was based on a mixture of established scales from the literature and our own measures of constructs relevant for our study. The first questionnaire was sent to 19 managers in five countries, 17 of whom completed and returned it. In addition, three managers at corporate headquarters answered a slightly different questionnaire in which they assessed the marketing capabilities of the five country operations. The response rate for the firm was high – 89 % of the subsidiary managers and 100 % of the corporate managers

responded. We had covered all five subsidiaries in the division. This survey, which was called "Best Practices in Market Organizations", was completed in the early fall of 1997.

The results from the introductory quantitative survey were instructive for the questionnaire design. Some of our scales had to be altered. Moreover, the respondents informed us that the questionnaire was too long. Therefore, we dropped several items for which the answers had proved ambiguous. In addition, we were able to test the inter-rater reliability of the questionnaire by comparing answers from multiple-respondent units. Overall the inter-rater reliability was acceptable given that the variance within each group, i.e. within each subsidiary, was lower than the variance between groups or subsidiaries.

We were surprised, however, by the extent to which corporate managers' assessments of a subsidiary-unit's capabilities differed from the assessments of the unit's capabilities by its own managers. The indications in the qualitative pilot study were supported by the introductory quantitative study. These differences in assessments led to our preliminary expectation that there could be significant differences between how corporate and subsidiary managers, respectively, assessed a particular subsidiary's capabilities. If this expectation proved to be true, the characteristics of the differences might tell us something interesting about the inner workings of knowledge management in the MNE. In other words, from these studies we developed a strong interest in "*how much the firm knows about what it knows*". In other words, are managers – corporate as well as subsidiary – informed about the marketing capabilities of subsidiaries?

While the quantitative introductory study was under way, we had approached other firms that might be interested in a major study of best practices in marketing activities. The firms that finally decided to join our research project are presented in this chapter. Thus, after having revised the questionnaire, we sent it to headquarter and subsidiary managers in six additional divisions of five large MNE's. At each of the firms, we asked corporate management for permission to do the research. After having enlisted their support we were given a lead contact – the corporate marketing manager or the equivalent – who provided us with a list of all marketing subsidiaries around the world. We wanted to send our survey to both the managing director and the marketing manager of each unit in order to obtain a broad picture of how managers assessed the capabilities of the marketing units in the MNE. As before, we

also surveyed corporate and/or division managers. During our pre-survey meetings with these managers, the questionnaire was again presented and tested before it was circulated within each firm. Each questionnaire was tailored to some degree to the particular company. Questions were altered slightly to reflect the terminology of the company, e.g. product divisions vs. business areas vs. market areas. In addition, we created a number of firm-specific questions that targeted specific marketing practices of each firm (see table 5.29.).

The survey was based extensively on comparative performance measures of critical capability dimensions for each firm. Most questions had pre-defined response alternatives based on seven-point-Likert-scales. Moreover, background variables important for knowledge management were used. The survey also included continuous measures of various other important aspects. Some examples were the age and experience of respondents, the characteristics of each subsidiary, and the characteristics of the local market. The main survey consisted of two parts. The first was sent to subsidiary managers of the participating firms. This part was conducted during the summer and fall of 1997. Thereafter, the subsidiary data was collected and coded, and a data base was created. The second part consisted of interviews with corporate or division management, including an overview questionnaire related to the capabilities of all the responding subsidiaries. This part was carried out during the summer of 1997 for one firm and in early 1998 for the others. The two parts of the questionnaire yielded the quantitative data base upon which the thesis is based. During the spring and summer of 1998, we conducted the major part of the follow-up interviews with both corporate and subsidiary managers. These interviews provided the qualitative data.

Based on theoretical deduction and the findings in the introductory studies, the purpose of this dissertation is to note and to analyze managers' perceptions of subsidiaries' marketing capabilities, and to evaluate the possible effects of these factors on global utilization of capabilities. To be more concrete, we intend to test whether perception gaps exist, and if so, to identify their causes. The dissertation can also be described as an attempt to measure and discuss how much and to what extent different actors within an MNE know and understand the capabilities of their own and other units. We seek to determine whether corporate and subsidiary managers differ in their respective perceptions of a specific subsidiary's capability. And - if so - how and why? Also, if there are differences, how do they affect the firm's utilization of dispersed capabilities? How do they affect transfer flows?

We consequently had to address two different issues in our questionnaire: first, the evaluation of capabilities, and, second, the factors related to transfers. In order to cover the transfer issues, the design of the questionnaire (see appendix) was to a large extent based on the review of the literature in Chapter 2. The questionnaire included a number of variables the literature suggests are likely to influence transfers between subsidiaries in the MNE. In short, these variables relate to decision-making autonomy, strategy, incentives, tacitness of knowledge, absorptive capacity, communication, the knowledge-management system, and the local environment. In order to cover the issue of capability evaluation, however, we had to develop our own design for the questionnaire. The primary focal variable in our study is each subsidiary manager's perception of his/her unit's relative marketing capability, as well as each corporate manager's perception of each subsidiary' relative marketing capability. To facilitate understanding of which types of marketing capabilities we discuss, we decided to use traditional constructs from research in marketing in addition to firm-specific concepts of marketing capability.

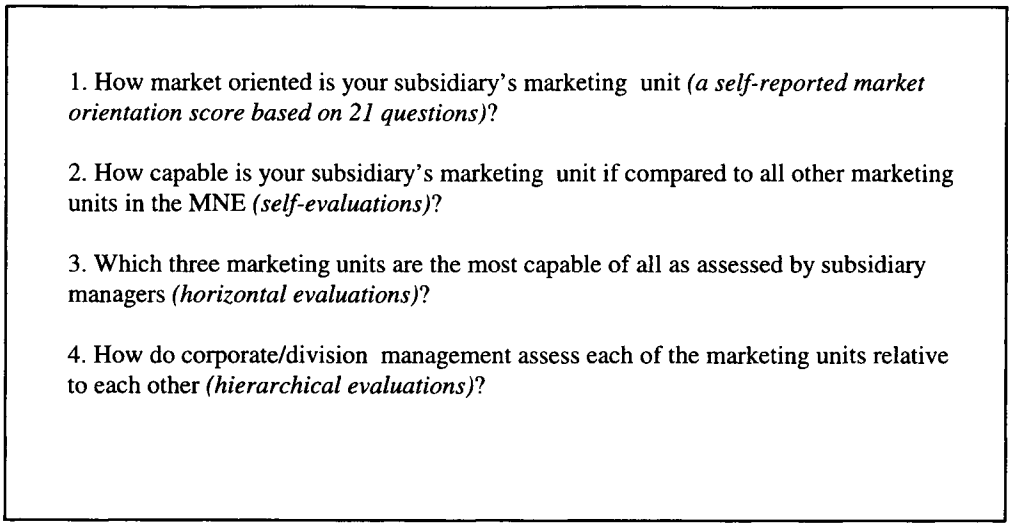
We consequently used a survey that provided several different ways of outlining capabilities in the marketing units of the MNE (see Figure 5.1.). One of the approaches is based on a construct called market orientation, which has been operationalized by Kohli & Jaworski (1990) and Kohli, Jaworski & Kumar (1993). We used Kohli & Jaworski's (ibid) operationalization of market orientation in order to develop a measure of each subsidiary's marketing capability as indicated by their self-reported market-orientation index. This index is based on 21 questions related to the unit's ability to collect, disseminate, analyze and act upon market information.

The second approach was to let each of the subsidiary respondents assess how well his/her own marketing unit performed in a number of dimensions in relation to all other units within the same MNE. Here, we used the Market Orientation dimension, general dimensions such as "general marketing" abilities and the ability "to link up with customers' value-chains", as well as firm-specific dimensions, i.e. processes and concepts that are especially important for each MNE.

The third approach let the subsidiary respondents identify the three most capable marketing units in the MNE in each of the capability dimensions. This approach gave us a horizontal evaluation of the subsidiaries' capabilities as perceived by other subsidiary managers. The main purpose of this measure was to permit comparison of the evaluations by corporate managers and the units' own managers with evaluations by a third party. In order to keep the questionnaire manageable in terms of size, we only asked each respondent to identify the three most capable units. This means, of course, that we have horizontal information only on the units perceived to be the most capable. The reason is that if each subsidiary manager had evaluated all the other subsidiaries in all capability dimensions, the task of data collection would have been unreasonably great. For example, if a firm has 31 subsidiaries and we asked for evaluations in five capability dimensions, each subsidiary manager would have to report 150 evaluations! Even with only the three top-ranked units, however, we have a good measure of horizontal awareness of other marketing units' skills.

The fourth approach was based on the divisional/corporate-management questionnaire. We asked corporate/division marketing managers to assess the capabilities of each marketing unit relative to those of the others in each of the capability dimensions. This approach gave us hierarchical evaluations of the subsidiaries' capabilities as evaluated by corporate managers. The practical implication was that each corporate/division respondent was asked to evaluate all the firm's marketing units in 9 to 11 capability dimensions. To minimize their demanding task, we only included the subsidiaries from which we had already received an answer.

Figure 5.1. Our research approach to evaluations of capabilities.



The purpose of using several different respondents and approaches to evaluating the capabilities of the marketing units was to compare evaluations of the units' capabilities from different sources. If the evaluations coincided, we could claim that firms had a corroborated and thus insightful picture of the unit's capabilities. If the evaluations did not coincide, we could test how and why the various evaluations differed. Thus, we could explore a question such as why the Portuguese unit's assessment of its own capabilities was not shared by corporate management. We could see if all marketing units identify the same unit as the best overall in general marketing? Thus, by comparing subsidiary managers' evaluations of their own units with corporate managers' evaluations of the same units, we are able to outline how different managers evaluate the subsidiaries' capabilities.

As an effect, the answers to the majority of questions were based on opinions rather than facts. The questions on capabilities asked respondents to evaluate a unit on a 1-7 Likert scale where 1 equaled "much below the firm average", 4 equaled "average", and 7 equaled "much above the firm average". However, we asked a number of factual questions as well, such as the subsidiary's local market share or number of employees. Finally, we also collected data from secondary sources, such as the size of the local market, and the geographical and cultural distance from headquarters.

5.1.3. Response rates and analysis of non-responses in the main study

The corporate managers who acted as our lead contacts selected the respondents in each firm based on our ambition to poll subsidiary managers with marketing responsibility in each subsidiary or market company of the firm, including not only marketing managers but also the general manager. Since the subsidiaries were small and/or often dominated by the local general manager, we tended to end up with responses either only from the general manager or from both the general manager and the marketing manager. Thus, in some cases there are multiple respondents from the same subsidiary. Ideally, we would have liked to have multiple respondents in all subsidiaries. Depending on the firm and its structure, the number of managers polled differed substantially between firms. One of the firms had operations in over 100 countries; another, only in five countries. Table 5.2. presents the firms by number of-units polled, i.e. marketing departments of subsidiaries, and their response rates.

Table 5.2. Overview of response rates by firm.

Firm	Number of marketing units	Number of responses	Response rate
Skandia	5	5	100 %
Sandvik Coromant	31	31	100 %
Sandvik Steel	39	32	82 %
Ericsson	46	32	70 %
Volvo	29	25	86 %
Pharmacia & Upjohn	26	19	73 %
Alfa Laval Agri	33	32	97 %
Total	209	176	84 %

The overall average subsidiary response rate was 84 %. The final sample, which is presented in Table 5.2., was derived after a number of iterations regarding selection of respondents, attempts to retrieve completed surveys, and the final decisions to exclude two units from the sample. These units were excluded since one of the MNE's was closing down its operations in these countries. There were few employees left, and their motivation to participate in the study was very low. Moreover, the questionnaire no longer made sense for these subsidiaries since their operations were being terminated. The analysis of subsidiary responses – received and non-received – is shown in Table 5.3.

Table 5.3. The detailed view of sample and subsidiary response rates – overall and by firm.

	Number of units	Number of units per firm	Percent
Initial mailing (defined by the firms themselves)	211	Skandia 5, Coromant 31, Steel 39, Ericsson 48, Volvo 29, P&U 26, Alfa Laval Agri 33	100 %
Drop-outs[1]	2	Skandia 0, Coromant 0, Steel 0, Ericsson 2, Volvo 0, P&U 0, Alfa Laval Agri 0	1 %
Defined sample	209	Skandia 5, Coromant 31, Steel 39, Ericsson 46, Volvo 29, P&U 26, Alfa Laval Agri 33	99 %
Defined sample	209	Skandia 5, Coromant 31, Steel 39, Ericsson 46, Volvo 29, P&U 26, Alfa Laval Agri 33	100 %
Non-responses	33	Skandia 0, Coromant 0, Steel 7, Ericsson 14, Volvo 4, P&U 7, Alfa Laval Agri 1	15.8 %
Responses	176	Skandia 5, Coromant 31, Steel 32, Ericsson 32, Volvo 25, P&U 19, Alfa Laval Agri 32	84.2 %

Our subsidiary data covers 176 marketing units and we have multiple respondents from a total of 36 units. In the units with multiple respondents, we assigned the manager with the greatest formal authority over decision-making to be the lead respondent for that particular subsidiary. The other respondents became non-lead respondents. The non-lead respondents from these 36 units totaled 47, and our entire subsidiary data are drawn from 223 responses. Skandia had 4 units with multiple respondents, Coromant had 8, Steel had 2, Ericsson had 8, Volvo had 10, Pharmacia & Upjohn had 2 and Alfa Laval Agri had 2.

As for timing of subsidiary responses, the percentage of responses received by the initial response date was 37 %. Around 75 % of all the answers received arrived within three weeks after the initial date. It should be noted that we prolonged the response time – by up to three weeks – for some respondents since international mailing in some cases proved to be very slow. In some cases, the mail was never delivered, and the respondents, who all fortunately had saved a copy of their response, had to send it a second time. If we account for the extension of the time to answer, we received almost 75 % of the responses on time[2]. Moreover, no particular geographical region was over- or underrepresented in the responses by the subsidiary managers. Thus, we infer there is no geographical or response-date-related bias in the responses by the subsidiary managers. We can not exclude the possibility of other biases in the data, however. There is always the risk that our questions and items do not exactly measure the conceptual factors that we would like them to measure (Blalock, 1968). The procedure we used to minimize the risk of measurement errors and other unforeseen biases is explained in Section 5.3.

The next step included an analysis of the corporate responses. Again, our lead contact in each of the firms provided names of corporate/division managers with global or regional responsibility for marketing activities in the MNE. Whether we would receive multiple corporate responses for each firm depended on how that firm's corporate management group had structured their work. Table 5.4. outlines the corporate sample. The average corporate response rate was 88 percent.

Table 5.4. Corporate responses

Number of persons	Total numbers	Number per firm	Percent
Initial mailing – as defined by the companies themselves	25	Skandia 3, Coromant 4, Steel 3, Ericsson 5, Volvo 3, P&U 2, Alfa Laval Agri 5	100 %
Non-responses	3	Skandia 0, Coromant 0, Steel 0, Ericsson 2, Volvo 1, P&U 0, Alfa Laval Agri 0	22 %
Responses	22	Skandia 3, Coromant 4, Steel 3, Ericsson 3, Volvo 2, P&U 2, Alfa Laval Agri 5	88 %

All of the corporate responses were received within the time allowed. The non-responses covered two different geographical areas. For Ericsson, the regions of Western Europe and Southeast Asia were not covered in the corporate responses. For Volvo, the region of Southeast Asia was not covered. Thus, Southeast Asia was underrepresented in the corporate responses. We believe that the relative lack of responses from Southeast Asia – if it has any effect at all – could bias our data so that the possible differences in evaluations of units by corporate and subsidiary managers actually are underestimated. A priori, it is not unlikely the similarities are greater when units are located close – geographically and/or culturally – to corporate management.

To repeat, the response rate for subsidiaries was 84 percent, i.e. 176 out of 209 subsidiaries, and the response rate for corporate managers was 88 percent, i.e. 22 out of 25 managers. In total, we have a response rate of 85 percent, i.e. 198 out of 234 questionnaires.

5.1.4. Interviews in the main study

After a preliminary analysis of the corporate and subsidiary surveys, we were able to enter the third stage of our work. On the basis of the questionnaire findings, we conducted qualitative

and in-depth interviews with corporate/division and subsidiary managers of the firms. The interviews aimed at obtaining a deeper understanding of the issues that were found to be particularly interesting and troublesome in the first and second stages of the thesis project. The interviews were focused on subsidiaries that showed either large differences between their own and corporate evaluations or no differences and were rated either as very capable or very incapable. In this way, the interviews were intended to provide explanations to four different categories of subsidiaries. First, undisputed high achievers, i.e. units that were rated as highly capable both by their own managers and by corporate managers. Second, undisputed improvement candidates, i.e. units that were rated as incapable both by their own managers and by corporate managers. Third, units with positive perception gaps, i.e. units that rated themselves as capable while corporate managers rated them incapable. Last, units with negative perception gaps, i.e. units that rated themselves as incapable while corporate managers rated them capable. We conducted interviews with units in all four categories, as well as other units and corporate managers. The interviews are reported in chapters 6 and 7. We selected units according to the evaluations of their capabilities, and focused the interviews on similarities and differences in evaluation as well as on issues related to transfer of capabilities. The interviews covered not only the evaluations but also the influence of evaluations on the transfer patterns in each firm. Our thesis is based on more than 60 interviews lasting over 80 hours. The purpose of the interviews was to discuss the questionnaire results and develop a better understanding of their implications. Table 5.5. summarizes the interviews with each firm.

Table 5.5. Overview of interviews conducted.

	Number of interviews	Average duration
Pilot study		
3M	7	65 minutes
Main studies		
Skandia	15	70 minutes
Sandvik Coromant	6	90 minutes
Sandvik steel	8	120 minutes
Ericsson	9	80 minutes
Volvo	7	70 minutes
Pharmacia & Upjohn	6	55 minutes
Alfa Laval Agri	5	60 minutes
Total	*63*	*~81 hours*

The interviews were semi-structured and based on the plan presented in Table 5.6. In order to explain the questions in detail to interviewees – especially questions concerning perception

gaps – we compiled the data obtained through the questionnaire and presented it during the interviews. The perception gaps were illustrated by scattergrams where the corporate evaluations were on the y-axis and the subsidiaries' self-evaluations on the x-axis. By this procedure, the interview focused primarily on the units where evaluation differences were very large or very small. We were thus able to pursue a detailed discussion of units that displayed either clear perception gaps or virtually no gaps. Moreover, we showed the interviewees transfer data in order to discuss causes and effects of transfers of capabilities. We concentrated our questions on parts E and F outlined in Table 5.6.

Table 5.6. The semi-structured interview plan.

Outline of questions for corporate and subsidiary managers:
A. Let interviewees describe their firm's system (hierarchical vs. horizontal) for knowledge transfer.
B. Explore what incentives marketing managers of operative units have to receive best practices and, second, to share best practices with other units.
C. Discuss to what extent - in general – it is meaningful to transfer marketing practices.
D. Let interviewees describe their customers.
E. Focus on identification patterns and the empirical findings. Show the four quadrants in the model. How do they explain gaps?
F. Focus on transfer of best practices. How do they explain transfer frequencies?
G. Explore which firm-specific activities are most important for performance / valuable to transfer?

5.2. Background information on sample firms

This section is intended to provide background information on the sample firms and may be omitted by readers who are already familiar with the sample firms. The reason we do not present the firms and their operations in detail is twofold. First, issues related to knowledge management – and the issues in our study in particular – were somewhat sensitive for some of the firms, and they consequently wanted us to avoid detailed descriptions of their activities. Second, we want to focus our study and discussion on the phenomenon of knowledge management as such and not pursue a detailed discussion of the firms. We will still make sure that we acknowledge possible firm or industry effects in the final analysis. The participating firms were selected partly for convenience, but also to obtain a sample of a wide variety of industries. The following section presents these companies, their principal industry, and the number of marketing subsidiaries that were polled. The selection of firms was done in two slightly different ways. Four firms were part of a joint-research program, the Camino-project[3], while the four others were contacted individually.

5.2.1. 3M

3M – Minnesota Mining and Manufacturing – currently comprises 10 major business areas involved in health care, transportation safety, construction and building maintenance, industrial appliances, office equipment, consumer products, commercial graphics, specialty chemicals, electronics and communication, as well as automotive components. Total sales in 1996 – on six continents – were 14.2 BUSD, and operating income was 2.5 BUSD. The head office is located in Minnesota, USA.

Table 5.7. 3M Business areas and main products.

Business Area	Main products
Health care	Skin health products, medical surgical supplies and devices, infection control, cardiovascular systems and health care information systems.
Transportation safety	Reflective sheeting.
Construction and building maintenance	Adhesives, fire-barrier materials, energy-control products, light-management systems, waterproofing coatings, floor mattings, clearing pads and systems, and roofing granules.
Industrial appliances	Abrasives, adhesives, coatings, sealants, ceramics, respirators, and pressure sensitive tapes.
Office equipment	Tape, overhead and electronic projectors, transparency films, ergonomic products, package-sealing tapes, and adhesives.
Consumer products	Tape, note pads, sandpaper, filters, sponges, scour pads.
Commercial graphics	Materials and systems for graphics.
Specialty chemicals	Fluorochemicals including protection for carpets, fabric, leather and paper, and fire-fighting foam.
Electronics, electrical and communications	Electronic connectors, electrical tapes, wire connectors, fiber optic, copper communication products, and anti-corrosion coatings.
Automotive	Products and systems for automobiles, trucks and motorcycles.

3M was selected on an individual basis. We interviewed 10 managers, all of whom worked with the European centers of excellence. The official management philosophy at 3M was characterized by extensive autonomy in the sense of encouraging and stimulating individual efforts to be innovative. The firm has a strong ambition of continuously improving and upgrading products and processes, and it awards employees that are particular innovative. At the same time, the sheer size of the firm and potential scale effects necessitate some centralization of decision-making. When we conducted our study, the firm had recently reorganized its European activities, and there were clear signs that managers were engaged in organizational maneuvering. The regional managers in particular were trying to centralize and control decision-making.

5.2.2. Skandia Industry

Skandia AB has three major business areas: direct property insurance, reinsurance, and life & unit linked insurance. Total gross written premium income in 1996 was 8,767 MUSD and its technical result was close to 350 MUSD. It had an average of 9408 employees. Skandia is a leading provider of insurance in the Nordic markets. Skandia Industry – our main focus – deals with business-to-business insurance.

Table 5.8. Sales and result in Skandia Industry.

Business Area	Main products	Gross written premium income (MUSD)			Technical result (MUSD)		
		1996	1997	1998	1996	1997	1998
Industrial insurance	• Property	60	60	60	12	10	12
	• Liability	20	18	16	1	1	-4
	• Marine Cargo	15	15	15	1.5	1.5	0
Total		95	93	91	14.5	12.5	8

Table 5.9. Skandia Industry's sales, operating income and employees by region

	Percent of Gross written Premium income			Percent of technical results			Employees		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
Sweden	60 %	60 %	60 %	55 %	55 %	70 %	180	180	180
Western Europe excluding Sweden	20 %	20 %	20 %	30 %	30 %	30 %	15	15	15
CIS and Eastern Europe	0.5 %	0.5 %	0.5 %						
North America	18 %	18 %	18 %	15 %	15 %		1	1	1
Latin and South America	0.25%	0.25%	0.25%						
Japan	0.25%	0.25%	0.25%						
South East Asia excluding Japan	0.5 %	0.5 %	0.5 %						
Australia and New Zealand	0.25%	0.25%	0.25%						
Africa	0 %	0 %	0 %						
Other markets	0.25%	0.25%	0.25%						
Total	100 %	100 %	100 %	100 %	100 %	100 %	196	196	196

Skandia Industry had majority-owned subsidiaries in seven countries in 1996 as well as in 1998. Their three most important global competitors are Zürich, Switzerland, Winterthur, Switzerland, and AIU, USA. Skandia was contacted through the Camino-project. We first met with a corporate lead contact who put us in touch with the appropriate managers in each of Skandia's three divisions: Skandia AFS, Skandia Re-insurance and Skandia Industry. The CEO in AFS declined to participate on the ground that they were busy managing their daily activities and did not have the time for studies of this magnitude and ambition. AFS sells unit-linked insurance schemes. Re-insurance agreed to participate, and we prepared to send our questionnaire. All respondents had been defined and the survey had been mailed when the

division was sold to another insurance firm, and our sponsor in Re-insurance was informed that he – and all others in the division – were not guaranteed to keep their positions. Understandably, we never received any replies from this division and decided not to pursue the potential respondents further. The third division – Skandia Industry – accepted the invitation to join and fully supported the study. Kenneth Sandén, CEO, generously helped us in this process and provided valuable support. Thanks to him we received responses from almost 100% of the subsidiary managers.

The management philosophy at Skandia Industry is highly informal because of the smallness of the firm in combination with specialized expertise of the subsidiary units. The firm has no centralized corporate ambition to control and manage the operative units in detail. At the same time, the small size of the firm allows for informal and frequent communication between managers.

5.2.3. Ericsson Mobile Phones and Terminals

When we pursued our study, Ericsson AB had three major business areas (BA's) and some minor ones as well. In 1996, the group's total sales were 18,531 MUSD and its operating profit[4] was 1,514 MUSD. It sold to over 120 countries and had an average of 93,949 employees in 1996.

Table 5.10. Ericsson's business areas and principal products.

Business Area	Main products	Sales 1996 (MUSD)
Infocom Systems	Activities related to non-mobile communication systems.	5,956.0
Mobile phones and terminals	Mobile phones and other end-user mobile phone products.	3,378.8
Mobile systems	Mobile telephone systems, radio systems, mobile data communication systems and paging systems.	8,657.9
Other areas	Microwave systems and cables.	1,962.3

Ericsson Mobile Phones and Terminals is active in consumer markets for mobile phones. Their products support various mobile-phone technologies such as NMT, ETACS, AMPS, GSM, DCS 1800, PCS 1900 as well as DAMPS. During the time of our study, the BA of Business Phones and Terminals was the global market leader in mobile phones. Among the firm's main competitors in the global market are Motorola (USA), Nokia (Finland), and

Siemens (Germany). The head office is located in Stockholm, Sweden, and the firm is active in more than 120 countries.

Table 5.11. Ericsson's overall sales by region 1996

	Percent of total sales
Sweden	6 %
Europe excluding Sweden	39 %
North America	13 %
Asia excluding the Middle East	23 %
Latin America	10 %
Other markets	9 %
Total	100 %

The first contact with Ericsson was with our lead contact – Per-Anders Pehrsson. We jointly decided that the business area of Mobile Phones and Terminals was an appropriate candidate for the study. We were then introduced to Lars Åkesson, who supported the study and gave us names and addresses of corporate as well as subsidiary managers that were to become the respondents.

The management philosophy at Ericsson is influenced by the size and geographical dispersion of its activities in combination with the high degree of change that characterizes the industry. The firm has the strong ambition of continuously improving and upgrading products and processes, and of integrating various activities that are both functionally and geographically dispersed. The sheer size of the firm and potential scale effects in addition to the short product life cycles necessitate centralized and co-ordinated decision-making. The rapid evolution of their industry, however, makes this integration difficult. The regional marketing managers, for instance, had problems in co-ordinating their marketing units with each other and with manufacturing activities.

5.2.4. Pharmacia & Upjohn

Pharmacia & Upjohn, Inc., comprises 14 business areas. In 1996 total sales were 7,176 MUSD, operating income was 677 MUSD, and there were on average 31,700 employees.

Table 5.12. Pharmacia & Upjohn's business areas and main products.

Business Area	Main products (and area of treatment)	Sales 1996 (MUSD)
Metabolic diseases	Genotropin (growth hormone disorders), Micronase/Glynase (diabetes mellitus)	766.2
Oncology	Pharmorubicin (various cancers)	629.6
Inflammation	Salazopyrin/Azulfidine (inflammatory diseases and rheumatism)	624.5
Infectious diseases	Cleocin (anaerobic and other infections, septicemia, acne)	587.4
Central nervous system diseases	Xanax (anxiety, panic disorder)	568.5
Women's health	Depo-Provera (injectable contraceptive, hormone replacement)	553.7
Nutrition	Intralipid (lipid emulsion)	381.1
Ophthalmology	Healon (aid in ophthalmology), Xalatan (glaucoma treatment)	294.9
Consumer health care	Rogaine/Regaine (hair loss), Nicorette (a range of smoking cessation products)	709.6
Pharmacia Biotech	ÄKTA-products (purifiers), Genephor (separating DNA-fragments)	438.6
Other prescription drugs		672.8
Veterinary medicine		413.4
Chemicals and contractual manufacturing		316.5
Diagnostics		219.2

Table 5.13. Pharmacia & Upjohn's overall sales by region 1996

	Percent of total sales
Europe	45 %
USA	32 %
Japan/Pacific	17%
Other markets	6 %
Total	*100 %*

The first contact with Pharmacia & Upjohn was with a lead contact – Jacques Vernet – who was working with Human Resource Management at the corporate level. We were given the name of the European marketing manager – Peter Ström – who helped us to set up and pursue the study in all regions where P&U operates. Peter Ström also helped us to call non-respondents, since the overall response rate in this firm was – and still is – the lowest (73 %). The firm is characterized by a multitude of mergers and acquisitions, and many subsidiary managers apparently were not very motivated to participate in the study.

The management philosophy at Pharmacia & Upjohn during the time of our study was highly influenced by the firm's historical evolution. The significant number of mergers that characterized the firm – in addition to a major restructuring of the global pharmaceutical industry – had resulted in a state of turmoil. Corporate management sought to centralize decision-making in order to create a homogeneous and integrated company, but the cultural and ideological conflicts within the firm made this ambition difficult to achieve. The practical consequences were a relatively large degree of operating flexibility for the subsidiaries in combination with tight financial restrictions and objectives All the changes and conflicts in the firm made knowledge management difficult.

5.2.5. Volvo Cars

Volvo Cars AB is a fully owned subsidiary of Volvo Car Holding AB which, in turn, is fully owned by Volvo AB. In 1996, the Volvo AB Group included the following business areas: Volvo Cars, Volvo Trucks, Volvo Buses, Volvo Construction Equipment, Volvo Penta and Volvo Aero.

Table 5.14. Business areas of Volvo Car corporation.

Business Area	Main products	Net sales (MUSD)			Operating income (MUSD)		
		1996	1997	1998	1996	1997	1998
1. VCEM	• S/V 40	1270	1917	2545	60	49	n.a.
	• S/V 70	2495	2488	2373	89	108	n.a.
	• S80	-	-	281	-	-	n.a.
2. VCNA	• S/V 40	2148	2447	2580	-39	110	n.a.
	• S/V 70	-	-	368	-	-	n.a.
3. VCJ	• S/V 40	-	32	108	-	-8	n.a.
	• S/V 70	508	417	239	97	51	n.a.
	• S80	-	-	21	-	-	n.a.
4. VCI	• S/V 40	29	144	156	-14	4	n.a.
	• S/V 70	591	231	194	-42	4	n.a.
	• S80	-	-	29	-	-	n.a.
5. VEA	• S/V 40	2.5	87	51	0.5	-6	n.a.
	• S/V 70	-	230	113	14	-13	n.a.
	• S80	-	-	18	-	-	n.a.

Volvo Cars develops, designs, manufactures, and markets Volvo automobiles. These include the 800 and 900 series in addition to Volvo S40/V40. Volvo has on average a market share of around 1 percent of the total market for automobiles in the markets where they are

represented. Their principal markets are the USA, Sweden, Great Britain, and Germany. The head office is located in Gothenburg, Sweden, and the firm is active in more than 25 countries and had 29,564 employees at the end of 1996. Their three most important global competitors are Audi, BMW, and Mercedes, all of Germany. Volvo Cars was acquired by Ford in 1999.

Table 5.15. Volvo Cars' sales by region.

	Percent of sales			Percent of operating income			Employees		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
Sweden	12 %	13 %	13 %	5 %	4 %	n.a.	19800	18900	19000
Western Europe excluding Sweden	45 %	47 %	47 %	76 %	54 %	n.a.	6600	6600	6400
CIS and Eastern Europe	1 %	1 %	1 %	0 %	0 %	n.a.	80	80	90
North America	26 %	25 %	28 %	-10 %	26 %	n.a.	1700	1100	1000
Latin and South America	1 %	1 %	1 %	2 %	3 %	n.a.	50	50	40
Japan	6 %	5 %	4 %	37 %	13 %	n.a.	400	400	350
South East Asia excluding Japan	4 %	3 %	2 %	0 %	-1 %	n.a.	640	370	320
Australia and New Zealand	1 %	1 %	1 %	0 %	1 %	n.a.	80	90	150
Africa	1 %	1 %	1 %	0 %	0 %	n.a.	0	0	0
Other markets	3 %	3 %	2 %	-10 %	0 %	n.a.	580	430	280
Total	100 %	100 %	100 %	100 %	100 %	n.a.	29930	28020	27630

Initially we met with two divisions of the Volvo corporation – Penta and Cars. Penta, which sells engines and other equipment in the marine industry, were initially interested in participating but finally declined to do so. They offered no specific reason for their decision not to participate. The Car division, however, agreed to participate in the study. Our lead contact – Jan Blennius – helped to put us in touch with several important managers. Once we were given the names of the respondents, we handled the mailing and collection of responses by ourselves.

The management philosophy at Volvo Cars was undergoing change during the period when we conducted our study. Traditionally, much of marketing had been done locally – often at the initiative of more or less independent local dealerships – but the trend was changing. Significant efforts were made to centralize and globalize marketing campaigns and to co-ordinate geographically dispersed marketing efforts. The ambition was to standardize marketing efforts and to gain economies of scale. The operative subsidiaries were therefore becoming less independent.

5.2.6. Sandvik AB

Sandvik AB contains six major business areas, a majority-owned (61 %) but independent corporation called Seco Tools, three regional market companies, and a number of minor service corporations. In 1996, Sandvik's total sales were 4,215 MUSD, and its operating profit after financial items was 664 MUSD. It had on average 30,362 employees in 1996.

Table 5.16. Business areas in the Sandvik group.

Business Area	Main products	Sales 1996 (MUSD)	Operating income before financial items 1996 (MUSD)	Employees
Tooling[5]	Cutting tools and tools administration systems.	1373.5 of which: Coromant 1,041.5 CTT Tools 323.6	302.9	10,862
Rock Tools	Hard-metal tools for mining, construction and well-drilling.	298.7	32.8	1,876
Hard Materials	Hard-metal drills, diamond-based drills, ceramics	180.3	19.8	1,423
Steel	Steel pipes, tubes, thread, etc.	1,339.1	179.4	7,660
Saws and Tools	Hand saws and saw blades.	375.3	24.0	2,883
Process Systems	Systems for item sorting and process systems for the chemical and agricultural industries.	273.8	-3.6	1,125

Table 5.17. Sandvik's overall sales by region 1996

	Percent of total sales
Sweden	7 %
EU excluding Sweden	45 %
Rest of Europé	5 %
NAFTA	21 %
South America	5 %
Africa and Middle East	2 %
Asia and Australia	15 %
Total	*100 %*

5.2.6.1. Sandvik Steel

Sandvik Steel is a fully owned subsidiary of Sandvik AB and is a supplier of seamless tubes, steel thread and bars, welded tubes, steel band, and stainless steel. Sandvik Steel is among the global market leaders in niches for seamless steel products. Their principal markets are Western Europe, Sweden, and North America. Sandvik Steel's most important competitors in the global market for seamless tubes are Sumitomo Metals, Japan, Dalmine-Mannesmann-

Vallourec, France/Germany/Italy, and Tubacex, Spain. Its main global competitors in steel thread and bars are Ugine, Hitachi Metals, Daido, and Böhler-Uddeholm. The head office is located in Sandviken, Sweden, and the firm had 7,660 employees at the end of 1996. The total number of countries in which Steel had majority-owned subsidiaries was 43 in 1996 and 47 in 1998. The operating income in 1996 was 204 MUSD. We initially had contact with the CEO of the Sandvik Corporation – Claes-Åke Hedström. He then referred us to Per Wilhelmsson, who supplied us with addresses and helped us to adapt the questionnaire to Steel´s business area and organizational structure.

Table 5.18. Sandvik steel.

Main products	Sales (MUSD)		
	1996	1997	1998
Seamless tubes and pipes	472	439	419
Stainless bar	185	195	183
Complementary products	97	71	68
Total	*1,599*	*1,551*	*n.a.*

Table 5.19. Sales, operating income and employees by region for Sandvik Steel.

	Percent of Sales		
	1996	1997	1998
Sweden	18 %	19 %	17 %
Western Europe excluding Sweden	42 %	39 %	44 %
CIS and Eastern Europe	2 %	3 %	4 %
North America	18 %	20 %	20 %
Latin and South America	4 %	4 %	3 %
Japan	3 %	2 %	2 %
South East Asia excluding Japan	6 %	6 %	3 %
Australia and New Zealand	5 %	5 %	5 %
Africa	1 %	1 %	1 %
Other markets	1 %	1 %	1 %
Total	100 %	100 %	100 %

The management philosophy of Sandvik Steel is influenced by the practical circumstances of their operations. The firm seeks to centralize important decisions and to co-ordinate activities not only between product areas but also with other divisions in the Sandvik conglomerate. The size of the activities and the relatively diverse product offerings of Sandvik Steel have hampered this effort, however. At the same time, corporate management would like to stimulate decentralized initiatives. There is encouragement and recognition of innovative behavior from operative units that leads to product and/or process improvements. In addition, a large share of Swedish expatriate managers in combination with industry stability has favored informal and shared decision-making among subsidiaries and corporate headquarters. All in all, the approach is somewhat organic.

5.2.6.2. Sandvik Coromant

Sandvik Coromant is a fully owned subsidiary of Sandvik AB, and is active in markets for hard-metal tools and tool systems for cutting tools. Coromant plays a major role in global tools markets as one of ten major companies. Their largest markets are located in North America and Western Europe. Sandvik Coromant's most important competitors in global markets include Kennametal and Valenite, USA, and Toshiba, Mitsubishisi and Sumitomo, Japan. Iscar, Israel, and Seco Tools, Sweden, are also strong competitors. The head office is located in Sandviken, Sweden, and the firm had 7,918 employees at the end of 1996. As with Steel, we initially contacted the CEO of the Sandvik Corporation, who referred us to Anders Wallin, corporate marketing manager. Wallin furnished addresses and helped us to adapt the questionnaire to Coromant´s business area and organizational structure. He also gave strong and valuable support to our study.

Table 5.20. Sandvik Tooling.

Main products	Sales (MUSD)			Operating income (MUSD)		
	1996	1997	1998	1996	1997	1998
Cemented carbide tools for metalworking. High-speed tools for metal working.	1,335	1,420	n.a.	304	275	n.a.

Table 5.21. Sandvik Tooling. Sales, operating income, and employees by region.

	Percent of sales			Percent of operating income			Employees		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
Sweden	4 %	3 %	3 %	46 %	38 %	38 %	2,330	2,402	2,414
Western Europe excluding Sweden	53 %	49 %	53 %	38 %	39 %	42 %	2,396	2,401	2,400
CIS and Eastern Europe	2 %	3 %	4 %	-4 %	-4 %	-1 %	660	714	638
North America	19 %	23 %	24 %	15 %	20 %	20 %	263	981	266
Latin and South America	4 %	5 %	4 %	0 %	2 %	1 %	264	260	257
Japan	7 %	7 %	5 %	1 %	2 %	0 %	272	280	280
South East Asia excluding Japan	7 %	6 %	4 %	3 %	1 %	-1 %	879	864	768
Australia and New Zealand	2 %	2 %	1 %	1 %	0 %	0 %	85	81	73
Africa	0 %	0 %	1 %	0 %	0 %	0 %	30	30	30
Other markets	2 %	2 %	1 %	0 %	2 %	1 %	39	37	35
Total	100 %	100 %	100 %	100 %	100 %	100 %	7,918	8,050	7,861

The management philosophy of Sandvik Coromant is characterized by the focused product offerings of their operations. Decision-making is centralized and activities co-ordinated not only between product areas but also with other divisions in the Sandvik conglomerate. The

size of the activities and the focused product offerings of Sandvik Coromant and Steel have permitted co-operation between the two divisions. Also, the relative large share of Swedish expatriate managers who have worked a long time in the firm has contributed to an informal atmosphere among subsidiaries and between subsidiaries and corporate headquarters.

5.2.7. Alfa Laval Agri

Tetra Laval AB has three major business areas: Tetra Pak, Alfa Laval, and Alfa Laval Agri. Total sales for 1996 were 10,275 MUSD. Alfa Laval Agri is a fully owned subsidiary of Tetra Laval AB. Agri is active in milk-production systems, farm supply and services, and other related areas. They provide products, systems, and/or services for milking automation and management, milk transportation, cooling, cow handling and feeding, manure handling, and purchasing and logistics support. Alfa Laval Agri is a global market leader for their industry. Their principal markets are Scandinavia and Western Europe, and North America. The head office is located in Stockholm, Sweden, and the firm had approximately 4,100 employees at the end of 1996. Agri had majority-owned subsidiaries in 30 countries in both 1996 and 1998. Their three most important global competitors are Westfalia of Germany, Lely of the Netherlands, Bowmatic of the USA.

Table 5.22. Alfa Laval Agri's sales by region in 1996

	Percent of total sales
Scandinavia and Western Europe	69 %
Eastern Europe and European Russia	4%
North America	16 %
Oceania	5 %
Other markets	6 %
Total	100 %

The first contact was with the CEO of Alfa Laval Agri – Staffan Bohman – who became interested in our study. After hearing our presentation of the project, he immediately agreed to co-operate and to support our study. He provided valuable help in adapting the questionnaire to the organization, appointing respondents, and supporting the study. The management philosophy of Alfa Laval Agri is characterized by the firm's stable history, strong global position, and industrial environment. The firm has long been one of the most influential in the industry. The firm's powerful position, combined with economies of scale, has led to

centralized and formalized decision-making. Moreover, the stability of the industry has rewarded this approach and enabled Agri to be globally competitive for a long time. The management philosophy is characterized by formal measures of subsidiary success, high transparency of subsidiary activities in combination with formal recognition of subsidiaries that perform extraordinarily well.

5.3. Methodological discussion

This section is devoted to the methodological features of our study. We will discuss, first, research model and how constructs were operationalized, and, second, the units of analysis and the types of conclusions that can be drawn. In our opinion, it is important to discuss units of analysis in detail. The reason is because even though we are studying individual perceptions of capabilities, we want to draw conclusions for knowledge management in the MNE. We end the section by discussing reliability, validity and generalizability.

5.3.1. The research models

5.3.1.1. The multiple-regression analysis

The statistical method that we use for both models is the multiple-regression model. The basic model is specified as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + \epsilon$$

In this model, Y represents the dependent variable, α the intercept, β the regression coefficients, and X the independent variables. The independent variables – the β's – represent the change in Y associated with a one-unit change in X. The partial relationship between each X and Y is assumed to be linear. The estimates of the intercept and the regression coefficients are obtained using the ordinary least square method which produces the best linear unbiased estimators (Chou, 1975). The assumptions in a linear regression analysis – such as the multiple regression analysis – are shown in Table 5.23. (see Menard, 1995[6]).

Table 5.23. Assumptions in the multiple-regression analysis.

Measurement. All independent variables are intervals, ratios, or dichotomous. The dependent variable is continuous, unbounded, and measured on an interval or ratio scale. All variables are measured without error.
Specification. All relevant predictors and no irrelevant predictors are included in the model. The form of relationship is linear.
Expected value of error. The expected value of the error term, ϵ, is zero.
Homoscedasticity. The variance of the error term, ϵ, is constant for all values of the independent variables.
Normality of errors. The errors are normally distributed for each set of values of the independent variables.
No autocorrelation. There is no correlation between the error terms produced by different values of the independent variables [$E(\epsilon_i, \epsilon_j) = 0$].
No correlation between the error terms and the independent variables [$E(\epsilon_i, X_i) = 0$].
Absence of perfect multicollinearity. No independent variable is a perfect linear combination of the other independent variables, or, in other words, there is no multicollinearity.

Since the linear regression model is additive in its nature, we are in fact testing whether our main variables add explanatory power to the regression model. In the case of perception gaps, for instance, we test whether the selective interpretation variable adds explanatory power to the significance of perception gaps. And in the case of capability transfers, we test whether managerial evaluations – as indicated by the self- and corporate evaluations of marketing capabilities – add explanatory power to the frequency of outward transfers of marketing capabilities. Thus, these considerations are reasons for using the multiple linear regression model.

5.3.1.2. Our perception-gap model

As discussed in Chapter 4, one of our main objectives is to explain the existence of perception gaps. Our model is intended to explore whether the perception gaps are due to lack of information, lack of attention, or asymmetric interpretations of information. In a sense, these three explanatory factors are indicators of rationality in the evaluation of capabilities by corporate managers. If lack of information explains the perception gaps, this situation can be resolved through information management, i.e. the use of IT/IS systems. If the perception gaps are caused by lack of attention, the solution may be to hire additional corporate staff or simply to create an awareness of the biased attention. If asymmetric interpretations have caused the perception gaps, there may be no easy solution, but the situation is likely to benefit from increased socialization. Thus, each of the variables – starting with information and ending with interpretation – represents stages in an increasing level of subjective evaluation by corporate and/or subsidiary managers.

The dependent variable in the model is based on the difference between evaluations of a subsidiary's marketing capability by its own management ("self-evaluations") and by corporate management. The construct is based on self-evaluations minus corporate evaluations on a relative seven-point Likert scale, i.e. the scale asked respondents to rate each unit's capability in relation to all other units in the firm. The dependent variable was created in two steps. First, each of the self-evaluations and the corporate evaluations were standardized at the individual level so biases in terms of very high or low average values were accounted for. Second, the two evaluations were compared to one another. The perception

gap was calculated by subtracting the standardized corporate evaluation from the standardized self-evaluation. If the resulting value was above 0, the subsidiary manager evaluated the subsidiary as being more capable than what corporate management thought. The more positive the value is, the more confident is the subsidiary manager as compared to the corporate. If the resulting value was below 0, the corporate manager evaluated the subsidiary as being more capable than what subsidiary management thought. The more negative the value is, the less confident is the subsidiary manager as compared to the corporate. If the resulting value was equal to 0, the subsidiary and corporate managers had identical opinions on the subsidiary's capability. This measure is consequently a continuous scale.

The constructs in our model for analyzing the explanations for perception gaps are shown in the following table:

Table 5.24. The constructs in the model for testing perception gaps.

	Constructs	Items	Cronbach alpha
Control	Awareness of how much the corporate manager knows about the unit	1	-
Access to information	Communication between subsidiary and corporate management	2	0.7639
	Use of IT as a communicative tool	2	0.9419
Attention to the unit by corporate management	Strategic importance of market	2	0.6439
	Financial performance of subsidiary	6	0.7922
Symmetric interpretation of information	Dummy indicating whether or not the subsidiary respondent is Swedish	1	-
	Cultural distance to Sweden	1	-
	Degree to which the subsidiary manager approves of the corporate actions taken in knowledge management	3	0.7363

The constructs used in the model were derived by using items that has been tested and proved successful in previous research. Thereafter, we standardized each item and tested construct reliability by grouping items aimed at capturing the same phenomenon. The reliability scores, i.e. Cronbach alphas, are shown in Table 5.24. Last, we aggregated the items that showed high internal consistency and formed the final constructs. The constructs are explained in more detail below.

The dependent variable

Capability perception gaps are related to differences - or perception gaps – in evaluations of the subsidiaries' market orientation by subsidiary and corporate managers. In order to obtain a variable that measures the differences in the evaluations, we constructed a new variable based on self-evaluations [alpha = 0.7391] subtracted by the corporate evaluation [alpha = 0.9391].

The independent variables

a) Access to information

Hierarchical communication frequency [zwcohq]. On a simple frequency scale where 1 = daily and 7 = yearly or even less frequently (see Ghoshal, 1986; Nobel & Birkinshaw, 1998), respondents were asked to indicate how often they communicated with corporate managers face-to-face and by other means, i.e. not face-to-face, to discuss operations. The two questions yielded a single scale with good reliability (Alpha = 0.7639). We reverse-coded the communication items so that a higher number is associated with more frequent communication rather than vice versa.

Information technology [zwit]. On a scale where 1 = I strongly disagree and 7 = I strongly agree, respondents were asked to indicate the degree to which information technology had helped them to learn about, understand, and transfer capabilities between subsidiaries. The two questions yielded a single scale with high reliability (Alpha = 0.9419).

b) Attention to information

Market importance [zwmrkimp]. We based this construct on Ghoshal's (1986) scales for the strategic importance and competitive intensity of the markets in which each subsidiary operates. On this two-item scale respondents were requested to: (a) indicate the strategic importance of each market, (b) indicate the local presence of their most critical global competitors in each market. The reliability was good (Alpha = 0.6439).

Financial performance [zwperfo]. On this three-item scale subsidiary and corporate respondents were simply asked to rate the units' relative financial performance in three dimensions: overall sales revenue, overall market share, and operating profit. While these are all different types of financial performance measures, they correlated quite strongly with one another. We consequently aggregated them in a single measure. Moreover, the responses by subsidiary and corporate managers proved homogeneous, and it was possible to design a reliable scale based on all three dimensions and both sets of responses (Alpha = 0.7922).

c) Interpretation of information

Subsidiary manager – a Swede or not [Swededum]. To indicate whether or not the subsidiary manager was of Swedish origin, we created a dummy variable that was given the value of 1 if the manager was Swedish, and 0 if he/she was not.

Cultural Distance [cultdist]. We used Kogut & Singh's (1988) measure, which estimates the Euclidean distance from the subsidiary country to the HQ country, i.e. Sweden, using Hofstede's (1991) four dimensions of national culture.

Degree to which the subsidiary manager approves of the firm's knowledge-management system [zwkmagre]. This scale, which was created explicitly for the current study, sought to measure the extent to which the subsidiary agreed with corporate management on how the corporate knowledge management system should work. Respondents were asked their opinion on three statements: (a) we thoroughly adhere to the advice we receive from HQ management on how to manage our strengths and weaknesses, (b) we and HQ management have similar views on key success factors, (c) HQ management is always able to help us to find and adopt a new practice. Reliability for the scale was high (Alpha = 0.7363).

d) Controls

The corporate manager's awareness of the subsidiary's capabilities [insight]. This one-item variable simply shows corporate managers' responses to the statement: "the capabilities of <subsidiary x> are well understood by us". The responses were given on a scale where 1 = I strongly disagree, and 7 = I strongly agree.

Dummy variables were provided for each of the companies in the study [Skandia, Sandvik Steel, Sandvik Coromant, Ericsson, Volvo, Pharmacia & Upjohn and Alfa Laval Agri]. This variable is used to isolate potential firm or industry effects that may affect our sample.

5.3.1.3. Our transfer model

As discussed in Chapter 2, previous research on transfers of knowledge and capabilities has found the following:

- Absorptive capacity, causal ambiguity, arduous relationship between the source and the recipient are the key factors influencing transfer (Szulanski, 1995; 1996).
- Internalization of meaning is critical to success in transfer (Kostova, 1996; Kostova & Cummings, 1997).
- Nature of technology and competition are factors that strongly affect dissemination (Zander, 1991).

We will include the variables previous studies have found to be important for transfers. Our main question, however, is whether the evaluations of capabilities by corporate and subsidiary managers can explain the selection of transfer sources. In other words, do the majority of capability outflows come from high-achieving subsidiaries? The focus on outward flows means that we will not include variables related to the ability to learn. Variables such as the recipient's absorptive capacity, the arduousness of the relationship between the source and the recipient, and the importance of internalization will not be included in the outward-transfer model. The constructs in the transfer model we test are the following:

Table 5.25. The constructs in the model for testing how evaluations of capabilities affect transfers.

	Constructs	Items	Cronbach alpha
Connectedness with rest of firm	Communication with other units	4	0.7264
	Degree of centralized decision-making	5	0.6341
Stickiness of capabilities	Observability of capabilities	2	0.6527
	Codifiability of capabilities	4	0.6418
Local market	Strategic importance of market	2	0.6439
Characteristics of subsidiary	Financial performance	6	0.7922
	Marketing experience of the unit's CEO/Marketing manager	1	-
Perceptions of capabilities	Evaluation by corporate managers	3	0.9391
	Self-evaluation	3	0.7391
	Hierarchical perception gap	1	-

The constructs used in the model were derived by using items tested and proven successful in previous research. Thereafter, we standardized each item and tested construct reliability by grouping items intended to capture the same phenomenon. The reliability scores, i.e. Cronbach alphas, are shown in Table 5.25. Last, we aggregated the items that showed high internal consistency and formed the constructs shown in the table above. These constructs are explained in more detail below.

The dependent variable

Outward transfers of knowledge [zwoutw]. Our measure of outward knowledge transfers consists of two items. These are frequency of outward transfer of (a) best practices to corporate management, and, (b) best practices to sister units. The reliability was high (alpha = 0.7791).

The independent variables

a) Connectedness with rest of firm

Communication frequency [zwcomm]. On a simple frequency scale where 1 = daily and 7 = yearly or less (see Ghoshal, 1986; Nobel & Birkinshaw, 1998), respondents were asked to indicate often how they communicated with corporate managers and managers in other subsidiaries face-to-face and by other means, i.e. not face-to-face, to discuss operations. The four questions yielded a single scale with good reliability (Alpha = 0.7264). We reverse-coded the communication items so that a higher number is associated with more frequent communication rather than vice versa.

Decision-making decentralization [zwdecmak]. The basic purpose of this measure was to assess the independence of each subsidiary in terms of decision-making. The respondents were asked to judge their independence in decision-making on two generic issues – (b) introducing new products, (c) setting prices – and three firm-specific issues. The five-item scale showed moderate reliability (Alpha = 0.6341).

b) Stickiness of capabilities

Observability of knowledge [zwknow2]. Zander's (1991) scale was used, though only two items were used in our construct: (a) it is easy for local companies to understand how we perform our activities, (b) large parts of our products and services are embodied in methodologies that are easily adapted by other <firm> local companies. The reliability for these two items was moderate (Alpha = 0.6527).

Codifiability of knowledge [zwknow4]. We based this construct on Zander's (1991) scale which was also used by Nobel & Birkinshaw (1998). The scale was slightly adapted to reflect our focus on marketing, and the factor analysis provided us with a slightly different construct. Respondents expressed their views on four statements about their knowledge base. These were: (a) a manual describing how our activities are executed could be written, (b) new staff can easily learn how to perform the services that our local company offers by talking to skilled employees, (c) training new personnel is typically a quick and easy job for us, (d) new personnel with a university education can perform the services that our local company offers. The reliability for these four items was moderate (Alpha = 0.6418).

c) Strategic importance of the local market

Market importance [zwmrkimp]. We based this construct on Ghoshal's (1986) scales for the strategic importance and the competitive intensity of the markets in which each subsidiary operates. On this two-item scale respondents were asked to: (a) assess the strategic importance of each market, (b) assess the local presence of their most critical global competitors in each market. The reliability was moderate (Alpha = 0.6439).

d) Subsidiary characteristics

Financial performance [zwperfo]. On this three-item scale subsidiary and corporate respondents were asked to rate the unit's relative financial performance in three dimensions: overall sales revenue, overall market share, and operating profit. While these are all very different measures of performance, they correlated quite strongly with one another. We therefore aggregated them in a single measure. Moreover, the responses by subsidiary and corporate managers proved very homogeneous and it was possible to form a scale based on all three dimensions and both sets of responses. The reliability was high (Alpha = 0.7922).

Top manager's S&M experience [expfun3]. This variable indicates the overall number of years the subsidiary respondent has worked in sales and marketing.

e) Perceptions of capabilities

Corporate-management evaluations of abilities [zwmocorp]. This construct is based on corporate respondents' evaluations of each subsidiary's market orientation, i.e. the units' ability to collect, share, analyze and act upon market information. The three-item reliability is very high (Alpha = 0.9391).

Self-evaluated abilities [zwmoself]. This construct is based on subsidiary respondents' evaluations of their unit's market orientation, i.e. their unit's ability to collect, share, analyze and act upon market information. The three-item reliability is high (Alpha = 0.7391).

Capability-perception gaps [zwmogap] are related to differences - or perception gaps – in evaluations of the subsidiaries' market orientation by subsidiary and corporate managers. In order to obtain a variable measuring the differences in the evaluations, we constructed a new variable based on self-evaluations [alpha = 0.7391] subtracted by the corporate evaluation [alpha = 0.9391].

f) Controls

Dummy variables were used for each of the companies in the study [Skandia, Sandvik Steel, Sandvik Coromant, Ericsson, Volvo, Pharmacia & Upjohn and Alfa Laval Agri]. This variable isolates firm or industry effects that may affect our sample.

Table 5.26. Reliability (Cronbach alpha) for all constructs used in both analyses.

Constructs (n = 176)	Name2	Construct name	Cronbach alpha	Additional constructs
Subsidiary evaluations - MO 1	Relmocol	Zwmoself	0.7391	
Subsidiary evaluations - MO 2	Relmodis			
Subsidiary evaluations - MO 3	Relanact			
Corporate evaluations - MO 1	Crpmocol	Zwmocorp	0.9391	
Corporate evaluations - MO 2	Crpmodis			
Corporate evaluations - MO 3	Crpmoana			
Hierarchical face-to-face communication	Cofahq	Zwcohq	0.7639	Zwcomm 0.7264
Hierarchical non-face-to-face comm.	Codihq			
Horizontal face-to-face communication	Cofasu	Zwcosubs	0.7597	
Horizontal non-face-to-face comm.	Codisu			
IT 1	Itlearn	Zwit	0.9419	
IT 2	Ittrans			
Centralized decision-making 2	decmakb	Zwdecmak	0.6341	
Centralized decision-making 3	decmakc			
Centralized decision-making 4	decmak1			
Centralized decision-making 5	decmak2			
Centralized decision-making 7	decmak4			
Subsidiary evaluations – Sales	salesse	Zwperfo	0.7922	
Subsidiary evaluations – Operating results	resuse			
Subsidiary evaluations – Market share	mashse			
Corporate evaluations – Sales	salescr			
Corporate evaluations – Operating results	resucr			
Corporate evaluations – Market share	mashcr			
Presence of global competitors in market	compprs	Zwmrkimp	0.6439	
Strategic importance of local market	mrkimp			
Observability by other units 1	knw7	Zwknow2	0.6527	
Observability by other units 2	knw8			
Codifiability of skills 1	knw2	Zwknow4	0.6418	
Codifiability of skills 2	knw3			
Codifiability of skills 3	knw4			
Codifiability of skills 4	knw5			
Happiness with the corporate KM system 1	knowsy1	Zwkmagre	0.7363	
Happiness with the corporate KM system 2	knowsy3			
Happiness with the corporate KM system 3	knowsy4			
Corporate manager's understanding of subsidiary capabilities	inscrp	Zwinsi		
Outward transfer of best practices to hq	outbphq	Zwoutbep	0.7791	
Outward transfer of best practices to subs.	outbpsu			
Market-orientation score	(21 items)	Zwmoscor	0.8091	

5.3.2. Units of analysis in a study of individually held perceptions

One of the main subjects of interest in this study concerns how a manager evaluates capabilities. Methodologically, this approach is also related to a discussion of which unit of analysis we are focusing on. If each person in a firm has more or less independent perceptions of how to define, measure and value different capabilities, we expect large differences among personal views on the capability of a specific subsidiary. These differences, in turn, will most likely lead to different views on the ideal transfer pattern. Thus, if views are highly individual, we should base our analysis on data collected at the individual level. On the other hand, if individuals' perceptions are coherent within the organization or within the subsidiary, we can infer that the data captures organizational characteristics. We must consequently discuss which unit of analysis is appropriate for our different research questions (see Table 5.27.).

Table 5.27. Examples of levels and echelons (Rousseau, 1985).

Analytical issue	Echelons at each level	Levels of measurement[7]	Levels of analysis[8]	Focal unit[9]
Evaluations of each subsidiary's marketing capability	Subsidiary manager Corporate manager	Individual	Subsidiary	Subsidiary
Perception gaps	Subsidiary manager Corporate manager	Individual	Subsidiary	Subsidiary Firm
Subsidiary's transfer frequency	Subsidiary manager	Individual	Subsidiary	Subsidiary Firm

Table 5.27. outlines the different units of analysis on which we base our analysis and suggests how we should treat the data. The dangers of incorrect use and interpretation of data from different levels include misspecification, aggregation biases, and aggregation and contextual fallacies (Rousseau, 1985).

Misspecification is a basic problem that occurs when an observed relationship is attributed to a level other than the actual behavioral or responsive unit. For instance, if we assign an attribute to the subsidiary on the basis of the marketing managers' responses, there is a risk of misspecification, also known as "fallacy of the wrong level". It is necessary to establish specific-level construct validity if misspecification is to be avoided. Leading contributors to the discussion on how to avoid misspecification are Johannesson (1973), Guion (1973), and James (1982). The question is whether aggregation, i.e. combining information from one

level to represent attributes of a higher level unit, adds meaning to individual-level data. The answer is affirmative when the aggregated data meet such criteria as homogeneity of within-group variance (Drexler, 1977) or inter-rater agreement (James, 1982). Aggregation can also add value if unsystematic or random biases at the individual level are averaged out against each other. On the other hand, it will not add value if the biases are systematic, e.g. if subsidiary managers consistently over- or underestimate the capabilities of their subsidiaries. Aggregation bias is found when an apparent relationship between any two variables is an artifact of the data combination method. This is often called spuriousness and can be addressed statistically (see Hammond, 1973). The discussion of potential biases in data interpretation leads us to issues concerning the relationship between different levels and/or groups of data. Is it possible to extrapolate from aggregated data back to individual responses from which the data originally was derived? There are possible fallacies in the use of mixed-level data; the two most important are cross-level and contextual fallacies. Cross-level fallacies are fallacies in attributing characteristics of one level to another level. E.g. if the corporate marketing manager says that the firm's most important markets are USA and Finland, there is the risk of a cross-level fallacy. If the statement does not reflect the general opinion of the organization, we have committed a cross-level fallacy if we assume that it does. Cross-level fallacies are quite closely related to misspecification.

Contextual fallacies are fallacies in comparing characteristics of one group with another group – at the same level – when the groups in themselves have different characteristics. E.g. if an American, who is very confident in himself, says that his capability is 5 on a 1-7 scale and a Swede, who lacks self-confidence, says that his capability is 4 on the same scale, who is then actually best on an objective scale? There may thus be a contextual fallacy in assuming that the American is better than the Swede. The Swede's rating system or reference points may be different from the American's.

Contextual fallacies thus refer to biases related to the particular environment in which each respondent works. Another term for environment as used in this sense is "climate", which is a description of a pattern of characteristics connected to a specific level of analysis. A psychological climate can be described as how an employee feels about the incentive system or work ethic, and it is usually associated with an individual. The combined effect of all employees' inter-dependent psychological climates may constitute the organizational climate,

which then would be connected to the organizational level. If these two types of climates, i.e. psychological and organizational, are the same, one may argue that they represent the same construct (James, 1982). Measures of one of them may then be used to represent the other. This situation is present when there is perceptual agreement[10] (James, 1982) between the two constructs, which often is assumed to be a cause of isomorphism between the levels (Rousseau, 1985). On the other hand, when there is no perceptual agreement between the two constructs, one should be careful with cross-level models. In practical terms, one can use a factor analysis to test whether there is perceptual agreement between any two constructs. The main way to overcome contextual fallacies is to standardize the responses before the statistical analysis is made.

Is important to note, however, that we in fact want to test whether any contextual fallacies are present. Our study is concerned with contextual differences, i.e. differences in opinions that arise because respondents act and live in different contexts. We are therefore not interested in eliminating differences caused by the contexts in which different managers operate. On the contrary, our study seeks to analyze how contextual fallacies may result in different views on the capability of a subsidiary. However, in order to make sure there are no personal-response biases, we will still standardize responses at the individual level. Our purpose is to avoid common-method bias, i.e. the risk that single respondents may report individually biased responses, but we want to study contextual fallacies, i.e. that responses from subsidiaries and corporate head offices differ because of the different contexts in which they are operating.

In view of the preceding discussion, we will treat our data as follows:

1. The ideal is to design models so that for any given number of N individuals, the number of units (J) will be maximized. If J/N is low, variability in unit characteristics will be low and perhaps insufficient for testing hypotheses on relationships between unit characteristics or between unit- and individual-level variables (Rousseau, 1985). Consequently, we should include as many subsidiaries, i.e. units, as possible. In practice, however, the number of subsidiaries included were dependent on firm size, corporate managers' initial selection and respondents' willingness to reply.

2. To avoid the common-method bias, we use multiple respondents representing the same unit of analysis. The respondents are divided into two groups. One group is used to collect data on, for instance, MO score, while the other is used to collect data on, for instance, MO relative rating as compared to the firm's other subsidiaries. Thus, when individual level data is aggregated to the unit level (e.g. subsidiary or firm) to measure characteristics of the unit, we establish the extent to which unit members agree on their descriptions of the unit prior to aggregation. We measure within-unit consensus based on correlation ratios and indices of inter-rater agreement. We then use the units with multiple respondents to test how the subsidiary answers relate to each other, and how the corporate responses relate to each other.

3. When possible, global data is used instead of aggregated individual data. The reason is that levels of analysis are made consistent with the level of the focal unit, which generally is the dependent variable. Thus, establishing the appropriate level of the dependent variables is critical to multi-level research design. When dependent variables are at the individual level and independent at the global level, and correlation analysis is conducted, all individuals in the same unit should be assigned the same global score for any global variable (see Rousseau, 1978). Moreover, correlation should be computed at the individual level. This procedure allows effects of unit characteristics on lower level responses to be assessed at the levels where those effects are hypothesized to occur. Thus, any global variables – such as strategy, firm dummies, firm size, etc. – must be the same for all individuals in the firm. More specifically, we use dummy variables to isolate these effects.

We have used the reasoning above as a basis for the design of the study and the analysis of data. First, we have maximized the number of units in the sample by polling as many marketing units as possible in each firm. The restrictions on collecting data from many response units were most often set by our lead contact, the main reason being that he did not want to include small and/or new units. All in all, we have collected data from 223 subsidiary respondents in 176 units. There are also 22 corporate respondents from the seven divisions/firms.

Second, in order to avoid common-method bias, we sought to have multiple respondents in as many units as possible; however, we succeeded at only 36 of the 176 units. These 36 units could be used to test whether intra-unit variance is greater or less than inter-unit variance and consequently to assess common-method bias. The tests to assess the risk of cross-level fallacies include, first, inter-rater correlation, second, inter-rater reliability, and third, intra-group variance as contrasted to inter-group variance.

Moreover, to compare corporate and subsidiary responses correctly, we used rank correlation based on standardized items. The measure that best captures similarities in relative ratings of units' competence by two different observers has been argued to be pair-wise correlation (Jones et al, 1968). Their study compared different measures of inter-rater agreement including, for instance, average pair-wise correlation, Spearman-Brown corrected reliability coefficients, and percent disagreement. The use of pair-wise correlation is based on the fundamental assumption that the seven-point Likert scale is a continuum of scores and does not provide discrete, categorical data (for a discussion see Ruist, 1993). Accordingly, a frequency-distribution table will be used to assess inter-rater agreement (Jones et al, 1968).

The dependent variable related to the perception of the units' skills, which we have argued to be subjective components, does not involve a problem with common-method bias. Of course, one way to test our idea of perception gaps would be to calculate inter-rater reliability in subsidiary and corporate units respectively and to see where the major similarities and differences occurred. For the other main variable – outward-transfer frequency – we would have liked to have more units with multiple respondents in order to make sure there is not common-method bias. The major restrictions on obtaining multiple respondents were often of a practical nature. The units were sometimes very small, with only one manager who could answer our questions. In some cases, our lead contact said some units were very busy with their day-to-day activities and we could not access more than one person. Although, we must emphasize that the firms in fact were very helpful.

Third, we have collected data at a global level through use of official data and information as well as internal documents, including data from annual reports, web sites, newspapers, and other statistical sources. All in all, we believe we have followed the recommendations by Rosseau (1985).

Our research model involves individuals – corporate and subsidiary managers – marketing departments of subsidiaries, and multinational enterprises. While our conclusions could potentially relate to any of these three levels, our focus is on the MNE. Table 5.28. outlines potential methodological risks in drawing conclusions for the MNE based on data collected on the individual level, and the recommended measures that we have taken to control such potential data biases.

Table 5.28. Our dependent variables and the corresponding levels of analysis and measurement.

Focal variable	Level of analysis	Level of measurement	Methodological risk	Control measure taken
A. Corporate and self-evaluations of marketing capabilities. B. Perception gaps[11].	Subsidiary and firm	Individual	1. Cross-level fallacy. 2. Contextual fallacy.	1. Inter-rater reliability analysis. 2. Comparative factor analysis and standardization of response data.
C. Best-practice transfer frequency	Subsidiary and firm	Individual	Cross-level fallacy	Inter-rater reliability analysis.

Hence, if we assume each respondent is providing a subjective assessment of the different units as well as subjective perceptions of the other variables, we will avoid the risk of committing a cross-level fallacy, i.e. a misspecification error. While this danger would exist if we assumed the lead respondent was providing input regarding the unit and the corporation, we do not risk cross-level fallacies regarding the evaluations of capabilities, since we use these measures as individual, person-specific data. The data regarding transfers, however, involve such a risk, which we will control in the analysis.

5.3.3. Conclusions regarding reliability (i.e. construct validity), validity and generalizability.

5.3.3.1. Reliability

Reliability concerns the correctness or accuracy of a construct. One of the main aspects of reliability is referred to as construct validity. This measure is intended to capture how well a construct indicates the "true" value of that which is measured. The reliability of a measure is high when several independent studies find that it correctly and repeatedly captures what it is supposed to capture. Reliability measures consistency over time as well as the degree to which a construct shows the "true" value of a concept in a given population. The reasoning is that a "true" value always exists and that repeated measures over time would yield an average very close to the "true" value. Even if random errors may occur, they are assumed to cancel out over time and thus have an expected value of 0.

The internal-consistency method[12] is often used to assess the reliability of empirical constructs based on survey data. In this method, Cronbach Alpha is used as the coefficient indicating the internal consistency of constructs based on their underlying items. The Cronbach Alpha coefficient is calculated as follows[13]:

$$\alpha = N / N(N-1) [1 - \Sigma \sigma^2 (Y_i) / \sigma^2_x]$$

Cronbach alpha is so designed that it increases with the average inter-item correlation and the number of items on the scale. If items correlated with other items in the construct are added, the value shown by this measure increases. Internal consistency, i.e. the degree to which items are related to each other, is robustly measured by Cronbach Alpha (Nunally, 1978). It is suggested that the Cronbach Alpha measure should be 0.7 or above in order to be reliable (ibid; Carmines & Zeller, 1979). Most of our constructs meet this criterion. The ones that do not are nevertheless retained since they all have proved reliable in other studies and have strong "face validity". Furthermore, since our study is exploratory in the sense of testing a research question that has not been thoroughly studied previously, we allow constructs that do not meet the 0.7 criterion. However, no construct has a Cronbach Alpha below 0.6.

The constructs were created in accordance with Nunally's (1978) recommendations. We first standardized each of the items based on the 176 units' lead respondents, thus removing any potential differences between respondents in how they used the response scale. We then computed the Cronbach Alpha measurement for each construct. Most constructs are based on previous studies, so that we generally had no problems in creating constructs. We simply added the expected items together and formed the final constructs. In some cases, we used factor analysis to create constructs. The factor analysis was preceded by theoretical validation in the sense that only items that had shown good results in other studies were used in forming a combined construct. The main purpose of the factor analysis was to remove items that added little value and to create the strongest constructs possible. By adding together each set of standardized items the constructs used in the final analysis were created.

The survey contained several sections. As indicated above, one of these sections was focused on measuring market orientation based on previously created indices (Kohli & Jaworski, 1990; Kohli, Jaworski & Kumar, 1993). In our case the MO index is based on 21 items. In the questionnaire section immediately following the MO-index items, the respondents were asked to assess each subsidiary's market orientation relative to the other subsidiaries in the firm. Through this procedure each subsidiary respondent had a shared frame of reference for market orientation when asked to assess the subsidiaries. The corporate respondents did not answer the questions on the 21 items, but we carefully explained these items to them before they assessed the subsidiaries' market orientation. In view of this approach, we are convinced that the respondents – corporate and subsidiary – shared an almost identical view of what is meant by market orientation. All in all, the reliability of our study is high.

5.3.3.2. Validity

Validity concerns the representativeness of a construct in relation to what is to be measured. It should be noted that validity is always in the "eye of the beholder". In contrast to reliability, there is no method for quantifying and easily comparing degrees of validity. In general terms, the most commonly used form of validity is face validity, which is simply determined by a qualified judgment of whether the constructs used really measure the phenomenon that they are supposed to measure. Another way to test the validity of a study is to use a sub-set of the sample and to validate the results for the sub-set with a hold-out sample (cf. Zander, 1997). A

third alternative is to include multiple respondents representing the same unit of analysis and to test the similarity of the responses from the different respondents in the same unit of analysis. Yet another alternative is to use factor analysis (Carmines & Zeller, 1979). Because of our sample structure, we have not used the hold-out sample technique. Instead, we rely primarily on a multiple-respondent analysis in combination with an estimation of face validity. We also used factor analysis. The multiple-respondent analysis in combination with the interview procedure (as recommended by Campbell & Fiske, 1959) shows that the validity of our sample is acceptable. The intra-unit variance of data from members of the same unit is generally less than the inter-unit variance.

5.3.3.3. Possibility of drawing generalizable conclusions from our study

Our ambition is to draw general conclusions applicable to MNE's from other countries than Sweden, and also to other MNE activities than marketing. This means we regard our data as a sample drawn from a larger population of highly internationalized MNE's. This sample is biased in the sense of including basically nothing but Swedish firms and not being randomly selected. The ideal design of the study would be to include randomly drawn firms from other countries in addition to studying other activities than marketing in each firm. The cost and complexity of such a study were too high for us, however. Moreover, our basic study is exploratory, and it is therefore justifiable to restrict its scope. Since the study included a number firms from various industries, our findings may be considered generalizable among different firms and industries. The statistical analyses included firm dummy variables to guard against specific firm effects. Thus, we define our population as large industrial MNE's in general, but we realize that our sample has a Swedish bias.

Thus, since the study included almost exclusively Swedish firms, international generalizability may be limited. The firms, however, have been multinational for many years, operate in highly global industries, and are all internationally owned. In fact, they are not exclusively Swedish. On the other hand, an overwhelming majority of the responding managers are of Swedish nationality, and we cannot exclude that the results may have been influenced by specific traits of Swedish managers. Still, we believe that Swedes – on average – are relatively skilled cross-cultural communicators. We base this inference on the long international experience of Swedish MNE's, the tendency of Swedes to travel and explore

foreign cultures, and the generally excellent language skills of Swedes. These factors indicate that the potential Swedish bias should be limited. More importantly, the findings in the pilot study of a North American MNE lead to a similar conclusion.

Male respondents provided us with most of the data in the study. Of the 223 subsidiary respondents, only 10 were women. All lead subsidiary respondents and all corporate respondents were men. By implication, we should tentatively also be careful about extending our conclusions to firms managed mainly or entirely by women. We still argue that our conclusions hold for most MNEs, since male managers dominate most of them. We could but refrain from speculating how the results apply to a hypothetical MNE managed exclusively by female managers.

5.4. Summary of the chapter

This chapter consists of three sections. The first discusses the study and response data. We describe how the sample was collected, and we present the rates of response. We also provide background information on the interviews we conducted. The second section presents all the firms from which our data was collected. It provides financial and geographical data that give a brief overview of each firm. The third section discusses research methodology. It describes the statistical analyses, the research models, and the constructs used in the analyses. It also provides a thorough treatment of levels of analysis, concluding with a discussion of reliability, validity, and generalizability.

Table 5.29. Firm-specific capability dimensions.

Firm	Firm-specific activities
Firm 1	The ability to attract new customers Underwriting Actuarial work Claims Technical service
Firm 2	New product introduction New customer prospecting Customer segmentation and targeting Efficiency in inquiry and order-handling Sourcing of products outside <Firm> Sales staff training and development
Firm 3	New product introduction New customer prospecting Distribution sales Implementing corporate campaigns Servicing special tools customers
Firm 4	Adding value to the "Time-To-Customer" process Adding value to the "Time-To-Market" process Forecasting future demand for products The ability to integrate sales levels with manufacturing The ability to integrate activities with R&D units
Firm 5	Product planning Logistics and distribution Managing dealer relationships Communicating the <Firm> Brand After-care of customers (after-sales services)
Firm 6	Strategic marketing Sales and support to general practitioners Sales and support to hospitals Promotion, advertising and public relations
Firm 7	Sales per cow Capital-goods sales management Service levels in after-market services Total number of items sold Growth of customer base

1. These units were dropped from the sample since the subsidiaries were in a state of change and expected to be closed down in the near future. In effect, the respondents whom we had identified had left the units, and no other person was in a position to answer our questions.
2. It should be noted there is no correlation at all between response timing and evaluation of one's own subsidiary (correlation –0.088; $\alpha = 0.199$). The data contain no bias from early or late submission of these evaluations.
3. See appendix for a description of the Camino-project.
4. Operating profit before taxes.
5. Including Coromant, CTT Tools and Automation.
6. This discussion draws heavily on Menard (1995).
7. The unit to which the data is directly attached.
8. The unit to which the data is assigned for testing and statistical analysis.
9. The level to which generalizations are made.
10. "When unit members perceive the unit in the same way, sharing assignment of psychological meaning, perceptual agreement and therefore functional equivalence between these two climate constructs exists" (Rousseau, 1985, p. 12).
11. Cf. cognitive asymmetries as discussed by Miller, Burke & Glick (1998).

12. Alternative methods include the retest method, the alternative-form method, and the split-halves method (Carmines & Zeller, 1979). The relatively straightforward application of the internal-consistency method and its wide use in other studies convinced us that this method was most appropriate for our purposes.

13. Where N is equal to the number of items in the construct, $\Sigma s^2(Y_i)$ is equal to the sum of item variances, and σ^2_x is equal to the variance of the total construct.

CHAPTER 6. PERCEPTIONS OF CAPABILITIES.

This chapter answers to what extent managerial evaluations of any particular subsidiary's capability are similar, i.e. we test the existence of perception gaps. The fundamental premise is that effective knowledge management requires firms to know the capability of their subsidiaries. Our analysis tells us two things; first, perception gaps exist, and, second, perception gaps are primarily explained by the selective attention to subsidiaries' operations by corporate managers. In addition, selective interpretation is important. Based on our findings, we draw three conclusions: First, no one is perfectly informed and knowledgeable on subsidiary capability. Second, a particular reason for perception gaps is the use of different reference points by managers when they evaluate subsidiaries. Corporate and subsidiary managers use different yardsticks since they live and act in different contexts. Third, perception gaps can in most cases – not surprisingly – be explained by corporate managers' relative over-estimation of the subsidiaries' capability. Our principal conclusion infers evaluation of subsidiary marketing capability to be highly difficult.

Thus, this chapter analyzes the collected data with the aim of answering the first of our two research questions stated in Chapter 4; first, whether managers correctly evaluate subsidiary capability in the MNE, and, second, whether different managers have different evaluations of each unit's capabilities. We approach the question by presenting the results from the pilot study and the main study. Thereafter, using the data from the main study, we perform regression analyses to test the perception-gap model explained in Chapter 5. At this stage, we want to acknowledge we are somewhat speculative in the analyses, but we motivate this approach by the exploratory nature of our research questions.

6.1. The qualitative pilot study

The qualitative pilot study, which was done on the European operations of a large global MNE, studied the creation and management of "centers of excellence", i.e. units that were acknowledged as being particularly skilled in certain activities. These units were to serve as corporate-wide engines for transfers of capabilities across geographic and intra-organizational boundaries. Each center of excellence was focused on a particular capability within the field of

marketing including, for instance, measurement of customer loyalty, customer focus, and key-account management. The pilot study concludes:

1. It was primarily operative managers who were co-located with the formally assigned center of excellence or who had previous personal ties with the center-of-excellence management that drew on their capabilities.
2. There were considerable difficulties in setting up an organizational structure, which stimulated the flow of capabilities over geographical and intra-organizational boundaries.
3. Basically all of the units with corporate responsibilities for intra-organizational capability management, i.e. the centers of excellence, had been formed by one individual.
4. The centers of excellence managers did not co-operate effectively and sometimes even competed for resources.

The first and the second of the conclusions could be explained by the organizational incentive structure. The firm was organized as a matrix having countries/regions on one axis and products on the other. A Managing Director (MD) for a geographical area, i.e. a country or region, was in fact paying the salaries of the center-of-excellence staff who were working part-time, or in some cases even full-time, with firm-wide capability transfers. The MD's, who sought to optimize the results of the operations under their responsibility, were upset with this arrangement and did not encourage work on capability transfers to other units within the firm. Also, there were strong indications the product management – the second axis in the matrix organization – aimed at optimizing returns from specific products; the transfer of capabilities across product areas was not on their agenda. Thus, the organizational structure did not facilitate cross-border or cross-product transfer of capabilities. All in all, the transfer and leverage of dispersed capabilities suffered from the absence of a strong corporate function for leveraging critical capabilities over geographic and intra-organizational boundaries, i.e. one with the objective of optimizing the organization-wide use of the firm's inherent knowledge. The corporate center-of-excellence function was continuously forced to compete for attention and resources with country-based, operative units. In addition, the centers of excellence were detached from the operative units that were to benefit from their services. A continuous and long-term relationship between the centers and the operative units was lacking.

The third set of findings implies the determination of the capabilities to be transferred and of the units that excelled in these capabilities had been by "word-of-mouth". The centers of excellence and practices were identified through hearsay and the "wisdom" residing in the firm. At the same time, the corporate manager setting up the centers did not have strong support from his superiors, and the entire effort had to be made within the existing organizational structure. Consequently, the project suffered from severe limitations in terms of resources, corporate-headquarters support, and general organization-wide awareness. An interesting internal report showed only 5-10 percent of the people within the European operations even knew that the centers of excellence existed, and only 1-2 percent actually knew what the centers were doing.

This last finding implies the managers of the centers of excellence were sub-optimizing their own units, thus making the same mistake as the regional MD's, i.e. not recognizing potential synergy effects between organizational sub-units. It seemed to be difficult even for the managers of the centers of excellence to see beyond their immediate unit and to acknowledge organization-wide benefits and values. One could, of course, argue this competition for attention, support, and resources would improve efficiency within the centers and weed out the inefficient ones. There were certain weak indications to this effect. More importantly, however, it was evident the willingness to share capabilities was low.

Our pilot study thus indicated some obstacles to the effective transfer of capabilities in marketing activities. According to the interviewees themselves, these obstacles were due primarily to an organizational structure that provided disincentives for co-operation between units responsible for different countries and products. Moreover, with the lack of resources allocated to the centers of excellence and the poor communication of the benefits from the work of the centers, effective transfer of capabilities was difficult to achieve. In addition, our analysis emphasizes the birth process of the centers of excellence. Basically only one corporate manager had set them up. We could hypothesize the fundamental reluctance to exploit the inherent knowledge residing in the centers is explainable by the process through which the units were created. The centers of excellence would most probably have been more widely accepted and used by the organization if the MD's had had a say in the designation of centers or at least had been informed about the process as it took place. We should note that the issues we discuss were most strongly acknowledged by UK managers, while managers in

other parts of Europe downplayed these particular issues somewhat. To sum up, the transfer of capabilities in marketing activities was found to be very difficult even though the firm worked hard to achieve it. One of the principal explanations behind the transfer difficulties was the organizational matrix structure. In this structure a third organizational dimension – capabilities – was far from optimized.

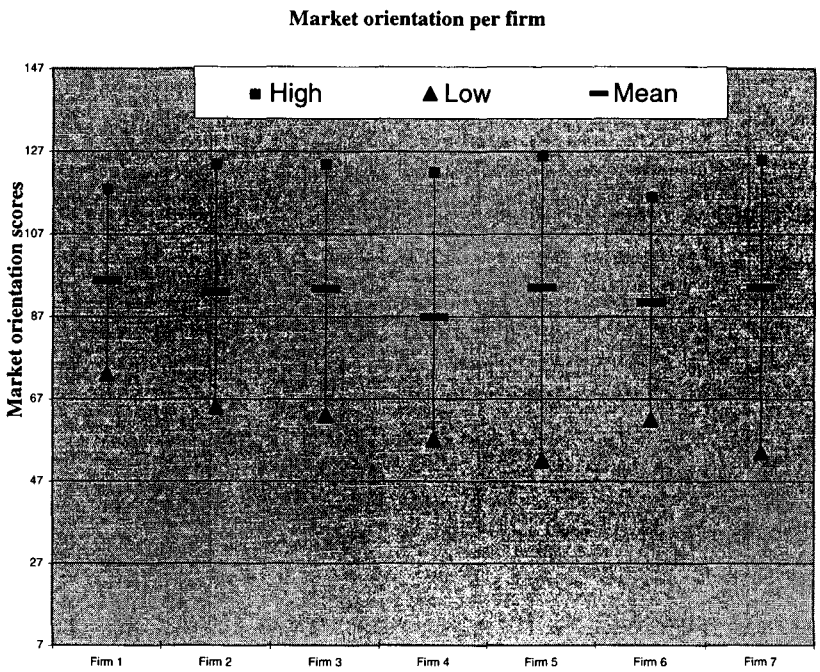
The main implication from the qualitative pilot study is that we must question the process in which the centers of excellence were established. By implication, should we expect a center of excellence set up by a single corporate manager is unlikely to become leveraged since the potential recipients of skills, i.e. other subsidiaries, do not agree that the center of excellence is extraordinarily capable? In other words, are managers in the same firm likely to have different opinions on the capability of a specific subsidiary?

6.2. The main study

6.2.1. Indications of underlying differences in marketing capability

As discussed previously, the initial prerequisite for beneficial transfer of capabilities is that capabilities actually differ between subsidiaries. Figure 6.1. tells us there are substantial differences between the capabilities of different subsidiaries of an MNE. When analyzing self-reported market-orientation scores based on 21 items, we observe some units to report themselves as being significantly more capable than others. The market-orientation scale[1] allows scores from a minimum of 21 to a maximum of 147. The average for all firms is 92.2 with a maximum of 126 and a minimum of 52, yielding a standard deviation of 15.55. The smallest range in any of the firms is reported to be 45. This data (figure 6.1.) show capability to vary between subsidiaries, and the initial prerequisite for beneficial transfers to be met.

Figure 6.1. Self-reported Market Orientation scores by firm (high, low and mean).



6.2.2. Analyzing hierarchical perception gaps

As noted, our analysis shows the initial prerequisite for possible benefits from transfers of capabilities is fulfilled. Capabilities differ between subsidiaries. We now turn to the question regarding the ability of managers to evaluate capabilities. To receive an initial understanding of whether perception gaps exist, we will analyze correlation between evaluations. Table 6.1. shows the correlation between corporate evaluations and self-evaluations of the units' market orientation. On the basis of these capability evaluations, we have indications telling us to perhaps not accept the null hypothesis. There are only two firms for which the data support the conclusion that there are no perception gaps regarding capability evaluations: Firms 2 and 5. We cannot exclude the existence of gaps for the other five firms. In other words, for these five firms the data tells to not accepting the null hypothesis.

Table 6.1. Correlation between evaluations of units' market orientation by subsidiary and corporate managers.

Firm	N	Correlation	Significance	Conclusion
Firm 1	5	-0.359	0.553	Gap?
Firm 2	25	+0.495	0.012	No gap?
Firm 3	32	+0.195	0.285	Gap?
Firm 4	21	+0.311	0.169	Gap?
Firm 5	24	+0.494	0.014	No gap?
Firm 6	17	+0.146	0.576	Gap?
Firm 7	30	+0.221	0.241	Gap?

For comparison, we have constructed a similar table based on corporate and subsidiary managers' evaluations of financial performance. We used the combined dimensions of sales, operating result and market share to construct two variables, both of which were reliable[2]. Table 6.2., which is based on evaluations of financial performance, shows a very different picture from Table 6.1. If we look at individual firms, there is only one firm showing perception gaps regarding evaluations of financial performance – Firm 4. We cannot exclude the possibility the evaluations for Firm 4 are different from one another. A larger sample from this firm would not necessarily mean the perception gap disappeared. Even though the correlation for Firm 1 is not statistically significant, we would argue the indication of a perception gap is not a strong one, since the positive correlation is very high. According to a strict interpretation of the correlation, there is an indication of perception gaps in Firm 1, but a practical interpretation would favor the conclusion there is not a gap.

Table 6.2. Correlation between evaluations of units' financial performance by subsidiary and corporate managers.

Firm	N	Correlation	Significance	Conclusion
Firm 1	5	+0.791	0.111	Gap?
Firm 2	27	+0.653	0.000	No gap?
Firm 3	32	+0.417	0.018	No gap?
Firm 4	21	+0.230	0.316	Gap?
Firm 5	24	+0.596	0.002	No gap?
Firm 6	17	+0.578	0.015	No gap?
Firm 7	32	+0.583	0.000	No gap?

On the basis of the correlation analyses above, we infer there are differences between self-evaluations and corporate evaluations of capabilities but not between evaluations of financial performance. We also see large differences between firms regarding the capability evaluations.

As for evaluations of financial performance, the indication is we should not reject a possible null hypothesis, which was based on the similarity between corporate and subsidiary

evaluations of financial performance. Firms 2, 3, 5, 6, and 7 do not seem to have perception gaps. We are inclined to argue there are no perception gaps at Firm 1 even though we acknowledge a more strict interpretation would conclude there are gaps. We can not exclude the possibility there are gaps for the remaining firm – 4. Thus, there are five firms for which the data indicates there are no perception gaps regarding evaluations of financial performance! There is one firm for which the result is somewhat ambiguous. Last, there is one firm for which the data indicates we should not accept the null hypothesis.

Tables 6.3. – 6.11. show the correlation for each firm in each of the firm-specific capability dimensions which were included in the study. Previously, we have only looked at the market-orientation construct since it is the best measure for comparing the firms. It is reasonable, however, to expect the perception gaps between corporate and subsidiary managers will be smaller in the case of firm-specific measures. The managers are more likely to have a shared understanding of what these measures mean, and the firm is also more likely to use them for intra-firm benchmarking. The conclusion from the tables below is surprising, however. There is no clear trend indicating assessments of firm-specific capabilities are easier than assessments of the more generic market-orientation construct. For only one firm – 7 – are gaps definitely less likely for firm-specific dimensions than for market orientation. In most firms there is at least one firm-specific measure which shows better consistency between evaluations than what the market orientation measure does, however. We conclude the results regarding perception gaps in evaluations of marketing capability are the same no matter whether we use the market-orientation dimension or the firm-specific dimensions. The perception gaps seem to be a general phenomenon not explained by measurement error or differences in construct definitions or interpretations. In addition, the market orientation construct allows comparisons between firms.

Table 6.3. Firm 1. Correlation between evaluations of units' capabilities by subsidiary and corporate managers[3].

	N	Correlation	Significance	Conclusion
Market orientation	5	-0.359	0.553	Gap?
The ability to attract new customers (1)	5	-0.071	0.909	Gap?
Claims handling (4)	5	-0.375	0.534	Gap?
Technical service (5)	5	-0.253	0.681	Gap?

Table 6.4. Firm 2. Correlation between evaluations of units' capabilities by subsidiary and corporate managers.

	N	Correlation	Significance	Conclusion
Market orientation	25	+0.495	0.012	No gap?
New-product introduction (1)	25	+0.280	0.175	Gap?
New-customer prospecting (2)	25	+0.266	0.199	Gap?
Distribution sales (3)	24	+0.780	0.000	No gap?
Implementing corporate campaigns (4)	24	+0.292	0.167	Gap?
Servicing special tools customers (5)	24	+0.300	0.155	Gap?

Table 6.5. Firm 3. Correlation between evaluations of units' capabilities by subsidiary and corporate managers.

	N	Correlation	Significance	Conclusion
Market orientation	32	+0.195	0.285	Gap?
New-product introduction (1)	32	+0.207	0.255	Gap?
New-customer prospecting (2)	32	-0.041	0.826	Gap?
Customer segmentation and targeting (3)	32	-0.064	0.727	Gap?
Efficiency in inquiry and order handling processes (4)	32	+0.412	0.019	No gap?
Sourcing of products outside <Firm> (5)	32	+0.230	0.206	Gap?
Sales staff training and development (6)	32	+0.045	0.809	Gap?

Table 6.6. Firm 4. Correlation between evaluations of units' capabilities by subsidiary and corporate managers[4].

	N	Correlation	Significance	Conclusion
Market orientation	21	+0.311	0.169	Gap?
Adding value to the "Time to Market" process (1)	11	+0.571	0.066	No gap???
Adding value to the "Time to Customer" process (2)	11	+0.308	0.357	Gap?
Forecasting future demand for products (3)	20	+0.219	0.355	Gap?
Ability to integrate sales levels with manufacturing (4)	11	+0.233	0.491	Gap?

Table 6.7. Firm 5. Correlation between evaluations of units' capabilities by subsidiary and corporate managers.

	N	Correlation	Significance	Conclusion
Market orientation	24	+0.494	0.014	No gap?
Product planning (1)	23	+0.219	0.316	Gap?
Logistics and distribution (2)	23	+0.213	0.330	Gap?
Managing dealer relationships (3)	24	+0.457	0.025	No gap?
Communicating the <Firm> brand (4)	24	+0.214	0.315	Gap?
After-care of customers (after-sales service) (5)	24	+0.488	0.016	No gap?

Table 6.8. Firm 6. Correlation between evaluations of units' capabilities by subsidiary and corporate managers.

	N	Correlation	Significance	Conclusion
Market orientation	17	+0.146	0.576	Gap?
Strategic Marketing (1)	10	-0.138	0.704	Gap?
Sales and support to General Practitioners (2)	15	+0.333	0.225	Gap?
Sales and support to Hospitals (3)	16	+0.572	0.021	No gap?
Promotion, advertising and public relations (4)	16	-0.022	0.937	Gap?

Table 6.9. Firm 7. Correlation between evaluations of units' capabilities by subsidiary and corporate managers.

	N	Correlation	Significance	Conclusion
Market orientation	30	+0.221	0.241	Gap?
Sales per cow (1)	31	+0.486	0.006	No gap?
Capital-goods sales management (2)	30	+0.425	0.019	No gap?
Service levels in after-market services (3)	28	+0.564	0.002	No gap?
Total number of items sold (4)	28	+0.634	0.000	No gap?
Growth of customer base (5)	30	+0.059	0.758	Gap?

Table 6.10. Summary of findings related to capability evaluations by firm

All capability dimensions	Dimensions assessed[5]	Number of gaps	Gap percentage
Firm 1	4	4	100 %
Firm 2	6	4	67 %
Firm 3	7	6	86 %
Firm 4	5	4	80 %
Firm 5	6	3	50 %
Firm 6	5	4	80 %
Firm 7	6	2	33 %
All firms	*39*	*27*	*69 %*

Table 6.11. Summary of findings related to financial evaluations by firm

All financial performance dimensions	Dimensions assessed	Number of gaps	Gap percentage
Firm 1	4	3	75 %
Firm 2	4	0	0 %
Firm 3	4	0	0 %
Firm 4	4	3	75 %
Firm 5	4	3	75 %
Firm 6	4	3	75 %
Firm 7	4	0	0 %
All firms	*28*	*12*	*43 %*

The findings show capabilities are more difficult to evaluate than financial performance. The evaluations are very similar in terms of financial performance but dissimilar in terms of capabilities. Managers share views on how well the units perform in terms of financial measures but not on how skilled the units are.

Another way to analyze whether perception gaps exist is to use factor analysis. If the corporate and subsidiary evaluations are found to form a single factor or construct, we have an indication they in fact do not differ from each other. On the other hand, if they do not form a single factor, we will argue they do differ. In this approach, we initially treat the corporate and subsidiary responses as multiple-respondent evaluations. Thereafter, we assess the possibility of forming multiple-respondent constructs of capability and performance measures. The results from the factor analysis of the three sets of variables covering capability measures are shown in Table 6.12.

Table 6.12. Factor analysis-for dimensions of capability evaluation by subsidiary and corporate managers.

Market orientation	First component	Second component
Corporate report MO Collect (C MO1)	0.955 C MO1	0.128 C MO1
Corporate report MO Distribute (C MO2)	0.939 C MO2	0.054 C MO2
Corporate report MO Analyze and act upon (C MO3)	0.913 C MO3	0.144 C MO3
Self-reported MO Collect (S MO1)	0.231 S MO1	0.798 S MO1
Self-reported MO Distribute (S MO2)	0.018 S MO2	0.803 S MO2
Self-reported MO Analyze and act upon (S MO3)	0.095 S MO3	0.775 S MO3
Eigen-value	2.974	1.637

The factor analysis (Table 6.12.) informs us the capability evaluations by the subsidiary managers, i.e. the self-evaluations, and the corporate managers' evaluations do not form a single construct! This finding supports our previous conclusion that the degree of similarity between self-evaluations and corporate evaluations of unit capabilities is low. For comparison, we made the same factor analysis based on corporate evaluations and self-evaluations of three

financial performance measures – sales, operating income, and market share. This time the items formed one single factor (Table 6.13.), thus indicating corporate evaluations and self-evaluations of financial performance are very similar, if not identical.

Table 6.13. Factor analysis for dimensions of financial evaluation by subsidiary and corporate managers.

Financial performance	First component
Corporate report Sales (C SA)	0.665 C SA
Corporate report Operating result (C OR)	0.782 C OR
Corporate report Market share (C MS)	0.718 C MS
Self-reported Sales (S SA)	0.698 S SA
Self-reported Operating result (S OR)	0.668 S OR
Self-reported Market share (S MS)	0.659 S MS
Eigen-value	2.937

We will perform yet another comparison of corporate and subsidiary managers' responses. This one focuses on the degree to which the raters' evaluations coincide. An additional measure of inter-rater agreement, i.e. lack of perception gaps, is provided by the frequency distribution of the absolute values of the differences between the two evaluations of each unit's market orientation and financial performance. Table 6.14. shows the asymmetry – based on absolute values of differences – is greater for evaluations of capabilities than for evaluations of financial performance.

Table 6.14. Frequency and cumulative percent of absolute differences of non-standardized capability evaluations and financial performance evaluations between paired raters.

	Market orientation		Financial performance	
Absolute value of differences	Frequency	Cumulative percent	Frequency	Cumulative percent
0	41	26.6	48	30.4
1	69	71.4	76	78.5
2	31	91.6	24	93.7
3	11	98.7	7	98.1
4	2	100.0	1	98.7
5	0	100.0	2	100.0
6	0	100.0	0	100.0
Observations	154		158	
Mean value	1.12		1.01	
Median value	1.00		1.00	
St. deviation	1.42		1.26	

The analysis of perception gaps this far has been qualitative. To rigorously test whether there are perception gaps, i.e. differences between self-evaluations and corporate evaluations, we conducted a paired sample t-test (table 6.15) based on standardized data. Still, since both evaluations were reported on a 1-7 scale where 7 equals very capable and 1 equals very

incapable, a positive difference between standardized measures means that the self-evaluations are higher than the corporate evaluations, and vice versa.

Table 6.15. T-test for perception gaps (comparing standardized self- and corporate evaluations[6]).

	N	Mean of differences	95% Confidence interval		Level of significance	
			Lower	Upper	T	α
Market orientation	154	-0.46	-0.91	-0.005	1.998	0.048
Financial performance	158	-0.16	-0.54	+0.22	0.848	0.398

The findings in Table 6.15. show self- and corporate evaluations of financial performance are similar to each other while the evaluations of market orientation are not. For market orientation, the risk of committing a type 1 error, i.e. rejecting a null hypothesis that is true, is less than 5 percent. Thus, we reject the null hypothesis that self- and corporate evaluations of market orientation are identical. For financial performance, the risk of committing a type 1 error is around 40 percent. Consequently, we would have accepted a hypothetical null hypothesis that self- and corporate evaluations of financial performance are identical. In essence, we reject the null hypothesis that there are no differences between self- and corporate evaluations of market orientation. Interestingly and unexpectedly, the corporate evaluations are higher than the self-evaluations.

Another question relates to how respondents from the same unit rated a specific unit's capabilities. Were the evaluations within the unit similar, or were there large differences even between evaluations by managers of the same subsidiary? The inter-rater reliability can be tested for a total of 36 subsidiary units at all seven firms. We consequently conducted inter-rater reliability tests between multiple respondents from 36 subsidiaries.

Table 6.16. Standard deviation between responses from the multiple-respondent units - MO score[7].

Firm	Subsidiary respondents	Units with multiple respondents	Units with intra-unit standard deviation lower than inter-unit standard deviation	
			Units	Percent
Firm 1	3 - 5	4	4	100 %
Firm 2	2	8	6	75 %
Firm 3	2	2	2	100 %
Firm 4	2	8	5	63 %
Firm 5	2 - 3	10	6	60 %
Firm 6	2	2	1	50 %
Firm 7	2	2	2	100 %
All firms	*83*	*36*	*26*	*72 %*

There are 10 cases for which the intra-unit standard deviation is larger than the inter-unit standard deviation within the firm. For these 10 cases, we argue there actually are intra-unit perception gaps! The other 26 cases show homogeneous intra-unit opinions in terms of capability evaluations. It should be noted that the reliability of the MO construct as such is high (α = 0.7391). Thus, the construct is reliable, and it is the evaluations of the units' capabilities that differ.

We will also discuss how the multiple respondents from corporate units rated each of the subsidiary units. Are the evaluations of specific units by different corporate managers highly similar, or are there large differences among these evaluations? The inter-rater reliability can be tested for 108 subsidiaries on the basis of multiple responses from corporate managers, and we consequently conducted inter-rater reliability tests regarding corporate responses for these units.

Table 6.17. Standard deviation for market-orientation evaluations between responses from the multiple-respondent corporate units[8].

Firm	Corporate respondents	Units with multiple evaluations	Units with intra-unit standard deviation lower than inter-unit standard deviation	
			Units	Percent
Firm 1	3	5	3	60 %
Firm 2	4	0	-	-
Firm 3	4	34	28	82 %
Firm 4	2	7	3	43 %
Firm 5	3	29	29	100 %
Firm 6	2	0	-	-
Firm 7	3	33	29	88 %
All firms		*108*	*92*	*85 %*

There are 16 cases for which the intra-unit standard deviation is greater than the inter-unit standard deviation in the firm. In these 16 cases, there are intra-unit perception gaps at the corporate level. The other 92 cases show homogeneous intra-unit evaluations of capability by corporate managers. Moreover, the correlation between evaluations of the units' market orientation by different corporate managers is strongly positive and significant[9]. Also, the reliability of the MO construct is very strong (α = 0.9391), which is an indication the construct is reliable and it is the evaluations of the units' capabilities that differ.

Given the conclusion that hierarchical perception gaps exist, an interesting question is whose evaluations are more "correct". Is it those of corporate managers or those of subsidiary

managers? In order to answer this question, we ideally need an "objective" measure of the subsidiaries' capabilities. While an analysis based on "objective" measures may seem out of place in this study, which is focused on "perceptions" of capabilities, we would re-emphasize that we are seeking to determine whether managers can correctly evaluate a subsidiary's capabilities. In order to address this question, we must assume there are objective differences in the capabilities of subsidiaries.

Given that corporate and self-evaluations do not coincide, we are not able to create a measure of capabilities by combining the two separate evaluations of capability. Had this been possible, we would arguably have had an objective - or inter-subjective – measure of the subsidiaries' capability. In the present situation, however, we would hold that the most objective available measure of capabilities is the market-orientation score (Jaworski & Kohli, 1993). Moreover, if we use the subsidiary lead respondent's evaluation and market-orientation score in the same analysis, there would be a clear possibility of response bias. Therefore, we compare evaluations of subsidiary market orientation by corporate managers as well as by the subsidiary's lead respondent with the market-orientation score provided by the additional subsidiary respondents from our 36 multiple-respondent units. The premise is that the market-orientation score given by subsidiary managers other than the lead respondent represents a – more or less – objective measure.

Consequently, we analyze the correlation between self-evaluations of the unit's market-orientation skills, corporate evaluations of the unit's market-orientation skills, and the market-orientation score derived from the questionnaire. The make it clear, the correlation is based on rankings of the units within each MNE based on the evaluation of each unit by its lead respondent, the evaluation of the unit by corporate managers, and the market-orientation score provided by non-lead respondents from the multiple-respondent subsidiaries. This analysis (Table 6.18.) tells us there are differences, i.e. no correlation, between the market-orientation score and corporate evaluations as well as self-evaluations. Thus, the analysis provided no clear answers regarding who is most "correct".

Table 6.18. Correlation between corporate and subsidiary respondents' evaluations of market orientation with the actual market orientation-score as given by the response of other subsidiary respondents.

	N	Correlation with non-lead respondent's MO score	Significance
Evaluations by corporate respondents	31	+0.030	0.872
Evaluations by subsidiary lead respondents	34	+0.135	0.448

Again, to be able to compare evaluations, we have constructed a similar table that is based on corporate and subsidiary managers' evaluations of financial performance. We used the evaluations of sales and operating income respectively (Tables 6.19. and 6.20). These tables, which are based on evaluations of financial performance, show a very different picture from the one in Table 6.18. Both the self-evaluations and the corporate evaluations of financial performance are very similar to actual measures of financial performance.

Table 6.19. Correlation between corporate and subsidiary respondents' evaluations of sales and actual sales.

	Actual performance - Sales		
	N	Spearman's rho correlation	Significance
Self-evaluation – Sales	111	+0.354	0.000
Corporate evaluation - Sales	98	+0.594	0.000

Table 6.20. Correlation between corporate and subsidiary respondents' evaluations of the operating result and actual operating result.

	Actual performance – Operating income		
	N	Spearman's rho correlation	Significance
Self-evaluation – Operating income	43	+0.468	0.002
Corporate evaluation – Operating income	38	+0.477	0.002

The analysis thus far has shown that evaluating subsidiary capability is not a simple matter. To locate the differences between self- and corporate evaluations, we have created scattergrams that plot self-evaluations (the X-axis) against corporate evaluations (the Y-axis) (see Figures 6.6.–6.13. in the appendix to this chapter). The evaluations are based on market orientation. The scattergrams, which are based on standardized evaluations at the individual level. The fitted line shows the relation between the two evaluations where each dot represents a subsidiary.

The scattergram analysis for all firms (Figure 6.6.) indicates the subsidiaries of low to average capability tend to be relatively easy to evaluate; i.e., the fitted line is steepest for low and

average performers. In other words, the strongest positive correlation is shown for the units in the low to middle ranges of both types of evaluations. On the other hand, the units considered the most capable, i.e. those located to the right on the X-axis and/or towards the top on the Y-axis, have a fitted line which is negative. In other words, the correlation for the top achievers only is negative; an indication the perception gaps are largest for the most capable units. The implication of this finding is that the most crucial evaluations, i.e. the ones to be used for selecting sources in the transfer process, are generally the most difficult.

We also see the patterns differ quite substantially among firms (Figures 6.7. – 6.13.). As noted, the firms with the most frequent perception gaps were Firms 1, 3, 6, and 4, and the firms with the least frequent perception gaps were Firms 2, 7, and 5. Figures 6.7 – 6.13. are indicating the units where each firm has the most inconsistent or consistent evaluations between corporate and subsidiary managers, i.e. which subsections of evaluations show the largest or smallest perception gaps. However, we must emphasize the firm-specific data should be interpreted carefully. If we graphically analyze the potential source units, i.e. the ones to the right and up, we see the firms with largest perception gaps in this subsection of evaluations are Firms 1, 3, and 5. The firms with lowest perception gaps in this subsection are Firms 7, 2, and 6. Firm 4 is in between the other two groups.

In general, if managers in the firm agree on the capability of subsidiaries, we would expect the kind of evaluation patterns we find in Firm 2. Greater attention would be focused on the high and low performers, and less on the average performers. The result would be small perception gaps regarding the most and least capable subsidiaries, while there always could be relatively larger perception gaps for the average performers. The main conclusion from the preceding analysis is that perception gaps exist, but not at all firms. In other words, we infer the evaluation of competence, and thus the identification of centers of excellence and transfer sources, is a boundedly rational process (Simon, 1957; 1991), since corporate and subsidiary managers have different opinions on the capabilities of subsidiaries. Therefore, we reject H_0 at the general level. It holds for some firms but not for all. It should be noted our unit of analysis is the evaluation of specific MNE unit's capabilities. For some units at the MNE, there may be no perception gaps, while for other units of the same firm there may be large perception gaps. Even if a firm has no perception gaps at the aggregate level, there may be individual units in the firms for which perception gaps exist. The scattergram analysis illustrates our finding.

6.2.3. Analyzing horizontal perception gaps

The next question is whether the self-evaluations made by a subsidiary manager are consistent with the evaluations made by other subsidiary managers. Even if there are perception gaps at the hierarchical level, i.e. between corporate and subsidiary managers, there may not be perception gaps at the horizontal level, i.e. between different subsidiary managers. Subsidiary managers at different subsidiaries but with identical or similar tasks may well agree on the capability of a specific subsidiary. By performing a certain task themselves, subsidiary managers may be in a position to correctly evaluate the performance of other subsidiaries in respect to a particular task. Corporate managers, on the other hand, would be highly unlikely to perform the same tasks and may therefore be less well equipped to evaluate the performance of a particular subsidiary. On the other hand, corporate managers have better opportunities to compare subsidiaries with each other. In other words, if capabilities are best understood by the ones who actually utilize them – as the theory suggests (Simon, 1991; Hedlund & Nonaka, 1991) – we should expect the self-evaluations and the evaluations by other subsidiary managers to be most similar to one another. On the other hand, if capabilities are best understood by those primarily responsible for the unit at which the activities are performed, we should expect corporate evaluations and self-evaluations to be most similar to one another.

The data on horizontal evaluations, i.e. evaluations of a subsidiary's capabilities by managers at other subsidiaries than the one being evaluated, differ somewhat from the data on corporate and self-evaluations reported in the previous section. The main problem in collecting data on the horizontal evaluations was of a practical nature. If we had asked each subsidiary manager to evaluate all the other subsidiaries in all capability dimensions, the data collection would have become an enormous task. For example, if a firm had 31 subsidiaries and we asked for evaluations in five capability dimensions, <u>each</u> subsidiary manager would have to report 150 evaluations! Such a request would not have been reasonable. Therefore, we asked each subsidiary manager to identify the firm's most capable subsidiary in each capability dimension. Two other response alternatives were provided: that all units were equally capable or that the manager did not know which unit was the most capable. We then collected all the data and simply added the number of times each subsidiary had been designated the most

capable. We excluded the cases where a unit had designated itself the most capable of all the subsidiaries since we wanted only external, horizontal evaluations. Moreover, the self-evaluations had already been accounted for. We thus obtained horizontal data indicating the absolute top performers in the firm, but no data that could help us to separate the average from the low achievers. Because of practical restrictions, the horizontal data are less rich than the data on corporate and self-evaluations.

To analyze and compare the horizontal evaluations with the self- and hierarchical evaluations, we ranked all units according to each of the three types of evaluations. It is apparent from the preceding discussion the ranking based on horizontal data could only separate the top achievers from the rest while rankings based on self- and hierarchical evaluations could separate all units from each other. Thereafter, we calculated the rank correlation of all three rankings in order to see which of the rankings were most similar to each other (Table 6.21.). To be clear, we only included the units top-ranked in the horizontal evaluations since this was the restriction on the total number of units we could analyze.

Table 6.21. Rankings of units based on three different evaluations (top-ranked units only).

Market Orientation	Self-evaluation	Hierarchical evaluation	Horizontal evaluation
Self-evaluation	X	+0.076 (α=0.712; n=26)	+0.328 (α=0.089; n=28)
Hierarchical evaluation	X	X	+0.146 (α=0.476; n=26)
Horizontal evaluation	X	X	X

Table 6.21. includes only the units top-ranked in the horizontal evaluations. Thus, horizontal evaluations seem to differ from the evaluations by corporate managers but not from the self-evaluations. At the same time, the evaluations by the corporate managers and the self-evaluations are clearly dissimilar. The horizontal evaluations are actually in between corporate evaluations and self-evaluations, but definitely closer to the self-evaluations. One conclusion from this analysis is that firms are more holographic (Thompson & Tuden, 1959) in the horizontal dimension, i.e. between subsidiaries, than in the hierarchical dimension, i.e. between corporate managers and subsidiaries. The subsidiary managers seem to be better informed about other subsidiaries' marketing capability than the corporate managers.

6.2.4. The qualitative data

To develop a more thorough understanding of perception gaps, we will now turn to the qualitative data. There are two particular examples from our interviews that show how social psychology and erratic inference-making (Nisbett & Ross, 1985) matter when managers evaluate the capabilities of subsidiaries.

In the first case, a corporate manager – let us call him Jussi - explains why he has ranked the Finnish and Norwegian market companies as the most capable units overall in marketing. Jussi is of Finnish origin and is a regional marketing manager at a large and highly successful Swedish multinational firm. He has corporate responsibility for marketing activities in the Scandinavian countries, Central and Eastern Europe, the Middle East, and South Africa. He has recruited the Finnish subsidiary manager by himself, whereas the Norwegian manager was rather new at his job when Jussi joined the firm. When asked why he ranked the two units as the most capable units of the ones under his responsibility, Jussi answered: *"It's because they both think the same way as I do. When I first met the Finnish manager, I started to like him immediately. The interview went on for five hours and we had fun. Also, I like him because he uses my kind of management – 'perkele'[10] management – which Swedish managers do not use. They sit around and talk too much!"*. During the interview, Jussi never indicated he had given them a high ranking because of their actual competence, but repeatedly stated the reason to be they were working and thinking in ways very similar to himself.

The second case is taken from another firm and concerns a marketing manager in Switzerland who ranked his subsidiary unit much higher than the corporate managers had ranked it. It was a clear example of a positive perception gap. At an early stage of the interview, the Swiss marketing manager – let us call him Günter – spontaneously touched upon the potential problem of determining the capability of a specific unit. He stated he could not definitely say how corporate managers had evaluated his unit. *"We can never be sure. Knowing and believing are two different things!"* His explanation was that the firm did not formally recognize, e.g. by formally designating centers of excellence or by benchmarking, how capable units actually are. When Günter was confronted with the data showing corporate management did not rank his unit as very capable, he was silent for an extended moment. After some time, he said his unit always creates trouble for corporate management since he

fights for the unit's rights and needs and is consequently not liked at headquarters. Günter considered himself: *"problematic for the corporate guys and probably rated lower because of that"*. It was obvious Günther was very troubled by the data he was shown. When the corporate marketing manager – a Swede – was confronted with the same data, he was not surprised. He explained the situation by saying that: *"Günter is a proud gentleman who has very high opinion of himself. He has poor self-assessment and poor judgment"*.

When Günter found out the corporate managers had evaluated his unit as less capable than he thought it to be, he reacted in two ways: First, he externalized the causes to the undesirable situation. It was clear to Günter that the corporate managers were incorrect. Second, he rationalized as to why the corporate managers were incorrect. He argued his unit was very demanding in terms of arguing their case – in the interest of the entire firm – which was the reason why the corporate managers had given the unit a low evaluation.

These two examples are obvious cases of how psychological and social influences affect the way in which managers evaluate themselves and other actors in a firm. In addition to these two cases, the following is a summary of the explanations for perception gaps provided by the managers interviewed:

- Lack of accurate and clear measurement tools, implying that if the managers can not clearly articulate and measure that which is to be evaluated, opinions may differ. At the same time, as one interviewee suggested, clear and well stated measurements mean the managers who are evaluated will become conformist and perhaps short-sighted in their thinking. This may restrict innovative thinking and improvement of practices.
- Managers do not stay long enough with the firm. Social interaction and personal friendship between managers were often cited as reasons why there were not perception gaps.
- Managers do not meet face-to-face often enough. The face-to-face meeting was often argued to be the best way of learning how capable a specific unit is and how a specific practice could help another unit.
- Lack of clearly defined and mutually acknowledged roles of operative units and of corporate management in the knowledge-management process. Two corporate managers agreed that perception gaps could be caused by unclear division of responsibility between corporate and subsidiary management.

- Not enough "*confrontation in the squares of the matrix*", i.e. a lack of shared decision-making and problem-solving between the matrix dimensions in which the organization is structured and managed.
- Cultural differences. It was often argued that managers in some countries would never acknowledge and learn from managers from certain other countries even if it was clear the latter were very capable in performing a specific task. Statements like: "*the Mexicans will never listen to the Americans*" and "*the Europeans always ignore the Germans*" were often made.

All in all, there are a variety of possible reasons for perception gaps between how corporate and subsidiary managers evaluate the capabilities of specific units. Interviews at a firm with no perception differences indicate the main reasons to be that managers stayed with the firm for a long time and that they met face-to-face quite often. In our opinion, this is associated with developing a shared interpretation of information rather than just access to information. The interviews indicate the importance of shared interpretations of information as explaining why there would not be perception gaps regarding the capabilities of marketing units.

6.3. The multiple regression analysis

Our next task is to perform a rigorous test of the hypotheses specified in Chapter 4. For this purpose we will use a multiple regression analysis. Now that we have found perception gaps, we want to explain why they exist. To make this test rigorous, we will include the control variable indicating corporate managers' awareness they may not actually know very much about a particular subsidiary. Using the model explained in Chapter 5, we will perform a multiple regression analysis to test how perception gaps are explained. The hypotheses tested – using control variables for conscious awareness and other factors – are as follows:

- H_1: *Perception gaps are explained by asymmetrical access to information.*
- H_2: *Perception gaps are explained by selective attention to specific pieces of information.*
- H_3: *Perception gaps are explained by selective interpretation of pieces of information.*

The model we are testing is based on hierarchical perception gaps as the dependent variable. This variable is calculated from evaluations of market orientation by, first, subsidiary managers, and, second, corporate managers. Each category of respondents is assessing the units' ability in all dimensions of market orientation and the sum of these three dimensions form our measure for self- and corporate evaluations. The reliability for each of the two constructs is high (α=0.7391 for subsidiary respondents and α=0.9391 for corporate respondents). The dependent variable is created in three steps. First, self-evaluations and corporate evaluations of subsidiaries' market orientation are standardized at the individual level. Second, initial perception gaps are created by subtracting corporate evaluations from the self-evaluations. Third, the ultimate dependent variable is formed by standardizing the differences at the firm-level. A positive value indicates the subsidiary manager believes his unit to be more capable than the corporate manager believes it to be. A negative value indicates the subsidiary manager believes his unit to be relatively less capable. A value of 0 indicates self- and corporate evaluations are identical. The values of the dependent variable range from –2 to +3. It is standardized with a mean of 0 and standard deviation of 1.

The main independent variables relate to our three alternative hypotheses. Access to information is measured by subsidiary-headquarters communication (face-to-face and distant; α=0.7639) and use of information technology as a communicative tool (α=0.9419). Selective attention by the corporate managers is measured by subsidiary performance (assessed by both the subsidiary and the corporate managers; α=0.7922), the strategic importance of the local market (α=0.6439), and the size of the market in which the subsidiary is operating (measured in US dollars). Selective interpretation is measured by a dummy variable indicating whether or not the subsidiary manager is Swedish, the cultural distance between the subsidiary country and Sweden (Kogut & Singh, 1988; Hofstede, 1991), and the degree to which the subsidiary agrees with corporate management regarding how the knowledge management system is structured (α=0.7363).

We isolate potential firm effects by using dummy variables for each of the firms in the sample. This is done since the previous analysis showed that the degree of perception gaps differed substantially between firms. There may be firm-effects. Moreover, we want to acknowledge corporate management's awareness that they do not know very much about particular subsidiaries. Since time and attention are scarce resources, it is logical for corporate managers

to concentrate their attention to certain subsidiaries and ignore others. The corporate attention devoted to some units could be explained by the importance of the subsidiaries and their markets, the specific capabilities at certain subsidiaries, or personal ties between corporate and subsidiary managers. Nevertheless, if corporate management is aware they do not know very much about certain subsidiaries' capabilities, the potential problem inherent in biased selection of sources and recipients in the knowledge-transfer process may not be very serious. On the other hand, if corporate management is not aware they do not know very much about a specific subsidiary, the problem is likely to be greater. Therefore, we acknowledge differences in the degree of awareness of subsidiaries' capabilities reported by corporate management.

The actual correlation between corporate-management awareness of subsidiaries' capabilities and the corporate-management ratings of those capabilities is positive and significant. This means corporate management is intentionally devoting more effort to understanding the skills of the most capable units and, conversely, intentionally ignoring the capabilities of the least capable units. This approach is logical in the sense that corporate management then is likely to understand the practices of the seemingly most capable units, even if they may miss capabilities that are developed at the seemingly least capable units. However, corporate management may then be unable to understand why the least capable units perform poorly or to determine how the capabilities of the most capable units best could be absorbed by the least capable units.

The multiple regression model explaining hierarchical perception gaps yields the following results:

Figure 6.2. The multiple regression model[11] for the perception gaps[12].
Dependent variable: Perception gaps
Method: Enter
Model fit: Adjusted R-square 0.210; F 3.271; Significance 0.000

	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.251
Firm effects	Firm 2	-0.070	0.531
	Firm 4	+0.198	0.112
	Firm 5	-0.168	0.167
	Firm 6	+0.349	0.001
	Firm 7	-0.014	0.899
Control	Awareness of how much the corporate manager knows about the unit.	+0.146	0.174
Access to information	Communication between subsidiary and corporate management.	+0.089	0.344
	Use of IT as a communicative tool.	+0.048	0.618
Attention to the unit by corporate management	Strategic importance of market.	-0.064	0.516
	Financial performance of subsidiary.	+0.223	0.019
Symmetric interpretation of information	Dummy indicating whether the subsidiary manager is Swedish.	-0.003	0.970
	Cultural distance to Sweden.	-0.040	0.651
	Degree to which the subsidiary manager approves of corporate actions with respect to knowledge-management	-0.093	0.362

At the aggregate level of analysis, the multiple regression analysis tells us perception gaps are explained by the variables indicating how much attention corporate management assigns to a specific subsidiary. Thus, we find support for the hypothesis that selective attention explains perception gaps, while we do not find support for the hypotheses that asymmetric access to information and asymmetric interpretation of information explain perception gaps. The results and the model are strong. Moreover, there are no indications of multicollinearity[13], heteroscedasticity[14], or autocorrelation[15], and the error term is normally distributed[16].

The control variable – the awareness of how much corporate managers actually know about the subsidiary – is not significant. A speculative reasoning would suggest there are biases regarding how much the corporate managers believe themselves to know about the subsidiaries. There is a weak indication of a positive relationship between awareness and perception gaps. We would expect the degree to which corporate managers are informed of a subsidiary's activities would lead to a lack of perception gaps. The correlation between the awareness construct and the constructs underlying the perception gaps, i.e. self- and corporate evaluations, indicates the corporate evaluations tend to determine the existence of perception gaps in relation to the awareness construct[17]. The more corporate managers believe themselves to know, the less capable they believe the subsidiary to be. However, to be clear, we can not infer such bias in the corporate evaluations. We can merely speculate there may be one.

The strongest finding concerns the attention constructs. The financial performance of the subsidiary has a positive relation to the perception gaps. The better the subsidiary's financial performance, the more positive the perception gap, i.e. the higher the self-evaluation in relation to the corporate evaluation. The correlation between the financial-performance construct and the constructs underlying the perception gaps, i.e. self- and corporate evaluations, shows it is primarily the corporate evaluations that determine the existence of perception gaps in relation to the financial-performance construct[18]. As the financial performance of the subsidiary improves, the corporate manager lowers his/her evaluation of the subsidiary's capabilities, while the self-evaluations improve. This finding is especially interesting given the way in which the financial-performance measure is constructed; it is based on a combination of data from both subsidiary and corporate managers, and it is reliable (Cronbach alpha = 0.7922). Thus, while the evaluators have similar views on the financial performance, they appear to draw opposite conclusions about the unit's capability.

It is evident financial performance and capabilities are not different sides of the same phenomenon. The counter-intuitive finding is that the corporate managers' evaluations of a subsidiary's capabilities decline as its financial performance improves. One explanation is that corporate managers tend to ignore units that are performing well and therefore fail to realize the units' true capabilities. It may be a matter of lack of attention by corporate managers. Another interpretation is that corporate managers actually are not informed about subsidiary capabilities and how these capabilities could relate to actual financial performance. They see

the two constructs as very different things, and they perhaps know much about the financial aspects while neglecting the capabilities. Moreover, the self-confidence of subsidiary managers seems to be dependent on the subsidiary's financial performance.

We also see there are significant firm effects. In relation to other firms, Firm 6 has a high proportion of positive perception gaps. In this perspective, we want to acknowledge two features of Firm 6. Our interviews indicated the corporate managers were quite strict in their evaluations, i.e. they tended to evaluate their subsidiaries as being rather incapable. Moreover, since the firm was in a state of turmoil where subsidiaries were facing potential staff reductions, it may be important for subsidiary managers to boast their capabilities.

To test the model further, we will perform a regression analysis based on the same model as the previous analysis by the stepwise method.

Figure 6.3. The second multiple regression model for the perception gaps[19].

Dependent variable:	Perception gaps		
Method:	Stepwise		
Model fit:	Adjusted R-square 0.240; F 12.715; Significance 0.000		
	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.000
Firm effects	Firm 4	+0.281	0.001
	Firm 6	+0.366	0.000
Attention to the unit by corporate management	Financial performance of subsidiary.	+0.207	0.016

The second regression model (Figure 6.3.) shows – besides the strong firm effect – the attention to information is the single most important explanation for perception gaps. The results from the previous analysis hold. We must be aware our model primarily aims to identify the sources of perception gaps. The purpose of the dependent variable is to indicate subsidiaries' relative over-estimation of their capabilities / corporate managers' relative under-estimation of the units' capabilities[20], or subsidiaries' relative under-estimation of their capabilities / corporate managers' relative over-estimation of the units' capabilities[21]. We are not saying one of the evaluations is correct and the other is not. We are simply analyzing the differences so we can identify the sources of positive and negative perception gaps. To further our understanding of the perception gaps we will run two additional tests. Using the identical

model as in the perception gap analysis, we test how self-evaluations and corporate evaluations are explained.

The multiple regression model explaining self-evaluation yields the following results:

Figure 6.4. The multiple regression model for the self-evaluations of subsidiary market orientation[22].
Dependent variable: Self-evaluation of Market Orientation
Method: Enter
Model fit: Adjusted R-square 0.078; F 1.723; Significance 0.068

	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.217
Firm effects	Firm 2	+0.106	0.406
	Firm 3	+0.181	0.190
	Firm 4	+0.151	0.276
	Firm 5	+0.181	0.220
	Firm 6	+0.285	0.024
Control	Awareness of how much the corporate manager knows about the unit.	-0.020	0.859
Access to information	Communication between subsidiary and corporate management.	+0.076	0.456
	Use of IT as a communicative tool.	+0.107	0.301
Attention to the unit by corporate management	Strategic importance of market.	+0.207	0.053
	Financial performance of subsidiary.	-0.034	0.737
Symmetric interpretation of information	Dummy indicating whether the subsidiary manager is Swedish.	-0.104	0.293
	Cultural distance to Sweden.	-0.137	0.150
	Degree to which the subsidiary manager approves of corporate actions with respect to knowledge-management	-0.167	0.129

At the aggregate level of analysis, the multiple regression analysis tells us the self-evaluations are not accurately explained by the model. The model is not significant and its explanatory power is low. However, there are no indications of multicollinearity[23], heteroscedasticity[24], or autocorrelation[25], and the error term is normally distributed[26]. Besides the significant firm effect concerning Firm 6, which tend to have high self-evaluations relative to the other firms, there is a weak indication the self-evaluations are positively related to the strategic importance

of the market in which the subsidiary is operating. The subsidiary managers seem to see their own units as more capable if their local market is strategically important for the firm.

The multiple regression model explaining corporate evaluation yields the following results:

Figure 6.5. The multiple regression model for the corporate evaluations of subsidiary market orientation [27].
Dependent variable: Corporate evaluation of Market Orientation
Method: Enter
Model fit: Adjusted R-square 0.448; F 8.104; Significance 0.000

	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.688
Firm effects	Firm 2	+0.178	0.068
	Firm 3	+0.185	0.078
	Firm 4	-0.171	0.101
	Firm 5	+0.431	0.000
	Firm 6	-0.206	0.029
Control	Awareness of how much the corporate manager knows about the unit.	-0.229	0.010
Access to information	Communication between subsidiary and corporate management.	-0.030	0.698
	Use of IT as a communicative tool.	+0.023	0.772
Attention to the unit by corporate management	Strategic importance of market.	+0.333	0.000
	Financial performance of subsidiary.	-0.384	0.000
Symmetric interpretation of information	Dummy indicating whether the subsidiary manager is Swedish.	-0.148	0.049
	Cultural distance to Sweden.	-0.142	0.052
	Degree to which the subsidiary manager approves of corporate actions with respect to knowledge-management	-0.067	0.415

At the aggregate level of analysis, the multiple regression analysis tells us the corporate evaluations are well explained by the model. The model is strong and significant. Moreover, there are no indications of multicollinearity[28] or autocorrelation[29], and the error term is normally distributed[30]. There is, however, heteroscedasticity[31]. The model is consequently not reliable if we are to test hypotheses or make predictions. However, the model indicates an answer to our question concerning how the corporate evaluations of capability are explained.

The main indications in Figure 6.5. include, first, significant firm effects. In general, corporate managers in Firm 5 tend to provide relatively high evaluations of their subsidiaries while the managers in Firm 6 provide relatively low evaluations. Corporate managers in Firm 5 seem to be more satisfied with their subsidiaries' capability, while managers in Firm 6 do not. Thus, we can explain the high proportion of positive perception gaps in Firm 6 (see Figure 6.2.) by a combination of both extremely low corporate evaluations and rather high self-evaluations.

Second, as indicated earlier the corporate managers' perceived awareness of how they evaluate subsidiary capability seems to be inaccurate. In fact, the corporate managers tend to provide poor evaluations regarding the subsidiaries they believe themselves to be best informed on. This can be explained in two different ways. The corporate managers may be focusing their attention to the least capable subsidiaries in order to help them improve. This interpretation is consistent with the argument managers tend to primarily devote their attention and efforts to situations in which a predefined objective is not met (Cyert & March, 1963). The alternative interpretation would infer corporate managers decrease their evaluations of subsidiary capability as they improve their understanding of the operations in the particular subsidiary. In this interpretation, the managers may detect more problems the better they are informed on a subsidiary. In both cases, the primary reason for the decreased evaluations would be problems, i.e. failure on some goal indicator (ibid).

Third, the attention constructs – the strategic importance of the market and the financial performance of the subsidiary – are important indicators of how the corporate managers evaluate the subsidiaries. It seems like the corporate managers tend to rate subsidiaries located in strategically important markets as being very capable. Most surprisingly, the financial performance has a negative relation to the corporate evaluations. The corporate managers tend to rate subsidiaries performing well in financial terms as rather incapable. This is not unrealistic since there are many factors explaining financial performance, and marketing capability is merely one of these factors. Performance can be explained by the competitive pressures, the relative power of suppliers and customers, the entry and exit barriers (Porter, 1980) as well as the resources and capabilities inside the firm (Penrose, 1959). Whereas marketing capability has to do with the internal structure of the subsidiary, the other factors have to do with the external industry structure surrounding the firm. Thus, it is possible

managers focus their attention to the external factors when trying to explain subsidiary performance.

Interestingly, the corporate managers, who predominantly are Swedish, generally tend to rate subsidiaries having a Swedish expatriate manager as less capable than other subsidiaries. It seems as if the evaluations are higher if the subsidiary has a non-Swedish executive manager. Our expectation was the opposite. We thought corporate managers would evaluate subsidiaries having executive managers from the MNE's home country – in our case Sweden – higher than what they evaluated subsidiaries having non-Swedish executive managers. On the other hand, there is a weak indication the cultural distance to Sweden tends to be negatively related to the corporate evaluations. Being culturally distant to Sweden reduced the corporate evaluations of subsidiary capability. All in all, it seems like subsidiaries located in countries culturally close the firm's home country and having executive managers from countries other than the firm's home country are favored in the corporate evaluations.

To summarize:

- We reject our null hypothesis [H_0: *There are no perception gaps*].
- Our model (Figure 6.2.) shows support for one alternative hypothesis [H_2: *Selective attention leads to perception gaps*].
- Our model does not, however, show support for two of the three alternative hypotheses [H_1: *Asymmetric information causes perception gaps;* H_3: *Selective interpretation leads to perception gaps*].

The principal finding is that managers in the MNE do not seem to assess effectively the capabilities of marketing units in the firm. There are large perception gaps between corporate and subsidiary managers in their assessments of the capabilities of marketing units. Moreover, the differences are explained by the selective attention paid to specific pieces of information. All in all, our analysis supports the broader argument that assessing capabilities is a boundedly rational process. Another finding is that the corporate evaluations tended to be higher than the self-evaluations.

An interesting indication in our data is that communication between corporate and subsidiary managers does not seem to influence the evaluation of capability. The variables underlying the perception gaps, i.e. corporate and self-evaluations, are not related to the communication frequency. Judging from Cyert & March's (1963) argument that managerial search, i.e. attention, is directed to sub-target performance, we would expect corporate managers to communicate most frequently with subsidiaries that are performing below target levels. This is not the case, however. In conclusion, communication has no influence on the evaluations. The information underlying corporate evaluations must be collected in other ways.

Our analyses based on Figures 6.4. and 6.5. made us form some additional – and somewhat speculative – conclusions. First, the corporate managers tend to be most informed on subsidiaries not being highly skilled or capable. Second, the corporate managers tend to evaluate subsidiaries located in strategic markets as very capable, but the subsidiary managers' self-evaluations show the same pattern. Both sets of managers tend to base their evaluation of a subsidiary's capability on the strategic importance of the market in which it operates. This could be an effect from a conscious strategic effort to develop very capable subsidiaries in the most important markets in order to meet the competition and to enable potential learning from those markets. This would be the rational explanation. Another explanation would argue the managers want to see the situation in which the most capable subsidiaries are located in the most strategic markets and thus unconsciously rate these subsidiaries as highly capable. It could be a case of self-fulfilling prophecies. However, since both sets of evaluations show the same pattern, we believe the former interpretation to be more likely than the latter. There seem to be a pattern in which the most capable subsidiaries are located in the most strategic markets. Third, the corporate managers tend to rate subsidiaries performing well in financial terms as rather incapable. Four, it seems like subsidiaries located in countries culturally close to the firm's home country and having executive managers from countries other than the firm's home country are favored in the corporate evaluations.

6.4. Summary of the chapter

This chapter began by presenting the pilot study, which indicated knowledge management has its problems, and, more specifically, that evaluating capability is not a straightforward matter. Thereafter, the results from the main study were analyzed and discussed. This part of the chapter included presentations of data on market orientation, as well as evaluations of subsidiaries' capabilities by corporate and subsidiary managers. In sum, the findings showed hierarchical perception gaps, but also large variation among the firms. There was also a tendency for subsidiary managers to agree on which subsidiaries were most capable. We then performed a statistical analysis for the purpose of explaining perception gaps. This analysis showed selective attention by corporate managers is the main explanation for perception gaps. The overall conclusion is that evaluating capabilities is a boundedly rational process.

As noted above, our principal finding in Chapter 6 is that perception gaps exist. By implication, the existence of perception gaps is an indication that the proposed three-dimensional internal-structure model of Hagström & Hedlund (1998) accurately describes the organizational structure of the MNE. The position structure – as represented by corporate and subsidiary managers – does not harmonize with the knowledge structure in subsidiaries since there are perception gaps. The perception gaps seem to be due to bounded rationality on behalf of the corporate managers. In addition, there were indications corporate managers actually were culturally biased in their evaluations of subsidiary capability. One possible fundamental reason behind the gaps is that the subsidiaries have different skills than corporate management in certain dimensions, an indication, in turn, that the position and knowledge hierarchies are two separate internal structures of the MNE. We will discuss these issues further in Chapter 8.

Table 6.24. Correlation matrix for constructs in the three multiple regression models.

	Firm 1	Firm 2	Firm 3	Firm 4	Firm 5	Firm 6	Firm 7	Insi	Comhq	IT	Finance	Strmrk	Dumswe	Cultdist	Kmdagr
Firm 1	X	-0.079	-0.081	-0.081	-0.070	-0.059	-0.081	-0.123	-0.031	-0.064	-0.052	mv	-0.096	-0.058	-0.006
Firm 2	X	X	-0.247**	-0.172*	-0.198*	-0.165*	-0.198*	+0.176*	+0.055	-0.057	+0.057	+0.050	-0.001	+0.013	+0.146
Firm 3	X	X	X	-0.222**	-0.255**	-0.213*	-0.255**	-0.229**	-0.116	+0.300**	-0.090	-0.311**	-0.051	+0.099	+0.063
Firm 4	X	X	X	X	-0.178*	-0.149	-0.178*	+0.344**	+0.056	-0.193*	+0.108	+0.317**	-0.148	-0.029	-0.076
Firm 5	X	X	X	X	X	-0.171*	-0.204*	+0.252**	+0.248**	+0.054	-0.202*	+0.008	+0.215*	+0.003	-0.345**
Firm 6	X	X	X	X	X	X	-0.171*	-0.296**	-0.138	+0.022	+0.151	-0.007	-0.073	+0.084	-0.181*
Firm 7	X	X	X	X	X	X	X	-0.216	-0.098	-0.185*	+0.017	+0.016	+0.043	-0.175*	+0.360**
Insi	X	X	X	X	X	X	X	X	+0.054	-0.184*	-0.067	+0.188	+0.073	-0.102	-0.113
Comhq	X	X	X	X	X	X	X	X	X	+0.168*	-0.115	-0.121	+0.175*	+0.018	-0.094
IT	X	X	X	X	X	X	X	X	X	X	-0.174*	-0.204*	+0.005	+0.064	-0.138
Finance	X	X	X	X	X	X	X	X	X	X	X	+0.259**	-0.148	-0.094	-0.070
Strmrk	X	X	X	X	X	X	X	X	X	X	X	X	+0.052	-0.022	-0.006
Dumswe	X	X	X	X	X	X	X	X	X	X	X	X	X	-0.044	-0.119
Cultdist	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0.000
Kmdagr	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

NB! First, significance level below 0.05 is marked with *, and significance level below 0.01 is marked with **. Second, "mv" represents missing values.

Comments regarding the correlation matrix:

1. There are significant firm effects in relation to many constructs. We isolate these effects by using dummy variables for each firm in the regression analysis.
2. There is strong positive correlation between the variables indicating selective attention, i.e. between strategic importance of the market and financial performance. This finding is not surprising given these factors are indicators of the same phenomena.
3. All cases of significant correlation between two variables indicate a potential problem of multi-collinearity. Our analysis, however, shows there is not multicollinearity in any of the regression models.
4. The correlation matrix covers all three regression models – the perception gaps, the self-evaluations, and the corporate evaluations – since the models use the same data/observations.

Table 6.25. Standard deviation for responses from multiple-respondent units - MO score[32].

Firm	Unit	N	Within-unit variance	Across-unit (within firm) variance
Firm 1	Germany	4	0.685	0.869
	UK	5	0.616	0.869
	France	4	0.584	0.869
	Holland	3	0.462	0.869
Firm 2	Sweden	2	0.279	0.533
	UK	2	0.337	0.533
	Benelux*	2	0.539	0.533
	USA*	2	0.875	0.533
	France	2	0.404	0.533
	Germany	2	0.404	0.533
	Japan	2	0.116	0.533
	Italy	2	0.404	0.533
Firm 3	USA	2	0.909	1.056
	UK	2	0.919	1.056
Firm 4	Malaysia	2	0.168	0.530
	Germany*	2	1.044	0.530
	Norway	2	0.067	0.530
	Taiwan*	2	0.640	0.530
	USA	2	0.135	0.530
	UK	2	0.000	0.530
	France	2	0.168	0.530
	Finland*	2	0.976	0.530
Firm 5	Ireland	2	0.236	0.563
	Switzerland*	3	0.648	0.563
	UK*	2	0.572	0.563
	Holland	2	0.370	0.563
	Belgium*	3	0.572	0.563
	Austria	3	0.423	0.563
	Australia	2	0.067	0.563
	Finland	2	0.505	0.563
	Norway*	2	0.572	0.563
	Germany	2	0.415	0.563
Firm 6	Korea*	2	1.010	0.585
	New Zealand	2	0.067	0.585
Firm 7	Holland	2	0.269	0.373
	New Zealand	2	0.135	0.373

Figure 6.6. Scattergram for corporate evaluations and subsidiary self-evaluations (all firms).

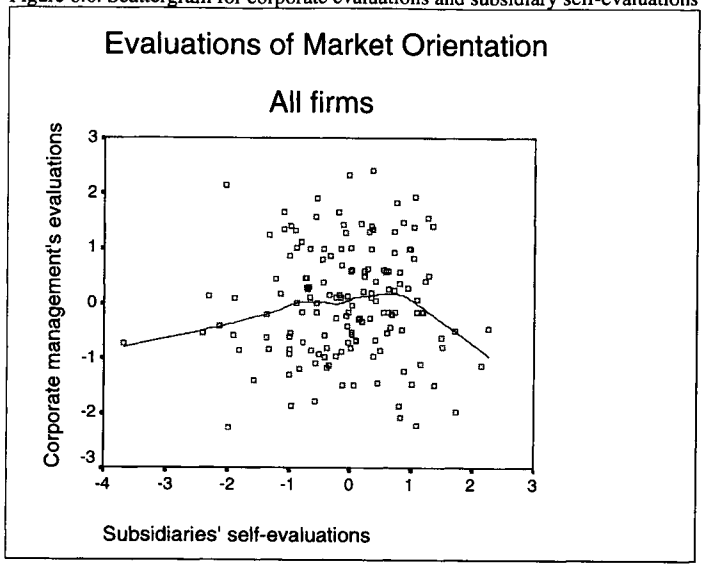


Figure 6.7. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 1).

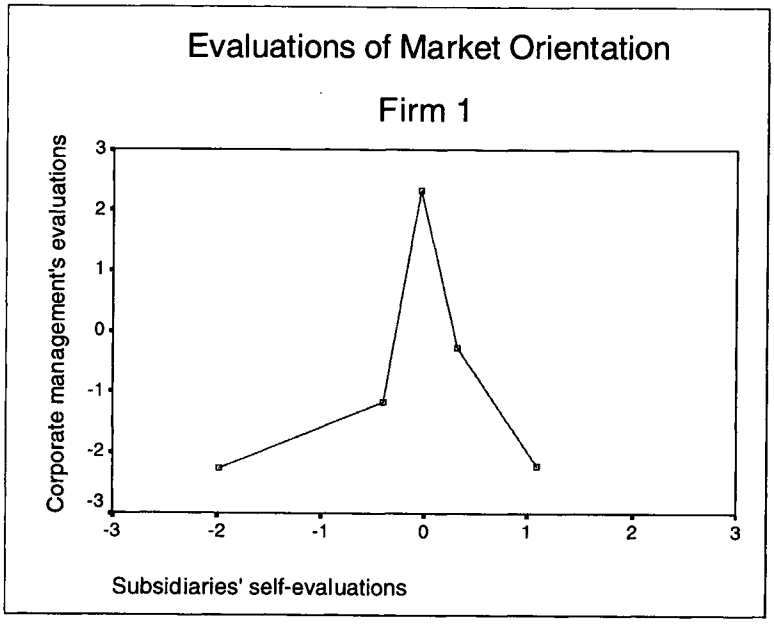


Figure 6.8. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 2).

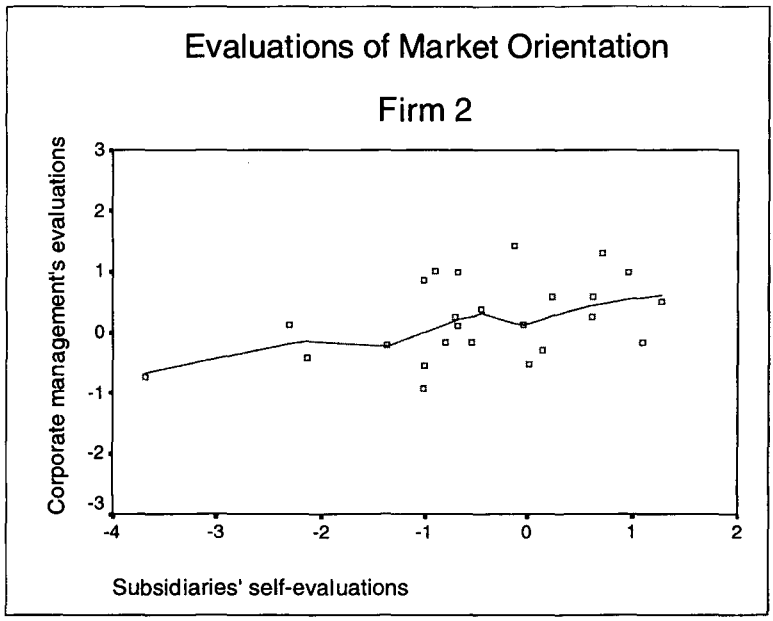


Figure 6.9. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 3).

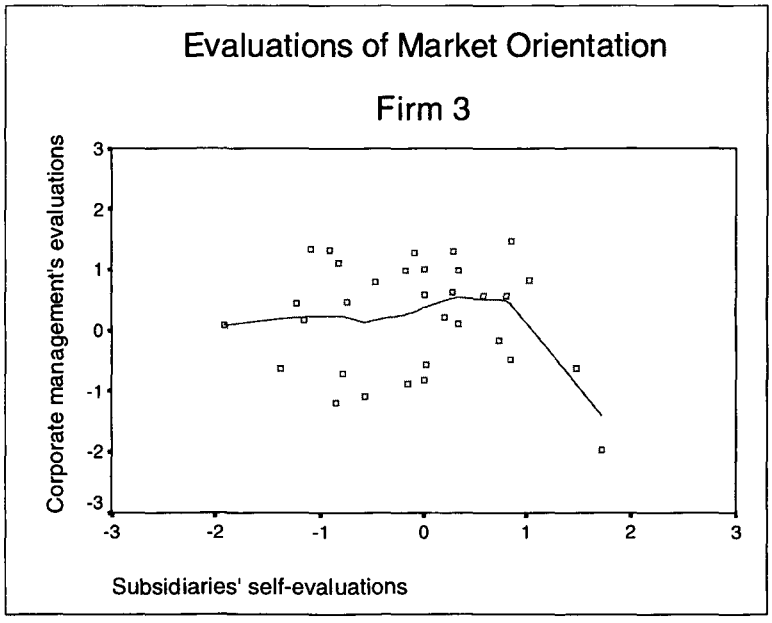


Figure 6.10. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 4).

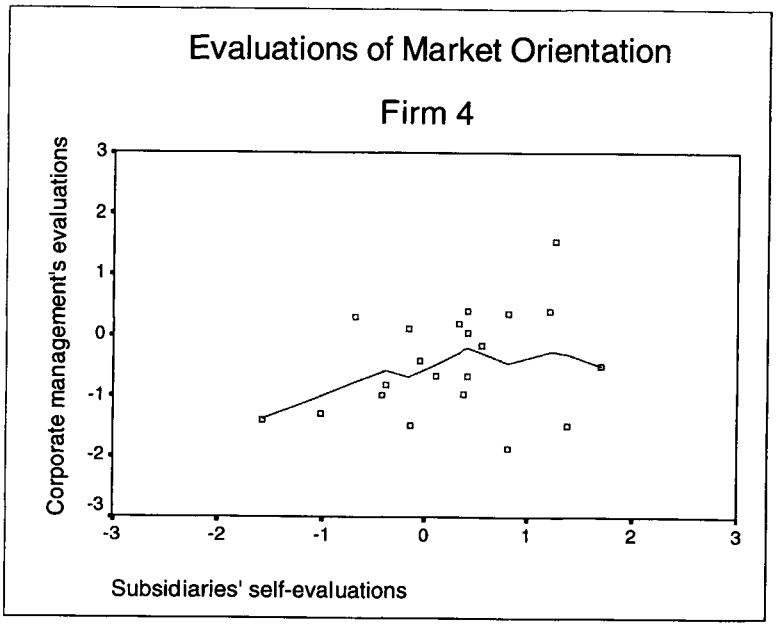


Figure 6.11. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 5).

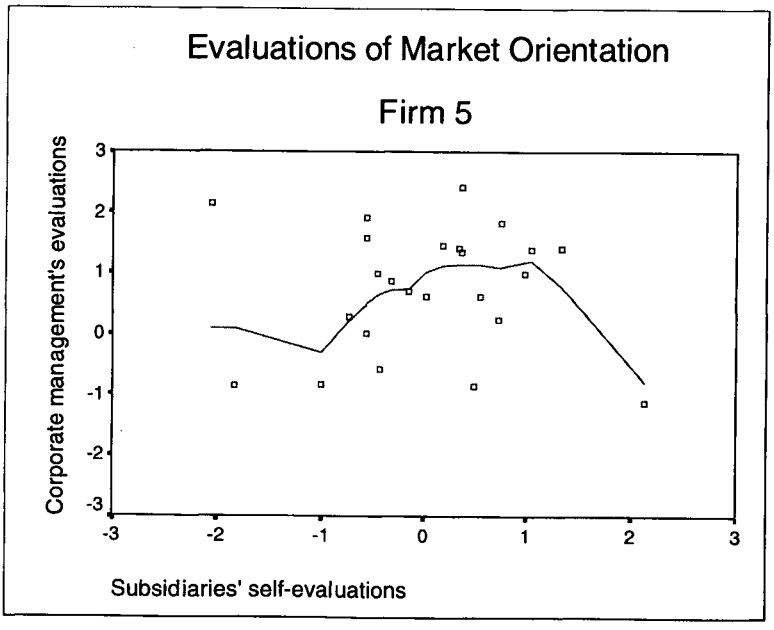


Figure 6.12. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 6).

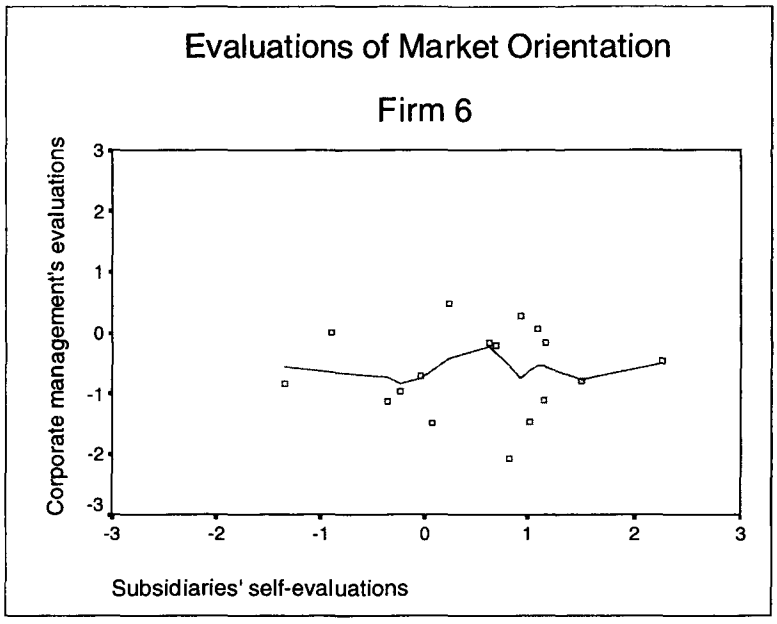
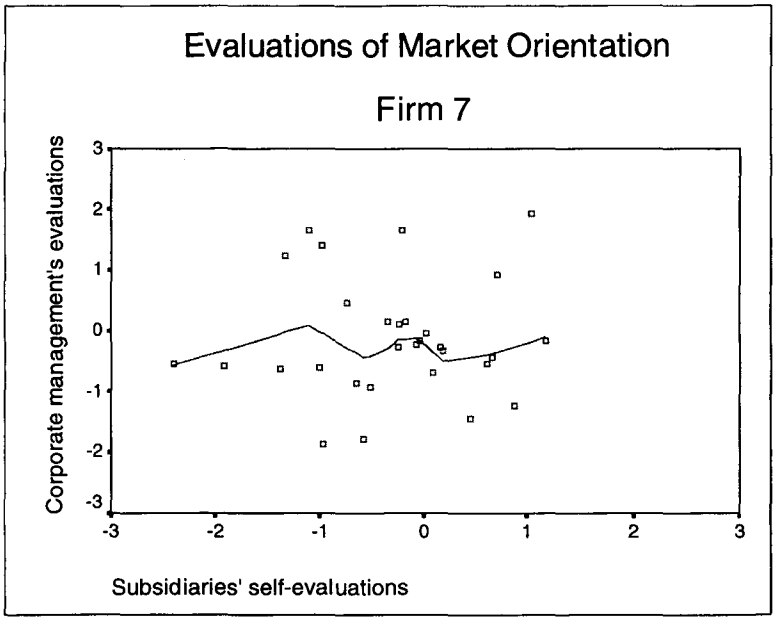


Figure 6.13. Scattergram for corporate evaluations and subsidiary self-evaluations (Firm 7).



1. See Section 3.4.1.
2. The cronbach alpha for Corporate evaluations of financial performance was 0.7414, and for subsidiaries' self-evaluations of financial performance 0.6873.
3. Since there were no responses regarding the capability dimensions "Underwriting" and "Actuarial work", these are excluded from the analysis.
4. Since there were no responses regarding the capability dimension "Ability to integrate activities with R&D units", it is excluded from the analysis.
5. Excluding the dimensions "General marketing" and "Linking up with customers' activities".
6. The correlation between standardized self- and corporate evaluations was +0.029 (a = 0.722) for market orientation and +0.303 (a = 0.000) for financial performance. As previously, Table 6.15. is based on self-evaluations minus corporate evaluations.
7. The standard deviation for the entire sample is 0.699 (n = 83). The total number of units is 36, and the total number of respondents is 83.
8. The standard deviation for entire sample is 3.93 (n = 230). The total number of potential units with multiple respondents is 114, and the total number of units without missing values is 108.
9. The correlation is +0.605 between the lead and the 2nd respondent, +0.603 between the lead and the 3rd, and +0.423 between the 2nd and the 3rd. All are significant at the 1% level.
10. "Perkele" is a Finnish swear word.
11. We used the real value of differences between self-evaluations and corporate evaluations that were standardized at the individual level as the dependent variable. The perception gaps are calculated as self-evaluations subtracted by corporate evaluations. We also tried to use the absolute value of the differences as well as a dichotomized dependent variable in a logistic regression, but neither of these analyses showed any strong results. The reason was that the independent variables had different effects on the constructs underlying the dependent variable depending on whether there was a positive or negative perception gap. Therefore, it would not have been meaningful to compare a negative and a positive perception gap and use the absolute value of the differences. It was important only to use the real value of the perception gaps.
12. The firm dummies for firms 1 and 3 are not included in the model.
13. The condition index value is 5.108 where an index over 10 represents a mild multicollinearity and over 30 a severe one. Also, the correlation measures among dependent variables are all below +0.4 or above –0.4.
14. The scattergram analyses indicates no heteroscedasticity. More importantly, there is no significant Spearman rank correlation between the absolute value of the residuals and any of the independent variables. Also, there is no correlation between the absolute value of the residuals and the predicted values of the dependent variable.
15. The Durbin-Watson statistic is 1.858. In order to reject a hypothesis of no autocorrelation at the 5%-level in a double-sided test, the statistic should have been lower than 1.57 or higher than 2.43. Thus, there is no autocorrelation.
16. A normality test based on the Lilliefors correction to the Kolomogorov-Smirnov test shows that the error term distribution is normal. A hypothesis of normal distribution cannot be rejected ($\alpha = 0.200$).
17. The correlation between awareness and self-evaluation is –0.010 ($\alpha = 0.898$), and the correlation between awareness and corporate evaluation is –0.106 ($\alpha = 0.185$).
18. The correlation between financial performance and self-evaluation is +0.152 ($\alpha = 0.065$), and the correlation between financial performance and corporate evaluation is –0.366 ($\alpha = 0.000$).
19. All other variables shown in Figure 6.2. are excluded in this model.
20. I.e. a positive perception gap.
21. I.e. a negative perception gap.
22. The firm dummies for firms 1 and 7 are not included in the model.
23. The condition index value is 6.126 where an index over 10 represents a mild multicollinearity and over 30 a severe one. Also, the correlation measures among dependent variables are all below +0.4 or above –0.4.
24. The scattergram analyses indicates no heteroscedasticity. More importantly, there is no significant Spearman rank correlation between the absolute value of the residuals and any of the independent variables. Also, there is no correlation between the absolute value of the residuals and the predicted values of the dependent variable.
25. The Durbin-Watson statistic is 1.940. In order to reject a hypothesis of no autocorrelation at the 5%-level in a double-sided test, the statistic should have been lower than 1.57 or higher than 2.43. Thus, there is no autocorrelation.
26. A normality test based on the Lilliefors correction to the Kolomogorov-Smirnov test shows that the error

term distribution is normal. A hypothesis of normal distribution cannot be rejected ($\alpha = 0.200$).

27. The firm dummies for firms 1 and 7 are not included in the model.
28. The condition index value is 5.973 where an index over 10 represents a mild multicollinearity and over 30 a severe one. Also, the correlation measures among dependent variables are all below +0.5 or above –0.4.
29. The Durbin-Watson statistic is 2.279. In order to reject a hypothesis of no autocorrelation at the 5%-level in a double-sided test, the statistic should have been lower than 1.57 or higher than 2.43. Thus, there is no autocorrelation.
30. A normality test based on the Lilliefors correction to the Kolomogorov-Smirnov test shows that the error term distribution is normal. A hypothesis of normal distribution cannot be rejected ($\alpha = 0.200$).
31. The scattergram analyses indicate heteroscedasticity. More importantly, there is significant Spearman rank correlation between the absolute value of the residuals and some of the independent variables (Firm 3, Firm 5, Awareness of how much the corporate manager knows about the unit, and Strategic importance of market). There is no correlation between the absolute value of the residuals and the predicted values of the dependent variable.
32. The standard deviation for entire sample is 0.699 ($n = 83$). The total number of units is 36, and the total number of respondents is 83.

CHAPTER 7. TRANSFER OF BEST MARKETING PRACTICES.

Given the difficulty in evaluating subsidiary capability shown in Chapter 6, this chapter tests how effective the MNE is in using its globally dispersed marketing capabilities. It aims to answer our second research question stated in Chapter 4; Do the evaluations of capabilities by managers and potential differences between evaluations affect the patterns of transferring capabilites in the MNE? In other words, the question this chapter seeks to answer is to what extent managers' assessments of subsidiary marketing capability explain selection of transfer sources. At a first glance at the data it appears as if the most capable units – as evaluated by both corporate and subsidiary managers – tend to be used as transfer sources. In terms of inward transfers, however, it is not the least capable units which receive most of that which is transferred. Thus, transfers flow mainly among the most capable subsidiaries, leaving the least capable somewhat isolated. Based on the first regression analysis in this chapter, we conclude the managers' evaluation of their own subsidiary marketing capability to be the most important when explaining the selection of transfer sources, while corporate evaluations have no influence at all. Given the existence of perception gaps, subsidiary managers' evaluations of their marketing capability determine the selection of transfer sources. By implication, the perception gaps do not influence the process, but we infer an attempt to centralize authority to corporate managers would create many difficulties since the perception gaps then would come into play. In the larger perspective, our results indicate knowledge flows to primarily be explained by the degree of articulation, the characteristics of the sources' markets, and the marketing experience of the sources' managers. By and large, flows are explained by the ease with which transfers are executed, and not by a strategy aiming to intentionally "milk" the most capable subsidiaries to the benefit of less capable ones.

7.1. Introduction

One purpose of this chapter is to test whether transfers are based on the evaluations of capabilities by corporate and the subsidiaries themselves; i.e. whether the most capable units are selected as transfer sources and the least capable units selected as transfer recipients in the process. First, we will outline how transfer patterns relate to evaluations of capabilities. How is the outflow of best practices from units whose self-evaluations were extraordinary high?

How is the outflow of best practices from units that were evaluated as extraordinary capable by corporate management? How is the inflow of best practices to units whose self-evaluations were extraordinary low? How is the inflow of best practices to units that were evaluated as incapable by corporate management? Second, we will test whether outward transfers are explained by self- and/or corporate evaluations. For this purpose we will use the multiple regression model developed in Chapter 5. The basic objective is to determine which evaluations, if any, explain transfer patterns best. We also want to see whether and, if so, how the perception gaps affect the transfer patterns. Moreover, we want to emphasize we are studying evaluations of capabilities with a model (see Chapter 5) incorporating factors found by other studies to predict transfer patterns.

In the previous chapter, we analyzed whether there were perception gaps regarding evaluation of subsidiary marketing capability. The findings indicated large differences between individual firms. Some firms had small or no perception gaps while other firms had significantly large gaps. We then explained the existence of perception gaps in a model based on access to information, selective focus on specific information, and how information is interpreted. This chapter examine transfers of best practices in relation to evaluations of source's marketing capability and to differences in these evaluations, i.e. perception gaps.

7.2. Analyzing transfer patterns

Before analyzing the transfer data, we will perform the tests discussed in Chapter 5 and summarized in Table 5.30. in order to account for potential cross-level fallacies. The inter-rater reliability analysis for outward transfer data is shown in Table 7.1.

Table 7.1. Standard deviation between responses from multiple respondent units – outward transfer frequency[1].

Firm	Subsidiary respondents	Units with multiple respondents	Units with intra-unit standard deviation lower than inter-unit standard deviation	
			Units	Percent
Firm 1	3 – 5	4	2	50 %
Firm 2	2	8	8	100 %
Firm 3	2	2	1	50 %
Firm 4	2	7	5	71 %
Firm 5	2 – 3	9	7	78 %
Firm 6	2	2	1	50 %
Firm 7	2	2	2	100 %
All firms	*78*	*34*	*26*	*76 %*

In the eight cases for which the intra-unit standard deviation is larger than the inter-unit standard deviation within the firm, there are cross level-fallacies. The other 26 cases show homogeneous intra-unit opinions in terms of outward-transfer-frequency data. It should be noted the reliability for the outward-transfer construct is high ($\alpha = 0.8400$), thus indicating the construct is reliable and it is the respondents' replies concerning transfers which differ. Overall, the analysis shows the risk of cross-level fallacy is low since the intra-unit standard deviation is less than the inter-unit standard deviation in the overwhelming majority of the cases.

7.2.1. The quantitative data

We will now present the data regarding transfers of best practices. An initial pre-condition for transfer in the MNE is that capabilities differ among the firm's subsidiaries. Chapter 6 showed that this pre-condition is met. We did not, however, discuss the degree to which there is learning potential, i.e. the size of differences in capability levels, and its relation to transfer frequency. The actual need to transfer practices is of course less in firms where the differences in capabilities between subsidiaries are small. We therefore expect less frequent transfers within such firms. Our first step is to relate learning potential to the transfer frequency at each firm. Our measure of the firm's learning potential, i.e. the standard deviations of its market-orientation scores, indicates the extent to which there are differences between the subsidiaries' market orientation. A low standard deviation indicates small differences, an indication in turn that the subsidiaries have little to learn from each other, since they are already almost equally market-oriented.

Table 7.2. tells us the learning potential actually decreases when the transfer frequency increases. The correlation is –0.703 at $\alpha = 0.078$ ($n = 7$). One possible explanation is that the transfer frequency should be seen as historic data, whereas the transfer potential is a current measure of differences in capability. This interpretation means that a high historic transfer frequency has successfully reduced capability differences between subsidiaries. The future transfer frequency could consequently be expected to decrease in the firms with low learning potential. This interpretation will hold if there is little innovation regarding practices, but it

may not hold if the degree of innovation is high. Any valuable innovation will create a new learning potential which will not be reduced until the new capability is transferred.

Table 7.2. Learning potential, transfer frequency and perception gaps by firm.

Firm	Units	Learning potential (standard deviation of MO score)	Transfer frequency (average of in and out)	Proportion of capability dimensions with perception gaps (see table 6.10.)
Firm 1	5	20.8	3.20	100 %
Firm 2	25	15.7	4.75	67 %
Firm 3	32	13.9	4.40	86 %
Firm 4	21	14.6	4.40	80 %
Firm 5	24	17.1	4.55	50 %
Firm 6	17	19.7	4.20	80 %
Firm 7	30	13.0	5.45	33 %
All firms	*154*	*15.6*	*4.60*	*69 %*

The next issue is whether or not perception gaps affect transfer frequency. As seen in Table 7.2., there is a clear pattern at the firm level regarding gaps and transfer frequency. The two firms with the fewest perception gaps, Firms 5 and 7, have high transfer frequencies. In other words, the relationship between perception gaps and transfer frequency is negative and significant (–0.882; α=0.009; n=7). This finding is consistent with our intuitive expectation that the transfer frequency is stimulated by a lack of perception gaps.

The last issue concerns the learning potential in each firm. We are not a priori certain of the relationship between a high learning potential and the existence of perception gaps. The correlation between the standard deviation of the market orientation and perception gaps is positive but not significant (+0.450; α=0.310; n=7). It is not unlikely a positive relationship would have been found given a larger sample. Paradoxically, the implication may be the higher the learning potential, the greater the gains from transfers but the more difficult the evaluation process. This finding is intuitively appealing. The irony is that perception gaps are least likely when the transfer potential is low, i.e. when transfers are not very valuable.

The next question concerns whether the units that – based on some measure of operational performance – are the most capable in the firm, also are the main knowledge providers. In other words, first, are there large outflows of capabilities from the most capable units, and, second, are there large inflows of capabilities to the least capable units. If these two conditions are met, knowledge management will be effective.

Table 7.3. shows the firms – on average – are quite effective in leveraging the units that are the most market-oriented. The correlation between outward flows and evaluations of market orientation by both corporate management and the subsidiary management is positive and significant. However, the table also shows firms – on average – are not effective in directing transfer flows to the units that are not capable. There is no correlation between inward flows and the evaluations. If the flows were directed to the units that are not very market-oriented, the correlation would be negative and significant.

Table 7.3. In- and outward transfer frequencies in relation to self- and corporate evaluations of capabilities.

Firms	Outward transfers and Corporate evaluations.	Outward transfers and Self-evaluations.	Inward transfers and Corporate evaluations.	Inward transfers and Self-evaluations.
All	+0.240** (n=154)	+0.187* (n=166)	-0.038 (n=151)	+0.139 (n=162)

Table 7.3. shows outward transfers are highest from the subsidiaries that are most market-oriented, but it also indicates these units have high inward flows. This finding is confirmed when we relate outward and inward transfers to the market-orientation index based on the 21 items. The outward transfers and market-orientation index are positively correlated (+0.214**; n=171). Moreover, inward transfers and market-orientation index are also positively correlated (+0.330**; n=168). Thus, capabilities do not flow from the most capable to the least capable units. Instead, there are large inward and outward flows to and from the most capable units, and a relative isolation of the least capable units. One explanation for this phenomenon could be the importance of absorptive capacity, which has been found to influence knowledge transfers (Szulanski, 1995). If a unit has a strong ability to learn, i.e. to absorb capabilities, it will gradually become more and more capable in performing tasks, and arguably also increase its absorptive capacity in the process. The unit may end up in a virtuous circle where both its ability to perform certain tasks and its learning ability are constantly increasing. On the other hand, if a unit's absorptive capacity is low to start with, it will be less likely to learn and to improve its ability to absorb practices. With an initial poor learning capacity, it is unlikely to improve its ability to perform tasks as well as its future learning capacity. The unit may end up in a vicious circle where it is unable to learn and unable to improve its capacity to learn. Thus, the data in the tables above suggest there are groups of subsidiary units some of which are in a virtuous learning cycle while others are caught in a vicious cycle of non-learning. In other words, perhaps a subsidiary must already possess certain skills in order to acquire new ones.

Table 7.4. shows the firms – on average – are effectively leveraging the units that are performing well financially. The correlation between outward flows and financial performance is positive and significant. However, the table also shows that the firms – on average – are not effective in directing transfer flows to the units that are not performing well in financial terms. There is no correlation between inward flows and financial performance. If the flows were directed to the units that are not performing well financially, the correlation would be negative and significant. These results are similar to the ones in Table 7.3. When comparing tables 7.3. and 7.4., we see that outward transfers are better explained by financial performance than by actual capabilities. Inward transfers are not explained by any type of evaluation.

Table 7.4. In- and outward transfer frequencies in relation to self- and corporate evaluations of financial performance.

Firms	Correlation between Outward transfer frequency (Best Practices) and Financial performance.	Correlation between Inward transfer frequency (Best Practices) and Financial performance.
All	+0.309** (n=170)	+0.003 (n=167)

We also want to address the questions of transfer frequencies and evaluations of capabilities to each specific firm in order to detect any firm differences that may exist. Table 7.5. tells us the transfer patterns differ significantly among the firms. The firm that best follows the ideal transfer pattern – i.e. with a positive correlation between capabilities and outward transfers and a negative correlation between capabilities and inward transfers – is Firm 7. The firms that are effectively leveraging the most capable units include Firms 3 and 2 as well as Firm 7. Firms 2 and 3, however, are not effective in directing transfer flows to the least capable units. The other four firms all have inconsistent transfer patterns; i.e. the firms are not effectively leveraging the most capable units to the benefit of the least capable units.

Table 7.5. In- and outward transfer frequencies in relation to self- and corporate evaluations of capabilities.

Firms	Outward transfers and Corporate evaluations.	Outward transfers and Self-evaluations.	Inward transfers and Corporate evaluations.	Inward transfers and Self-evaluations.
Firm 1	+0. 024 (n=5)	-0.421 (n=5)	-0.164 (n=5)	-0.602 (n=5)
Firm 2	+0.513** (n=27)	+0.540** (n=28)	+0.223 (n=26)	+0.484* (n=27)
Firm 3	+0.442* (n=32)	+0.382* (n=32)	-0.058 (n=32)	+0.400* (n=32)
Firm 4	+0.155 (n=20)	-0.043 (n=31)	+0.273 (n=18)	+0.428* (n=29)
Firm 5	+0. 183 (n=23)	+0.082 (n=22)	+0.110 (n=23)	-0.029 (n=22)
Firm 6	-0.190 (n=18)	-0.282 (n=18)	-0.413 (n=17)	-0.116 (n=17)
Firm 7	+0.398* (n=29)	+0.549** (n=30)	-0.131 (n=30)	-0.019 (n=30)

The results do not change much if we perform the same analysis of transfer patterns on the basis of financial performance instead of evaluations of capabilities. The pattern is still most effective in Firm 7, with Firm 2 as second-best. The patterns in Firms 3, 4, and 5 are rather effective in terms of outward transfers from the profitable units, whereas the inward transfer patterns of these firms' are not effective. The patterns in the other firms, i.e. Firms 1 and 6, are still very inconsistent.

Table 7.6. In- and outward transfer frequencies in relation to self- and corporate evaluations of financial performance.

Firms	Correlation between Outward transfer frequency and Financial performance.	Correlation between Inward transfer frequency and Financial performance.
Firm 1	-0. 024 (n=5)	+0.325 (n=5)
Firm 2	+0.467** (n=31)	+0.014 (n=30)
Firm 3	+0.310 (n=32)	+0.104 (n=32)
Firm 4	+0.274 (n=30)	+0.333 (n=28)
Firm 5	+0. 342 (n=23)	-0.056 (n=23)
Firm 6	-0.170 (n=19)	-0.230 (n=18)
Firm 7	+0.514* (n=29)	-0.131 (n=31)

To sum up, our initial analysis tells us the outward transfer patterns are better explained by measures of financial performance than measures of operational performance, i.e. capability measures. At the aggregate level, both types of measures are explaining outward transfer patterns reasonably well. None of the measures, however, explain inward transfer patterns. At the firm level, we see large differences between firms. Three of the seven firms (see Table 7.5.) have outward transfer flows that can be explained by capability evaluations. For none of the firms are there strong indications that inward flows are justified by the evaluations of the units' capabilities.

7.2.2. The qualitative data

Given the discussion by Hagström & Hedlund (1998) and Hedlund (1986; 1993) about the organizational structure and its relation to knowledge transfers, we will report our empirical data in relation to the issue of centralization or decentralization in knowledge-transfer systems. The firms we surveyed generally wanted both at the same time. The typical model that emerged from the interviews was based on centralized control but decentralized implementation and initiative. The managers saw no inherent contradiction in this approach,

according to which corporate management sets strict limits on what the subsidiaries are allowed to do, and the subsidiaries are thereafter free to do whatever they want within these limits. In addition, corporate management may prioritize the task of creating tools to facilitate actual implementation of capability transfers between subsidiaries. Two of the firms surveyed had no formalized ambitions for the knowledge-transfer structure. Their system could be characterized as horizontal in nature; i.e., operative subsidiaries took initiatives depending on their own needs. In effect, this system implied a rather ad-hoc approach to capability transfers, an approach which was not ideal for the firms, but was more a legacy of an organizational history involving repeated mergers or significant organic growth.

In sum, we identified three different approaches (see table 7.7.):

1. Strict hierarchical control via formalized measures and monitoring. Horizontal implementation with centralized supervision.
2. Hierarchical planning and support, but horizontal initiatives and implementation.
3. Little hierarchical control, and ad-hoc horizontal initiatives and implementation.

It should be noted there was no clear pattern showing which of these approaches was most successful. In this sense, we base success simply on transfer frequency (see Table 7.2.). The two most successful firms had adopted the first or the second of the approaches outlined above. The success of any approach is consequently – and not surprisingly – dependent on surrounding factors such as industry growth and change. Clearly, the third approach was not very successful. We should not forget other factors that could justify a centralized system, however. For instance, "*the need for a united front toward customers is a good reason for having a centralized knowledge management system*" (Wahlén, Firm 6^2).

One of the managers interviewed stressed the evolving nature of power and control in knowledge management. "*The choice between hierarchical vs. horizontal dominance in the transfer patterns is of a cyclical nature. As subsidiaries improve their financial performance, the corporate managers allow them more freedom, and horizontal transfers increase. The pendulum swings back when financial performance deteriorates. In reality the pattern goes back and forth in a cyclical pattern*" (Hunter-Pease, Firm 5). Thus, the knowledge-management system seems to be characterized by natural changes in, for instance, subsidiary freedom and decision-making.

The structures set up by firms to encourage transfers were in most cases based on restricted geographical areas. Many of the firms were trying to integrate activities and to stimulate capability transfers within specific regions instead of globally. These regions were based on geographic and cultural proximity. The Nordic countries[3] were often treated as a region, there was frequently a Germanic[4] region, and there was a Latin region[5]. A subsidiary CEO was generally in charge in each country, but there was also a board of directors that was headed by managers from other subsidiaries in the region. Under this arrangement the country managers shared responsibilities for the entire region. The aim was to stimulate integration and capability transfers. An inherent risk associated with the capability-management structure, a risk identified in the pilot study as well as by one of the firms surveyed, is that each individual country become too powerful. In these cases, the country could be optimized while potential cross-border synergies were ignored. The reported regional structure aimed to control this risk. One firm had the ambitious goal of creating a three-dimensional virtual matrix – or a network – organization based on geography, clients, and capabilities. Exactly how the firm intended to implement this structure, however, was unclear at the time of our study.

One issue often put forward in discussions on knowledge management is that of incentives for transferring and sharing knowledge. There are alleged stories[6] about a study of a management consulting firm in which people actually had negative incentives to share information and experience. The career paths in the firm were based on the particular knowledge and skills of the individual consultant; sharing unique experience and skill could thus hurt his/her potential career. Moreover, there were no formal positive incentives that could outweigh this disincentive. Generally, there was little sharing of skills until the incentive structure was changed.

The managers in the firms which we studied had surprisingly negative attitudes toward a formal incentive structure aimed at increasing capability transfers. Only two of the seven firms had an incentive structure that – hopefully – could stimulate transfers. In both cases the incentive system was focused on subsidiary managers; an annual bonus would be calculated on the basis of both the subsidiary's and the global/regional financial performance, i.e. total sales or operating income. A third firm had an incentive system based on social recognition. At the regular management meetings, formal praise and attention were given to subsidiaries

for particularly successful achievements. The purpose was not only to encourage good performance, but also to make the meetings a forum for sharing valuable experience and knowledge. The remaining four firms had no incentive systems. All in all, monetary and other formal incentives were not seen as the best way to encourage transfers of capabilities. A similar finding was also reported by Szulanski (1995; 1996). A knowledge-sharing culture was regarded as more important. In essence, "*the most important factor for transfers is a culture focused on sharing*" (Ekdahl, Firm 7).

The systems used for transferring knowledge can be divided into two groups. One is based on information technology and information systems while the other is based on personal interaction and face-to-face socialization (Earl & Scott, 1998; Hansen et al, 1999). The firms surveyed differ greatly in their preferences for one or the other of the two systems. The strongest support is for the second alternative, i.e. personal interaction and face-to-face socialization. All firms except one emphasized the importance of socialization as the most important way to stimulate capability transfers. One of these firms had a structured approach that encouraged regular management rotation among subsidiaries as well as between subsidiaries and corporate headquarters. A position at headquarters was seen as temporary; the corporate manager was expected to move back to an operative subsidiary after some time. This practice had made managers develop a good understanding of each subsidiary's marketing capability. One corporate manager described the situation as: "*We are a rather holographic company*" (Munn, Firm 5). The firm had intentionally sought to become "holographic" – in the sense meant by Thompson & Tuden (1959). Its ambition was that managers should be informed about all subsidiaries' activities. The firm that did not articulate a belief in socialization had been going through a long period of mergers and was experiencing significant post-merger integration problems at the time of our study. Because of cultural conflicts, socialization was not high on their agenda at that time.

One of the firms had invested heavily in IT/IS and was very satisfied with their system. "*Our network makes us a globally integrated information and knowledge-sharing organization. The IT/IS system is the key to the network*" (Nyström, Firm 3). The system enables the firm to integrate customer approaches globally through shared access to an on-line data base. The data base contains product information, product applications, and general experience, as well as problem solving suggestions. For instance, a sales representative can access and utilize the

data base via a mobile phone and a lap-top computer while out in the field. Although this effort has met with significant recognition and success, the firm still acknowledged the importance of socialization. All in all, socialization was by far the most commonly used system for sharing knowledge. As empathetically expressed by one of the managers interviewed, "*Competence transfers have to be done face-to-face!*" (Wallin, Firm 2).

One particularly interesting finding which needs more elaboration is the "competence succession plan". One firm had detailed maps of the various capabilities of each manager. From these maps the firm developed succession plans that were implemented when a manager left the firm. A replacement was preliminarily appointed in advance and while retaining his/her current tasks was thoroughly prepared for assuming the new tasks when the time came. The system can be described as long-term capability management planning. Underlying this system was the belief that capabilities are very important, are not easily or quickly replaced, and fundamentally reside in people. Thus, to minimize the harm done to the organization when someone leaves, capability management would benefit from "competence-succession plans".

The interviews also answered the question whether marketing capabilities are transferable, as well as the related question whether on balance anything is to be gained from the transfer. To paraphrase the latter question, are there sufficient economies of scale and/or scope to warrant transfers of marketing capabilities, or is local adaptation so important that transfers are virtually worthless? The answers provided in the interviews are that transfers indeed are both possible and valuable. One quote sums it up: "*Around 10-15 percent of our marketing efforts are tailor-made to local standards, and 85-90 percent is standardized globally. Thus, the potential for transfers and knowledge-sharing is high*" (Wallin, Firm 2). At the same time, there is a factor that limits the attention devoted to transfers – transfers may be crowded out by more acute tasks. "*To transfer knowledge in marketing is difficult since the employees never have time to look for information and knowledge. They are focused on selling and nothing but selling*" (Jonsson, Firm 3). It may be that marketing by nature tends to favor local exploitation, i.e. within each subsidiary, and to neglect existing opportunities for global exploitation.

Another indication in the interviews was that the most problematic issue in capability management involves the least capable subsidiaries. The most capable ones could most often

take care of themselves since they had necessary resources and skills to find and absorb capabilities on their own – i.e. for inward transfers of capabilities. They often belonged to successful intra-firm networks enabling them to develop and learn new skills. The quantitative data also indicated most transfers occurred among the most capable units. The least capable units were often the most isolated. As one manager expressed it: "*The 80-20 rule says that 80 percent of corporate-management attention is focused on 20 percent of the subsidiaries*" (Stix, Firm 2). We found that most resources and most managerial attention – the 80 percent – tended to be directed toward the most capable units – the 20 percent.

To sum up, the qualitative data yields the following findings: First, the overall organizational structure tends predominantly to be hierarchically controlled but is deliberately designed to permit decentralized initiatives and action. This structure also seemed to change back and forth in an organic fashion. Second, the integration efforts are restricted to particular regions; global integration and transfers are less likely. Third, there are often no formal incentives for sharing knowledge. The incentive – if any – resides in an organizational culture that emphasizes personal recognition for outstanding achievement. Fourth, socialization – as a mechanism for knowledge transfers – is preferred over IT/IS solutions. Other interesting findings included the "competence-succession plan", that the managers definitely see valuable benefits in transferring marketing capabilities, and that the knowledge-management efforts are focused on top achievers only. Last, the knowledge-management system has a changing and evolving nature. The existing system should always be considered somewhat temporary.

Table 7.7. Summarizing the empirical findings on approaches to transfers of capabilities.

Firm	Is IT/IS important?	Is socialization important?	Is there an incentive system?	Is control mainly hierarchical or horizontal?	Other interesting features of organizational structure?	Other interesting findings?
Firm 1	Yes	Yes, "interaction is important".	No	Centralized control but horizontal implementation.	The goal is to create a virtual matrix / network based on geography, clients and competence	Capabilities are believed to reside in people. "Competents" are the most important factor.
Firm 2	Yes, but socialization is more important.	Yes, face-to-face meetings are very important.	No	Horizontal transfers but hierarchical decisions, i.e. central control and decentralized but limited action.	The structure is a pull system with centralized planning.	A competence-succession plan is followed. Marketing capabilities are believed to be possible and valuable to transfer.
Firm 3	Yes, very.	Yes, shared attitudes are important.	No	Top-down planning and support and bottom-up initiatives and implementation.	Formalized regional integration.	Marketing capabilities are difficult to transfer because of crowding-out effects. There is no time. The most difficult issue is how to upgrade laggards. The firm has bias in focusing mainly on information management.
Firm 4	Yes, for information.	Yes, meetings are very important.	Yes, based on total sales in each region	Ad-hoc and horizontal structure.	No formalization of the structure but regional integration.	Transfers are not formalized, but are a natural part of day-to-day activities. At the same time, the high industry growth does not allow managers to reflect upon procedures.
Firm 5	Yes, for information.	Yes, via employee rotation.	No	Hierarchical control and interaction with subsidiaries, i.e. central control and decentralized but limited action.	Task oriented corporate-subsidiary co-operation.	There is a financial bias in capability evaluations. The dominance of hierarchical vs. horizontal authority is cyclical
Firm 6	Well, it was not emphasized.	Well, it was not emphasized.	Yes, based on own subsidiary and global results.	Ad-hoc and horizontal structure.	The organizational matrix was too geographic for transfers to occur. The pendulum is shifting toward a stronger product axis.	"*The managers of today are too result-oriented. Helping and sharing are not part of their vocabulary*" (Wahlén).
Firm 7	Yes (recent attitude change in the firm)	Yes, via employee rotation.	Yes, social status and recognition.	Horizontal with strict hierarchical control. All capability measures are formalized and monitored.	Most transfers are done within each region.	Marketing capabilities are believed to be possible and highly valuable to transfer.

7.3. Explaining transfer patterns in relation to evaluations of capability

The analysis so far indicates practice-transfers flow from the most capable units but not to the least capable units. These indications need to be tested more rigorously. Thus, we want to test whether the evaluations of capabilities help to explain choices of sources in the transfer process while still acknowledging other factors previously found to influence the transfer process. More specifically, we want to find out whether evaluations of capabilities, including self- and corporate evaluations, can explain choices of sources in the transfer process. Finally, we want to see whether perception gaps, i.e. differences between corporate and self-evaluations, affect transfer patterns. In performing the test, we use the model explained in Chapter 5 in a multiple regression analysis.

To start with, we will use a simplified version of the model developed in Chapter 5 in order to test only the effects of evaluations – corporate and subsidiary – on the selection of transfer sources. In this simplified model we only include corporate and subsidiary evaluations as the independent variables. We also isolate potential firm-effects by using a dummy variable for each firm. The dependent variable is the outward transfer frequency from each subsidiary. The result of the multiple regression analysis based on the complete model is given below (Figure 7.1.). There are no indications of multicollinearity[7], or autocorrelation[8], and the error term is normally distributed[9]. However, there is heteroscedasticity[10]. The model is consequently not reliable if we are to test hypotheses or make predictions. However, the model indicates an answer to our question concerning whether evaluations of capability determine the selection of transfer sources.

Figure 7.1. The simplified multiple regression model for outward transfer frequencies[11].

Dependent variable:	Outward transfer frequency of capabilities		
Method:	Enter		
Model fit:	Adjusted R-square 0.048; F 1.910; Significance 0.063		
	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.076
Firm effects	Firm 1	-0.029	0.736
	Firm 2	+0.120	0.231
	Firm 4	+0.258	0.010
	Firm 5	+0.112	0.269
	Firm 6	+0.096	0.337
	Firm 7	+0.243	0.019
Perceptions of capabilities	Evaluation by corporate managers	+0.016	0.863
	Self-evaluation	+0.161	0.065

As seen in Figure 7.1., the evaluations seemingly having some influence on the selection of transfer sources are the ones made by subsidiary managers, i.e. their evaluations of their own subsidiary's marketing capability. The corporate evaluations have no influence at all. Overall, the evaluations provide little explanatory power to the selection of transfer sources, which indicate other forces to be highly influential. We therefore turn to the complete model. After having isolated the effect of other factors on transfers, we will test the following hypotheses more rigorously:

- *H4a:* The corporate managers' evaluations of capabilities determine the selection of sources in the capability-transfer processes.
- *H4b:* The subsidiary managers' self-evaluations of capabilities determine the selection of sources in the capability-transfer processes.
- *H5:* Perception gaps limit the effectiveness of the transfer processes.

In our models, we use control variables to isolate the effect of the following findings in previous research:

- Communication and inter-connectedness provide the fundamental conditions for transferring skills and should facilitate transfers.
- Tacit knowledge is more difficult to transfer, and the restrictions on codifying and teaching one's knowledge should limit the transfer flow.
- The strategic importance of the local market will explain the outward transfer of practices. If the unit is operating in an extraordinarily strong local market, the likelihood the unit will develop strong skills is high, and transfer will then be likely.
- The easiest and most standardized indicators of capabilities are financial performance measures. The possibility that outward transfers of practices will be explained by financial performance cannot be ruled out. Also, the marketing experience of the subsidiary manager, wherever acquired, is likely to affect transfer frequency.

The result of the multiple regression analysis based on the complete model is given below (Figure 7.2.). There are no indications of multicollinearity[12], autocorrelation[13], or heteroscedasticity[14], and the error term is normally distributed[15]. Thus, this model is providing reliable estimates, which can be used for hypothesis tests as well as prediction.

Figure 7.2. The multiple regression model for outward transfer frequencies[16].

Dependent variable:	Outward transfer frequency of capabilities		
Method:	Enter		
Model fit:	Adjusted R-square 0.172; F 2.520; Significance 0.006		
	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.047
Firm effects	Firm 2	+0.138	0.262
	Firm 4	+0.307	0.033
	Firm 5	+0.237	0.057
	Firm 7	+0.192	0.114
Connectedness with rest of firm	Communication with other units	-0.018	0.867
	Degree of centralized decision-making	-0.120	0.253
Stickiness of capabilities	Observability of capabilities	+0.069	0.495
	Codifiability of capabilities	+0.050	0.641
Local market	Strategic importance of market	+0.076	0.500
Characteristics of subsidiary	Financial performance	+0.261	0.021
	Marketing experience of units' CEO/Marketing manager	+0.226	0.031
Perceptions of capabilities	Evaluation by corporate managers	-0.010	0.936
	Self-evaluation	+0.140	0.166
	Hierarchical perception gap	*Excluded*	*Excluded*

The multiple regression analysis in Figure 7.1. above, based on the enter method, primarily shows outward transfer frequency is explained by subsidiary managers' experience in marketing, and the financial performance of subsidiaries. There are also strong firm effects. More importantly, in our analysis of how evaluations of capabilities relate to transfer patterns, the main – but weak – indication is that the selection of sources in transfer processes – as indicated by outward transfer frequency – is based on the self-evaluations, i.e. how managers evaluate the capabilities of their own units, also relate to the sourcing decision. The corporate evaluations, on the other hand, have no bearing on the outward transfer frequency. Moreover, the perception-gap variable is automatically excluded from the model. It was expected that one of the three variables – self-evaluations, corporate evaluations, and hierarchical perception gaps – would be excluded from the model. One of these would not add value to the model since the perception-gap variable is calculated from the self-evaluations and the corporate evaluations. We still included all three since we wanted to see which of them best explained transfers. Logically, the perception-gap variable was excluded since self-evaluations is the strongest indicator of selection of sources in transfer processes. If subsidiaries themselves

select the sources, as is suggested by the relatively stronger importance of self-evaluations compared to corporate evaluations, we would not expect hierarchical perception gaps to be a major problem. To be clear, the process is decentralized.

Interesting findings are that the "connectedness", the "stickiness", and the local market constructs did not explain transfers. Overall, the main variables explaining capability transfers are the financial performance of the subsidiary, and the managerial marketing experience. To proceed further, we performed a second regression analysis based on the complete model by using the stepwise method.

Figure 7.3. The second multiple regression model for outward transfer frequencies[17].

Dependent variable:	Outward transfer flows of capabilities		
Method:	Stepwise		
Model fit:	Adjusted R-square 0.162; F 10.186; Significance 0.000		
	Independent variable	Beta-coefficient	Significance
Constant	-	-	0.200
Firm effects	Firm 3	-0.226	0.019
Characteristics of subsidiary	Financial performance	+0.333	0.001

The second regression model in Figure 7.3., i.e. the stepwise method, yields similar results as the previous analysis. There is one difference, however. In this case, the only variables besides the firm effect explaining outward transfer frequency, and thus the selection of sources in the knowledge-transfer process, is the financial performance of the transfer source.

All in all, the results tell us the selection of transfer sources is primarily based on the financial performance of the subsidiaries. In addition, the experience of the subsidiary managers is important in explaining outward transfers. There were several results contradicting previous findings. First, the tacitness of the capabilities transferred – as indicated by codifiability and observability – has been found to be an important factor in knowledge transfers. In our case, it did not explain transfers. Second, there is a long research tradition based on the idea that MNE's are able to tap in to knowledge pools in local markets in order to leverage such knowledge throughout the firm, and that they actively seek to do so. This was not found in our data. Also, communication frequency as well as the degree of centralized decision-making governing the subsidiaries were not found to affect the selection of transfer sources.

The fourth factor – evaluations of subsidiary marketing capability – is the one upon which we focus our attention. We previously asked whether corporate or subsidiary managers were most likely – consciously or unconsciously – to decide from which units capabilities are transferred. The analysis gives an answer. There is a weak indication self-evaluations has some relation to the selection of transfer sources. As has been stated previously, if the subsidiaries' perception of their own capabilities is the determining factor for outward transfer frequency, perception gaps are not important. It is only when the corporate managers want to centralize the selection of sources in the transfer processes that perception gaps become important. The interesting implication from this finding is that knowledge management – in the sense of selecting sources in transfer processes – is seemingly a decentralized process.

To be clear:

- There was no for hypothesis 4b, *subsidiary managers' self-evaluations of capabilities determine the selection of sources in the capability-transfer processes.*
- There was no support for hypothesis 4a, *corporate managers' evaluations of capabilities determine the selection of sources in the capability-transfer processes.*
- There was no support for hypothesis 5, *perception gaps limit the effectiveness of the transfer processes.*

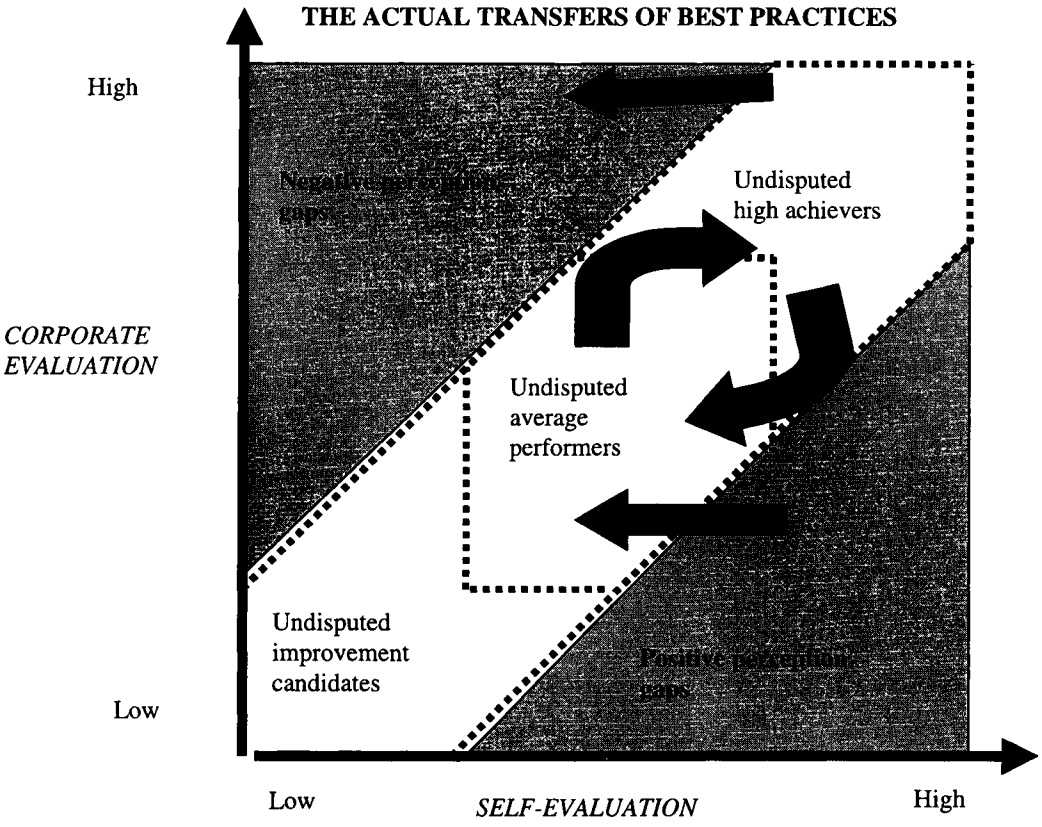
The principal implication from these findings is that knowledge management – especially the selection of sources in transfer processes – seem to rest in the hands and heads of subsidiary / operative managers. This finding supports the arguments that knowledge management is heterarchical (Hedlund 1986; 1993). In consistency with the idea of a heterarchy, and as argued and predicted by Hagström & Hedlund (1998), our study shows the three structures of knowledge, action, and position are not parallel to each other.

When we study the inward transfer patterns (Table 7.5.) we see the inflow to the least capable subsidiaries is not high. Thus, the overall results indicate that what tends to determine the selection of sources in transfer processes is the subsidiaries' evaluations of their own capabilities. We also see strong indications that capabilities flow to the most capable subsidiaries rather than to the least capable ones. There is a pattern in which the practice-transfers flow mainly among the most capable subsidiaries, thus leaving the least capable

subsidiaries isolated. Thus, similarity among sources and recipients stimulate transfers (Kostova, 1996). The results are illustrated in Figure 7.4.

Our principal result is that evaluations of capability have relatively little explanatory power to the process in which transfer sources are selected. Evaluations of transfer sources' capability are secondary when the implicit selection of transfer sources is made, while the financial performance of the subsidiaries and the experience of the sources' managers provide primary explanations.

Figure 7.4. Outlining the actual transfer patterns.



7.4. Summary of the chapter.

We first analyzed transfer patterns in the firms. When relating transfer patterns to managerial evaluations of capabilities, we found the outward transfer patterns were better explained by measures of financial performance than measures of operational performance, i.e. capability measures, although both types of measures explained outward transfer patterns quite well. None of the measures, however, explained inward transfer patterns. At the firm level, there were large differences among firms. Three of the seven firms have outward transfer flows which were explained by capability evaluations. For none of the firms are there strong indications of justified inward practice flows given the evaluations of units' capabilities. The qualitative data yielded four principal findings. First, the overall knowledge management structure tended predominantly to be hierarchically controlled while deliberately leaving room for decentralized initiatives and action. Second, the integration efforts are restricted largely to particular regions. Third, there were few formal incentives for sharing knowledge. Fourth, socialization as a mechanism for knowledge transfers was preferred over IT/IS solutions.

The results from the statistical analysis do not support our three hypotheses; that subsidiary managers' evaluations of their own units' capabilities determine the selection of sources in the capability-transfer processes; that corporate evaluations determine the selection; and that perception gaps has an influence on the capability-transfer processes. Interestingly, corporate evaluations had no relation to outward transfers. As a consequence, perception gaps did not influence transfer patterns. When we studied the inward transfer patterns, we saw there was not a significantly higher inflow to the least capable subsidiaries. In sum, managers' evaluations of subsidiary capabilities were not used in the selection of sources, and the least capable subsidiaries were isolated from the capability transfers. Moreover, the most important explanations to the selection of transfer sources were found in the financial performance of the transfer sources and the marketing experience of the transfer sources' managers.

Table 7.8. Correlation matrix for constructs in the multiple regression model of outward transfers.

	Firm 1	Firm 2	Firm 3	Firm 4	Firm 5	Firm 6	Firm 7	Comm	Dec mak	Observ	Codify	Mar imp	Fin perf	Mrk exp	Corp	Self	Hier gap
Firm 1	X	-0.079	-0.081	-0.081	-0.070	-0.059	-0.081	+0.045	*m.v.*	-0.008	-0.012	*m.v.*	-0.052	-0.133	-0.130	-0.035	+0.064
Firm 2	X	X	-0.303**	-0.205*	-0.222*	-0.161*	-0.263**	+0.077	+0.038	+0.129	+0.097	+0.054	+0.060	-0.090	+0.034	-0.086	-0.088
Firm 3	X	X	X	-0.252**	-0.273**	-0.164*	-0.322**	-0.203*	-0.017	-0.090	-0.083	-0.332**	-0.116	+0.217*	+0.073	-0.052	-0.087
Firm 4	X	X	X	X	-0.185*	-0.164*	-0.219*	+0.163	+0.282*	-0.076	+0.156	+0.302**	+0.217*	-0.155	-0.363**	+0.125	+0.331**
Firm 5	X	X	X	X	X	-0.142	-0.237*	+0.068	-0.016	+0.011	+0.108	+0.126	-0.148	-0.002	+0.441**	+0.157	-0.166
Firm 6	X	X	X	X	X	X	-0.164*	-0.131	*m.v.*	-0.164*	+0.178*	+0.010	+0.106	+0.156*	-0.207**	+0.174*	+0.311**
Firm 7	X	X	X	X	X	X	X	-0.056	-0.245**	+0.028	-0.235*	-0.066	+0.015	-0.012	-0.199*	-0.108	+0.046
Comm	X	X	X	X	X	X	X	X	-0.153	-0.137	-0.148	+0.107	-0.087	-0.097	+0.008	+0.238	+0.177
Decmak	X	X	X	X	X	X	X	X	X	-0.042	+0.126	+0.075	+0.027	+0.088	-0.081	-0.050	+0.014
Observ	X	X	X	X	X	X	X	X	X	X	+0.215*	-0.037	-0.075	-0.196*	+0.027	-0.146	-0.129
Codify	X	X	X	X	X	X	X	X	X	X	X	-0.006	+0.045	+0.072	-0.134	-0.003	+0.084
Mar imp	X	X	X	X	X	X	X	X	X	X	X	X	+0.207*	-0.031	+0.151	+0.167	+0.030
Fin perf	X	X	X	X	X	X	X	X	X	X	X	X	X	+0.123	-0.386**	+0.095	+0.323**
Mrk exp	X	X	X	X	X	X	X	X	X	X	X	X	X	X	+0.044	-0.043	-0.062
Corp	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	+0.007	-0.644**
Self	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	+0.761**
Hier gap	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

NB! First, significance level below 0.05 is marked with *, and significance level below 0.01 is marked with **. Second, mv represents missing values.

Comments regarding the correlation matrix:

1. There are significant firm effects in relation to many constructs. We isolate these effects by using dummy variables for each firm in the regression analysis.
2. There is a positive correlation between the variables related to the local market and to the subsidiary (i.e. strategic importance of the market and financial performance), thus indicating the constructs have similar effects on transfers.
3. Corporate evaluations of capabilities and the financial performance of the subsidiary are negatively correlated. This somewhat surprising finding is discussed in the text. The hierarchical perception gaps are also correlated with financial performance because perception gaps are derived from the corporate evaluations.
4. The significant correlation between hierarchical perception gaps and both corporate and self-evaluations is natural given the perception gaps are derived from the two types of evaluations.
5. There is a positive correlation between the codifiability and the observability of the capability, which is expected,
6. All cases of significant correlation between two variables indicate a potential problem of multi-collinearity. Our analysis, however, shows there is not multicollinearity.

1. The standard deviation for the entire sample is 3.42 (n = 78). The total number of units is 36, and the total number of respondents is 78. There are two units with missing values.
2. Excerpts from interviews will mention the last name of the manager interviewed and the company for which he/she works.
3. This region typically consisted of Denmark, Finland, Norway, Sweden, and sometimes Iceland and/or the Baltic countries – Estonia, Latvia, and Lithuania. Great Britain was in some cases combined with the Nordic countries and in other cases treated as a separate region.
4. This region typically included Austria, Germany, Switzerland, and perhaps some central European country such as the Czech Republic, Slovakia, or Poland.
5. This region typically comprised France, Italy, Portugal, and Spain.
6. Several independent sources have told the same story but without reference to an article or study. We mention this example because it is logical, intuitively appealing, and instructive. However, it should be treated somewhat cautiously, and we will refrain from mentioning the name of the firm.
7. The condition index value is 4.094 where an index over 10 represents a mild multicollinearity and over 30 a severe one.
8. The Durbin-Watson statistic is 1.907. In order to reject a hypothesis of no autocorrelation, the statistic should have been lower than 1.56 or higher than 2.44. Thus, there is no autocorrelation.
9. A normality test based on the Lilliefors correction to the Kolomogorov-Smirnov test shows that the error term distribution is normal. A hypothesis of normal distribution cannot be rejected ($\alpha = 0.200$).
10. The scattergram analyses indicates no heteroscedasticity concerning independent variables other than two firm dummies. There is significant Spearman rank correlation between two firm dummy variables (firms 1 and 7) and the absolute value of the residuals and independent variables. There are consequently difficulties to use the model in testing hypotheses and prediction since the variance of beta-coefficients is not minimized. The variables are not BLUE.
11. The firm dummy for firm 3 is not included in the model. Also, the perception-gap variable is automatically excluded since it does not add value to the model. This step is logical because the perception gap variable is calculated based on self-evaluations and corporate evaluations. Our reason for nevertheless including all three was that we wanted to see which of the items best explained transfers.
12. The condition index value is 4.495 where an index over 10 represents a mild multicollinearity and over 30 a severe one.
13. The Durbin-Watson statistic is 1.951. In order to reject a hypothesis of no autocorrelation, the statistic should have been lower than 1.56 or higher than 2.44. Thus, there is no autocorrelation.
14. The scattergram analyses indicates no heteroscedasticity. More importantly,
there is no indication of significant Spearman rank correlation between the absolute value of the residuals and independent variables.
15. A normality test based on the Lilliefors correction to the Kolomogorov-Smirnov test shows that the error term distribution is normal. A hypothesis of normal distribution cannot be rejected ($\alpha = 0.200$).
16. The firm dummies for firms 1, 3, and 6 are not included in the model. Also, the perception-gap variable is automatically excluded since it does not add value to the model. This step is logical because the perception gap variable is calculated based on self-evaluations and corporate evaluations. Our reason for nevertheless including all three was that we wanted to see which of the items best explained transfers.
17. All other variables shown in Figure 7.2. are automatically excluded since they do not meet the stepwise criteria, i.e. a statistical significance of 0.10 or below.

CHAPTER 8. THE LARGER STORY.

This chapter concludes the thesis from a theoretical as well as a managerial perspective. To start with, we have shown how corporate and subsidiary managers disagree when evaluating subsidiary marketing capability. Moreover, the corporate evaluations were seemingly inaccurate due to bounded rationality, but also systematic cultural biases. Our results indicate corporate management's role in the selection of transfer sources and in knowledge management to be small. Instead of a rational and controlled process, knowledge management is organic and possibly controlled by subsidiary managers. Based on these findings, we infer knowledge management to be an oxymoron. Still, corporate management may play an important "subsidiary" role in designing the overall structure and atmosphere in which transfers are executed. It may also assist in providing a framework in which codification, routinization, and storage of capabilities is pursued. By implication, we argue the model presented by Hagström & Hedlund (1998) to provide insightful understanding to a discussion of knowledge management in the MNE. We conclude knowledge, action, and position structures in the MNE not to be identical. In conclusion, we present two paradoxes of knowledge management: the most valuable knowledge is, first, the most difficult to transfer, and, second, the most difficult to locate.

8.1. Theoretical implications

8.1.1. Knowledge management – an oxymoron?

To introduce our conclusions, let us look more closely at the meaning of knowledge management? Perhaps we can better understand the implications of this concept if we first examine the origins of its two constituent words, "knowledge" and "management." The first word, "knowledge," can be briefly defined as: *"facts or ideas acquired by study, investigation, observation, or experience"* (Encyclopedia Britannica[1]). Its roots are not very clear. They go back to Middle English, i.e. the English spoken in the 14th century (ibid). The noun "knowledge" is based on the verb "to know", which dates back even further, at least to the 12th century (ibid). The verb is derived from Old English "cnawan", which has cognates in many different languages such as Old High German "bichnaan" (to recognize) and Latin

"gnoscere" (to come to know). Thus, "knowledge" means awareness of facts and ideas. The possession of knowledge presupposes some form of access to these facts and ideas.

The second word, "management," is based on Italian "maneggio," which means the training of a horse. It dates back to the latter 16th century. The verb "to manage" has its roots in Italian "maneggiare," derived from the noun "mano" (hand) (Encyclopedia Britannica). Etymologically, "management" thus relates to directing and training others by the use of the hand, i.e. in a commanding tone. This sense of the word is well captured by Hedlund (1991): "*'Manage' comes from French 'manège', the course on which horses run around a central figure, the manager, who disciplines them with or without a whip, and occasionally with a carrot*".

Based on the respective roots of "knowledge" and "management", the combination of the two, i.e. "knowledge management", may be defined as: "*directing and controlling others' awareness of and access to facts and ideas*". Our study have found this definition to express conceptually the way in which many managers and firms tend to approach knowledge management. Thus, the firms tend – implicitly or explicitly – to view knowledge management as based on the imperative that: "*managers should direct and control the awareness and thinking of subordinates*". We argue that knowledge management in this sense is an oxymoron[2]! We will now explain why.

In much of the research on knowledge management in the MNE it is assumed – de facto –that evaluating knowledge is not unproblematic. We have shown that capabilities are difficult to evaluate objectively. Thus, one fundamental prerequisite for corporate-wide knowledge management, i.e. that managers know how capable each subsidiary is, does not hold. The theoretical implication constitutes a challenge to previous research based on the assumption that capabilities are easy to evaluate objectively. The main reason why capabilities are difficult to evaluate is that managers independently select the information on which to focus their attention. There were also indications of evaluation biases based on cultural differences. In addition, evaluations of capability do not add much explanatory power to a model aiming to explain knowledge transfers. The most important explanations to the selection of transfer sources are provided by the financial performance of the subsidiary and the subsidiary managers' experience. All in all, intentional knowledge management – especially by

corporate managers – in the sense of leveraging the most capable subsidiaries in the firm is not taking place.

Interestingly, the main indicator of marketing capability in the subsidiaries the firms use in practice is the financial performance of the subsidiary. It is as if the managers see the financial performance as the best indicator of capability. The corporate and subsidiary managers also agree on how the subsidiaries perform in financial terms. Our study, however, shows the financial performance and the marketing capability to be different constructs. We conclude it is not wise to base an evaluation of capability on financial measures.

The obvious conclusion from our findings is that knowledge management – in the sense of corporate control and decision-making – is an oxymoron. Capability transfers cannot always be effectively managed by corporate or division management. We cannot assume a priori that effective corporate knowledge management is possible. When trying to transfer "best practices", the corporate managers may instead transfer "worst practices". The overall efficiency of the firm could then decrease instead of increase, with possibly disastrous results. Also, centralized decision-making in a transfer process where corporate and subsidiary managers differ in opinion is likely to create problems concerning subsidiary motivation and process effectiveness. In short, capabilities are found to reside in the hands and heads of operative managers, and are difficult to evaluate by administrative or other non-operative managers. Thus, operative managers are best equipped to evaluate the capabilities of operative units.

The paradox, of course, is that while the corporate managers may be unequipped to evaluate and manage knowledge, the operative managers often have little time and opportunity to scan other subsidiaries for new and improved capabilities. The main argument in favor of a corporately controlled, centralized knowledge-management process is that the organization may thereby minimize the overall costs of searching and scanning for improved capabilities. However, even if this reasoning is correct, we would argue the implications are not fully understood. While search costs are minimized by central co-ordination of scanning, revenues resulting from the search may be minimized as well. In sum, the net gains – including both revenues and costs – from centralized search could be limited.

There are several reasons why centralized search may lead to sub-optimal knowledge management. First, since perception gaps could exist, the practices that are actually transferred may not be the best ones. With a little bad luck, it may even be "worst" practices that are leveraged out among the subsidiaries. Second, the practices transferred may not be optimal for each particular subsidiary. Ideally, such a case will never occur since a potential recipient should always be able to decline a transfer when there are logical reasons for so doing. The counter-argument is, of course, that the benefits from global standardization of capabilities may outweigh the benefits from local adaptation. Third, a subsidiary's absorptive capacity may be negatively affected when transfer content and timing are decided centrally. If the subsidiaries are able to search individually for specialized solutions to their unique problems and needs, it is more likely they will effectively absorb and learn what is transferred.

If corporate management is to do anything, it should concentrate its ambitions on helping subsidiary managers to understand how important capabilities can and should be codified. This, of course, also involves a strategic question since any codification could – but does not have to – increase imitation by competitors. However, the procedure may also be positive since the firm may set the industry standards for certain particular activities. It may control the industry evolution and also be regarded an innovative firm. Corporate management should also have plans of how to educate and develop the subsidiary managers who will act in the transfer processes. Competence maps – based on the analysis of both corporate and subsidiary managers – are advised if the firm is to maintain and further the skills of individual managers. In addition, competence succession plans facilitate long-term capability management.

The overall implication from this discussion is that " management" may be successfully implemented for information, but not so successfully for knowledge, "information" and "knowledge" being two different forms of knowing. Thus, it may be appropriate to manage information centrally through IT/IS solutions, reporting, surveys, and a central data base. Knowledge, on the other hand, is not likely to be managed effectively by a central function. A central function can only provide a system – based on incentives, budgets, socialization structures, and goals – to facilitate and stimulate the sharing and transfer of knowledge. The main vehicle for sharing and transferring knowledge is the face-to-face meeting, primarily between subsidiary managers, but also between subsidiary and corporate/division managers.

Our study supports arguments emphasizing socialization as the principal vehicle for knowledge management (Earl & Scott, 1998; Hansen et al, 1999).

In essence, knowledge management must be left to operative managers. They are the ones who should manage a hypothetical capability dimension in the organizational matrix. These managers would receive dual responsibilities. As a consequence, knowledge would not be managed in the sense of being controlled centrally. Instead, knowledge management would be decentralized to the operative units themselves. As a general rule, knowledge management should be left to persons who possess the capabilities concerned. This rule does not exclude the use of role models, of course, as long as the designation of the role model is a responsibility shared among corporate and operative managers in several different units. In summary, we argue centralized knowledge management is an oxymoron and a utopian dream. Centralized information management, on the other hand, is perfectly possible.

A thorough discussion of the organizational structure and capability management can be developed from the Hagström & Hedlund (1998) model discussed in Chapter 2. Had there been harmony between the position and knowledge structures, we would not have seen perception gaps. An absence of perception gaps is an indication the position structure supports effective evaluation and management of the knowledge structure. Still, this situation presupposes the top echelons of the position structure possess the requisite qualified knowledge, in which case the position and knowledge structures coincide. In other words, we argue a lack of perception gaps indicates the firm's position and knowledge structures are in harmony with one another.

The third structural dimension beside the position and knowledge structures is the action structure (ibid). In our case, this structure refers to transfers of best practices. An alignment between the position structure and the action structure would – in our case – mean corporate management controlled transfer processes, for instance, in the sense of deciding which units should act as transfer sources and which should become transfer recipients. However, our analysis of the transfer data tells us corporate managers' evaluations of subsidiaries' capabilities do not determine the selection of transfer sources. We thus have an additional indication the internal structures of the MNE are separated – the position and action structures do not coincide in regard to knowledge transfers. All in all, our data support Hagström &

Hedlund's (ibid) idea that the position structure is separate from the knowledge and action structures, which – in turn – are more closely related to each other. In other words, our findings suggest identification of transfer sources – via evaluation processes – should not be done hierarchically, i.e. via the position structure.

Our principal conclusion is that corporate knowledge management in the MNE should be structured in accordance with the conclusions to be drawn from the Hagström & Hedlund (ibid) model. The position structure, i.e. formal authority, is kept separate, and even somewhat isolated, from the structures of knowledge, i.e. actual capabilities, and action, i.e. transfers. It should be recognized and also apparent the knowledge structure is based on the knowledge and skills residing in the hands and heads of operative managers. Finally, if the action structure can be made heterarchical, the best features of the position and knowledge structures will be combined. The knowledge structure will be used in exploiting the skills of the most capable units. The position structure will be used in achieving a corporate overview and global optimization. In practice, a group of subsidiary managers would be given the collective responsibility of selecting the capabilities that are to receive priority and of identifying transfer sources. In addition, corporate management might design appropriate incentive structures to facilitate transfers and provide means that support global harmonization.

After having stated the existence of perception gaps lends support to the Hagström & Hedlund (1998) model, we must determine whether the action structure (the transfer patterns) is controlled by the position structure (corporate management) or the knowledge structure (subsidiaries). The answer is provided by our previous analysis. If anything, the transfer patterns are influenced by the subsidiary managers' evaluations of capabilities – evidence that the selection of sources in the transfer processes is controlled by the knowledge structure. All in all, we conclude that knowledge management – as indicated by patterns for transfer of best practices – tends to be best controlled by subsidiary managers, who actually possess the requisite capabilities. Thus, the Hagström & Hedlund model (1998) is strongly supported by our study. All in all, effective knowledge management depends on organizational acknowledgment that "*capabilities reside in the hands and heads of operative managers*". A centralized management approach is simply not appropriate.

Our findings also lend support to the concept of the firm as a social entity (Kogut & Zander, 1992; Zander & Kogut, 1995; Nahapiet & Ghoshal, 1998; Wenpin & Ghoshal, 1998). We found two indications the social atmosphere of a firm is important for evaluations of capabilities: first, there were differences among firms regarding perception gaps, and, second, the length of managerial employment in the firm seemed to affect the likelihood of perception gaps. Furthermore, we see a need to pursue knowledge-management research more rigorously in terms of the factors to be included in an analysis and the assumptions underlying the work. In view of the finding that evaluations of capabilities are not entirely objective, research on knowledge management must reconsider its assumptions of rationality in capability evaluations. The literature on knowledge management should consequently add a new dimension for research on how the MNE transfers and leverages dispersed capabilities. This dimension would focus on the stage that precedes the actual transfer, namely that of identifying capability sources and potential learning candidates.

Another implication from our findings is the suggested decentralization, which acts to reduce the power of corporate managers in the MNE. If knowledge cannot be effectively managed hierarchically from the corporate head office, operative managers must be given more power and new instruments to manage the knowledge residing in the firm. Implementation and responsibility for the transfer of knowledge are likely to become decentralized, and this tendency may "*grow over time to the point where the multinational becomes an organization with several centers of expertise and excellence*" (Prahalad & Lieberthal, 1998). To paraphrase Prahalad & Lieberthal (ibid), we may witness the "*end of corporate imperialism*".

Throughout our discussion, we have shown the evaluation of capabilities is characterized by significant degrees of subjectivity. This fact has implications for current research on knowledge management in the MNE. In much of this research, there is an absence of realistic assumptions about human behavior, the characteristics of knowledge, and the learning processes. We suggest our contribution to this field of research may be viewed as an injection of realism into current thinking and writing on knowledge management.

8.1.2. The knowledge-based view of the firm

We have pursued an empirical study of the MNE from the resource-based – or more specifically, the knowledge-based – view of the firm. Therefore, we would like to contribute to this field of research by a discussion of the organizational implications – both from a theoretical and practical perspective – of the knowledge-based view. If a firm is structured around products and countries, as the modern MNE usually is, products and countries naturally form the organizational entities that are to be profitable. The maximization of profit – if we assume it to be the goal for a firm – will be centered on products and geographical units. As a consequence, accounting, reporting, and managerial responsibilities will hinge upon products and countries. It is perfectly conceivable, of course, to replace the product or country focus with a capability focus. This step could be seen as a natural one for a firm that focuses its organizational structure on maximizing the global value of core competencies (Hamel & Prahalad, 1990). The implications of this alternative perspective are several: First, the organizational matrix could be kept, although one of the axes is changed. Second, accounting and reporting aimed at capturing the capability dimension would have to be activity-based. Third, the potential synergies in terms of capability leverage between currently more or less isolated organizational units would become more evident as they received higher priority. Fourth, the organizational forces acting to produce perception gaps would be minimized since there would be an explicit focus on the capabilities and skills of the organization.

There are also several arguments against a capability-based axis in the organizational matrix structure: The structure could be too rigid and non-flexible, a particular disadvantage in light of the evolving and fleeting character of knowledge and its management. There may be too little pay-off from formalizing the capability dimension. Moreover, it is perhaps difficult to report on and manage a capability-based organizational dimension. It is often suggested knowledge and capabilities are better managed through temporary structures such as project groups, centers of excellence, and work teams (Birkinshaw & Moore, 1998).

In addition, it is not evident which of the current dimensions – products or countries – would be most suitable to be replaced by the capability dimension. There is always a need to provide financial reports for each local market for the purposes of local taxation, which provides a

strong argument in favor of the national or geographic axis. At the same time, the product dimension is often strategically important for the firm. Moreover, any capability dimension may be much more closely related to product dimensions than to country dimensions. If so, the organizational matrix based on product and capabilities may end up being rather one-dimensional. The challenge would then be to distinguish capabilities that are product-specific from the ones that are universally applicable. Only capabilities that can be applied to different products – such as market-orientation capabilities – should be included in the capability dimension of a new organizational matrix. One of the firms studied had tried to solve these somewhat conflicting goals by introducing the capability axis as a third dimension; a shadow dimension which was managed in addition to products and regions. They were happy with the outcome of this attempt. Their conclusion was that products and regions were the most important dimensions to manage, but that much was to be gained if the firm also could manage capabilities on a global basis. Yet another firm had ambitions to accomplish this goal.

Our study provides another type of input for developing the idea of a capability-based organizational matrix. We have shown the inherent difficulties in evaluating capabilities. These findings do not encourage centralized capability management, but support a more temporary organizational structure aimed at leveraging capabilities. A capability dimension in the organizational structure could be used as a tentative map of critical capabilities in the organization. This map could then serve as a guideline in temporary capability-based projects with certain specific tasks. In sum, capability maps and capability profit centers are advised if the MNE wants to exploit existing capabilities globally. At the same time, we would caution against carving the existing capability dimension of the organization in stone. While a better understanding of capabilities is needed, the evolving nature of knowledge must also be recognized. It is essential that there be room in the organization for capabilities to be created, change, and fade away[3].

8.1.3. Knowledge management in activities other than marketing

The dissertation's principal finding is that the marketing capabilities of subsidiaries are difficult to evaluate. We found significant differences in how corporate and subsidiary managers evaluated the capabilities of a particular subsidiary. Since our study is focused on marketing capabilities, we raise the question whether our findings relate only to marketing activities. Should we expect these difficulties to exist also for other activities of the MNE. For a number of reasons, it may be argued perception gaps are a universal phenomenon in the MNE. The primary reason is that tacitness of knowledge, bounded rationality, and cognitively biased perceptions, which lead to perception gaps, are all present in the MNE. We found corporate management's selective attention to be an important factor in explaining perception gaps. Moreover, corporate management's selective interpretation is also a contributing factor. Thus, the main explanations for perception gaps are also valid for non-marketing activities. One may argue, however, the intangible nature of marketing as a service-producing activity makes evaluation more difficult than in other activities.

It is therefore important to conclude whether the likelihood of perception gaps is higher or lower in R&D and manufacturing than in marketing. This question is very relevant since we have found no studies of perception gaps in areas such as R&D or manufacturing. However, a study has concluded that the tacitness of R&D capabilities strongly affects the frequency of transfer (Zander, 1991); in another study (Szulanski, 1995) it was found that causal ambiguity concerning transfer dimensions also affects transfer frequencies. Our study showed, for instance, that corporate managers' attention is an important factor influencing the existence of perception gaps. Therefore, it would not be unlikely to find perception gaps for any activity in a large, global MNE. Until further research is done, we cannot exclude the possibility of perception gaps in activities such as R&D, manufacturing, purchasing, or human-resource management. However, in view of the physical output resulting from manufacturing activities, perception gaps regarding manufacturing capability may be less likely than for marketing. It seems reasonably uncomplicated to develop accurate measures of capabilities – such as manufactured units per hour or percentage of defective products – in manufacturing. In general, we would expect the likelihood of perception gaps to be low in activities in which capabilities are relatively easy to measure, but any type of activity could potentially be characterized by gaps[4]. This is consequently an important avenue for future research.

8.1.4. The poorly marketed marketing research

There are linkages between marketing and international business research which need to be pursued in further research. International marketing (IM) and international business (IB) have several shared research disciplines which may yield valuable findings if pursued further. Especially the field of international marketing may benefit from exploring the linkages with, for instance, international business. However, "*an important condition for making such connections is similarities of conceptual foundations, or ability to make differences explicit, especially concerning the nature of exchange*" (Mattsson, 1997). The fundamental premises upon which research builds must be compatible if linkages are to prove valuable. One such example – as has been shown in this thesis as well as in other work – is the linkages between the network model (Mattsson, 1995) and the ideas of differentiated subsidiaries in the multinational corporation (Ghoshal, 1986; Ghoshal & Bartlett, 1990).

The results in our thesis indicate there is a barrier between corporate and subsidiary managers' opinions on marketing capability in subsidiaries. The corporate managers are not equipped to understand the subsidiaries' capability and its foundations. Expressed differently, the corporate managers are not effectively connected to the operative subsidiaries' internal and external networks. In general, this indicates the corporate managers are not informed on the execution of marketing activities and the local markets in which these activities are executed. A speculative conclusion would then propose hierarchically controlled global marketing to be rather difficult; a top-down global marketing strategy may fail. Perhaps a bottom-up, organic process is more likely to succeed. All in all, global marketing research will benefit from not only acknowledging external national differences but also internal managerial ones.

Another suggested contribution of this dissertation is our emphasis on one aspect of how marketing research and MNE research may be integrated. One concept that may be useful in achieving integration is that of inter-market segments (Samiee, 1997; Jain, 1989; Kale & Sudharshan, 1987; Verhage, Dahringer & Cundiff, 1989; Day, 1994; Ugur & Verhage, 1992). The notion of inter-market segments is fundamentally based on the idea of standardization

gains through economies of scale and/or scope. In other words, similar segments in different markets allow for standardization of products and transfer of capabilities. Thus, the inter-market-segment approach may prove useful in the transfer of marketing capabilities. In addition, our study showed evaluations of capability are subjective. An integration of marketing and MNE research could, for instance, be focused on the degree to which managers share the same subjective view of the world. The ideas of Perlmutter (1969) on ethno-, poly- or geocentrism represent different kinds of subjectivity among managers and may act as a bridge for linking marketing research with MNE research focused on knowledge management.

We argue one prerequisite for effective integration between marketing and MNE research could build on the idea of geocentrism. Global integration of marketing activities in the MNE presupposes customers and managers are geocentric in their thinking. It is highly likely a firm in which this geocentrism is present will be able to exploit the potential benefits of inter-market segments. A prerequisite is that managers are geocentric, i. e. not biased in their assessment of marketing ideas from countries other than their own. Marketing ideas – both at the conceptual stage within the firm and at the implication stage when the idea reaches the market – and marketing capabilities are then not blocked by managerial prejudice when being transferred within the firm across geographical boundaries. In a sense, our study indicates that such geocentrism is not impossible. While it does not exist in all firms, it is evidently present in some. Still, the conclusion is that culture seems to affect evaluations of capabilities. The mind is highly influenced by values. Last, we would like to stress our perspective on how practices are standardized is not based exclusively on a centralized standardization approach. An alternative route to intra-firm standardization of practices is the voluntaristic approach. A heterarchic (Hedlund 1986; 1993) firm is able to achieve standardization organically, for instance, through socialization, communication, and the "power of example". Thus, we believe we have offered an alternative approach to the process of standardizing marketing capabilities.

8.2. Practical implications

8.2.1. Using evaluations from different sources to minimize the risk of worst-practice transfer.

Our last task is to put the discussion of perception gaps into a managerial context. Leaving aside the issue of whether or not managers are objective, we assume assessments of capabilities by managers – be they "correct" or "incorrect" – will determine the way in which knowledge management is structured in the firm. It is the thought that determines behavior (Hellgren & Löwstedt, 1997). Corporate and subsidiary managers are believed to base their decisions in the knowledge management process on their perceptions of capabilities. Ideally the selection of capability sources and recipients will be based on the assessments of capabilities. Our study shows this is not the case. The selection of transfer sources was only related to subsidiaries' self-evaluations. In other words, subsidiaries seeing themselves as being capable had more outward transfers than other units.

One of the practical and non-desirable effects of perception gaps could be that "worst practices" are being transferred instead of "best practices". Judging from our results, we can not exclude this possibility. There is a risk one of the evaluators will be incorrect since there is disagreement on which unit is the most capable in the firm. If an incorrect evaluation underlies the selection of sources in a transfer process, a transfer of worst – or at least not best – practices is likely. The best way to minimize this risk is to obtain several evaluations as a basis for the selection of sources and recipients. The opinion of a third party – or even a fourth one – regarding the potential source unit's capabilities would minimize the risk worst practices are transferred. Our recommendation would be to base the selection of sources in the transfer process on a combination of multiple evaluations by corporate managers and subsidiary managers from different subsidiaries, rather than only by corporate managers or only by managers from the potential transfer source. Moreover, customers and/or suppliers could be asked. If – for some reason – the choice is to listen either to the corporate or to the subsidiary managers, we would favor the subsidiary managers.

8.2.2. The exploration vs. exploitation dilemma revisited

Our discussion of perception gaps in this dissertation should be put in a broader context in order to be fully understood. Fundamentally, we have shown different managers in the same firm may evaluate a subsidiary's capability quite differently. Unavoidably, one or more of the managers will be incorrect in their evaluation. We thereafter argued managerial evaluations of a unit's capability, whether "correct" or "incorrect," will govern the way managers want to structure knowledge management in the MNE. Corporate and subsidiary managers are likely to base their knowledge management decisions on their perceptions of capabilities. These decisions will then not only form the basis of the MNE's knowledge management system, but also affect the way managers in practice will handle transfers. The extent to which these assessments are shared will affect the likelihood of agreement on issues related to knowledge management.

In the long run, however, it is not obvious whether agreement is to be preferred over disagreement or vice versa. If we are on the "right" path in terms of what the knowledge management system is achieving, agreement is preferable. It is then better if all are right. However, if we are on the "wrong" path, disagreement may be valuable. Conflicts may then reveal why we are wrong and lead to suggestions regarding which way the firm should go instead. Moreover, even if the firm currently is on the "right" path, disagreement may generate alternative action plans that may become valuable in the future. Agreement facilitates short-term exploitation of existing skills, which is the focal issue in this dissertation, while disagreement – on the other hand – may foster long-term exploration and the creation of new capabilities. By definition, exploitation refers to short-term returns while exploration refers to long-term returns.

The overall conclusion is a lack of perception gaps is valuable when a firm is consciously striving toward global exploitation of its current capabilities. The risk of transfer friction, i.e. unmotivated sources and/or recipients, is then minimized, as is the risk of "worst-practice" transfers. If the firm, on the other hand, wants to accomplish global exploration of new and improved capabilities, one may argue a lack of perception gaps is detrimental. Differences in opinions may lead to conflict and discussion, and, as a consequence, innovative behavior.

8.3. The paradoxes of knowledge management

We would like to end our analysis of knowledge-management theory and practice by restating and emphasizing two apparent paradoxes. The first is not new, but the second is. First, there is a knowledge-transfer paradox. It is often argued the most valuable knowledge is tacit, implying the knowledge is valuable but also difficult to leverage within the MNE. In fact, the very difficulty of leveraging the knowledge may be one reason why it is valuable. Codification – despite being costly – may facilitate leverage – via transfers of best practices – but potentially it also diminishes the value of knowledge. Codification facilitates transfers but also reduces uniqueness and invites imitation. This is the transfer paradox.

Second, there is a knowledge-evaluation paradox. Since this paradox is not recognized in the field of knowledge management, we would like to stress its importance. The basic logic is very much the same as in the transfer paradox. Again, the most valuable knowledge is argued to be tacit. The basic characteristics of tacit knowledge imply it is difficult to understand for people other than the knowledge holders. A further implication is that the most valuable capabilities are difficult to understand and evaluate by people that do not hold the capability themselves. Codification may facilitate evaluation, but prior to codification it is difficult for external evaluators to decide which capabilities should be codified. We face yet another chicken-and-egg discussion. Which comes first? We cannot evaluate capabilities that are not codified – but then we cannot select the capabilities that should be codified. Since codification is expensive, the problem is a serious one, and it may become increasingly important given the trend toward allowing functional careers, i.e. managers' careers do not necessarily involve more and more administrative responsibilities but can instead focus only on certain operative tasks. Even though the policy permitting functional careers in itself may be good for the firm, it may lead to difficulties if the firm strives to manage knowledge hierarchically. To repeat, the fundamental issue of enabling persons other than the holder to understand and evaluate tacit capabilities is extremely difficult to resolve. This is the evaluation paradox.

8.4. Avenues for future research.

Our study has shown the existence of perception gaps, which made us conclude evaluation of capability to be far from objective and perfectly rational. There were differences between how managers in the same firm evaluated the capability of a certain subsidiary. Also, the solution to this problem was not simple – more communication would not solve the problem. The entire process was characterized by bounded rationality but also cultural biases. Still, there were firms that managed this situation rather well. The solution in these cases were found either in information system / information technology or in socialization. At the same time, our review of the literature showed many articles to acknowledge the possibility of capability evaluations to be subjective but very few to research the issue. Our first suggestion for future research is to acknowledge managerial decision-making to be subjective, boundedly rational, and perhaps even biased in the MNE. By implication, there is a need to studying causes to and effects from these phenomena in the IB context. The entire globalization research trend needs to acknowledge this issue. There are cultural phenomena affecting many aspects of global management – including global knowledge management. Knowledge and capability are, we would argue, highly subjective constructs. In our mind, knowledge management research would benefit from continuing to adopt assumptions acknowledging the manager's limited ability to be perfectly rational.

Our study was focused on marketing activities in the MNE, and there is an obvious need to test whether perception gaps are found in other activities like manufacturing, R&D, logistics, or HRM in the MNE. We argue the existence of gaps is primarily caused by restrictions governing human decision-making, which indicate gaps may exist in any activity. If capabilities are relatively articulated and measurable, however, the likelihood of gaps is likely to be reduced. There is a need for knowledge-management research studying the importance of different opinions regarding how the manager and the subordinate evaluate capability. To be clear, we emphasize not only the need to study non-marketing activities, but also the importance of acknowledging the evaluation dimension in studies on knowledge management and capability transfers. Of course, these aspects are different sides to the same coin but we believe it is important to acknowledge the generic argument favoring studies of evaluation, as well as the specific suggestion to study non-marketing activities.

We also emphasized the importance of creating connections between different fields of research. Our study combines several different research fields such as international business, international marketing, sociology and psychology. More specifically, we adopt and support the view arguing it is important to build connections between international marketing and international business (Mattsson, 1997). We suggest this may be done through two bridges: the implications from the inter-market segment idea on international business and the acknowledgement of possible effects from internal managerial differences global marketing strategy research.

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[1] Encyclopaedia Britannica Online Dictionary (http://www.eb.com:180/cgi-bin/dictionary).
[2] I.e. contradiction in terms.
[3] This argument holds for products and countries as well, of course, even they may be argued to be more long-lived than capabilities.
[4] This statement is, of course, vague. Still, we can not infer much more without having performed empirical studies.

CHAPTER 9. SUMMARY.

Knowledge management in the MNE

The global impact of the Multinational Enterprise (MNE) on the community at large in the modern world is undoubtedly very significant. No matter how their importance is measured – by number of employees, shares of global trade and currency flows, wealth, or some other criterion – the conclusion is that the modern MNE's are very powerful. In fact, it is often argued that they are even more powerful than nation states since they span several countries and can withdraw from a specific country if they like. The MNE is thus somewhat immune of a particular nation's ambition to control these firms.

In theory, the reason why the MNE exists in the first place – its *raison-d´être* – is its ability to access inexpensive raw materials or labor in specific countries, combine these with their own advantages based on brand names, technologies, or patents by creating internal markets within their firm. In this manner, the MNE is able to take the best from many different parts of the world at the same time and combine it into effective production processes and highly competitive products. The ability of the MNE to access input and/or output factors flexibly in a multitude of countries on favorable conditions gives it an edge over domestic competitors.

By implication, one of the MNE's basic advantages is its ability to internalize transfers of geographically dispersed resources and capabilities. If the MNE has a competitive advantage based, for instance, on marketing capability, it can leverage this skill by exploiting it on several markets simultaneously. In theory, the capability can then be combined with factors residing in a particular market. In combination, the end result may be an almost unbeatable competitive edge over local competitors. Consequently, one of the main concerns of the modern MNE is to leverage resources and capabilities on a global scale. The MNE would benefit greatly if capabilities developed, for instance, by its Spanish subsidiary could be imitated by subsidiaries in Italy, Sweden, Japan, Australia, Canada, and New Zealand.

Today, the traditional input factors – land, raw materials, unskilled labor, and capital – while still necessary, are not sufficient conditions for competitive advantage. During the latest century, knowledge has become the principal input factor that yields competitive advantage,

and the ability of the MNE to integrate skills has become extremely important. Initially, knowledge concerning R&D was seen as most important for the MNE. As a consequence, research studies focused on issues concerning the articulability of knowledge, the communication patterns, the learning capacity, and the relationship atmosphere between givers and takers of knowledge. Incentives were not found to be among the most important explanations to transfers. Also, patents were believed to offer the firm sufficient protection against attempts by competitors to imitate its unique skills. The mature MNE, however, realizes a shift in importance from R&D and manufacturing toward marketing. Interestingly, we see there is a lack of research concerning marketing. Another conclusion guiding our research is the idea of patents no longer being viable measures protecting against imitation by competitors. Instead, brand names or secret operating processes are important.

Marketing deals fundamentally with how to approach and meet with other human beings. We wonder if these activities involve universally applicable characteristics. If so, then by implication we would expect transfer of marketing capabilities to be important and valuable. This subject - the transfer of marketing capabilities within the MNE – is the focus of our study.

The MNE has subsidiaries dispersed all over the globe, which are shaped both by the internal organization of the MNE and by their local environment. The secret to leveraging skills residing in these scattered subsidiaries lies in the internal organizational structure. This includes the firm's ability either to build IT/IS systems that promote transfers of practices, as well as to create shared values that promote discussion and joint problem-solving among different subsidiaries. We acknowledge two general principles for leveraging capabilities: the "hard" and the "soft" methods. The "hard" method is based on IT/IS and focuses on articulated knowledge, while the "soft" method is based on shared values and focuses on tacit knowledge.

Previous research shows transfers of capabilities are primarily dependent upon the receivers' learning ability, the atmosphere of the relationship between parties in the transfer process, and the characteristics of the knowledge. However, most studies are focused on the process of transferring skills once the sender and the receiver have been identified. For a transfer process to be ultimately effective, three prerequisites must be satisfied. First, management should

acknowledge all units in the MNE as potential contributors to the shared pool of skills of the MNE. Second, management should know how capable the units are so that the non-skilled can learn from the skilled. Third, management should make an effort to implement knowledge-sharing, and find ways to overcome the obstacles to transfer – the "stickiness" of knowledge.

The current status of research, and our approach

It has been argued the barriers to global leverage of capabilities mainly relate to the articulation of tacit knowledge, the learning ability of those who are to acquire the capability, the atmosphere of the relationship between sources and recipients, and the similarity of institutional conditions for sources and recipients. The problem with tacit knowledge is that one cannot always readily articulate or even realize what one knows. The tennis player may find it hard to describe exactly how he/she hits the ball in order to serve an ace, or the sales manager may have problems articulating exactly how he/she handles customers in certain situations. As a consequence, learning and the transfer of knowledge are complicated. Lack of receptivity to knowledge may imply a limited learning capability but it may also be due to poor incentives to learn and to change behavior. Unsound relationships can, of course, create barriers to any type of transfers. Lastly, the institutional environment – including career paths, cultures, reporting systems, and general attitudes – may influence the benefit and attractiveness of capabilities obtainable from other institutional environments.

Another potential problem related to knowledge transfers is that of actually knowing which subsidiaries are particularly capable and may serve as sources in the transfer of best-practice processes. However, the process of identifying which units are capable and which are not is seldom discussed in knowledge management research. Interestingly, our literature review showed most empirical or conceptual research articles concerning knowledge management in fact assume it may be difficult to evaluate capabilities. At the same time, there is very little research done concerning this topic. We found an evident mismatch between assumptions in research and the de facto model of knowledge management that researchers apply in their work. Given this, we raised a fundamental question relating to knowledge management: *Are firms and managers able to identify and evaluate the capabilities of their subsidiaries*?

Paradoxically, the most tacit knowledge is the most valuable knowledge, and – at the same time – it is the most difficult knowledge to leverage within the MNE. It is difficult to transfer since it is "sticky", and probably also "invisible".

We are thus exploring two paradoxes of knowledge management. According to the transfer paradox, which is well known and has been extensively discussed, the most valuable knowledge – tacit knowledge – is also the "*stickiest*" knowledge. It is expensive and difficult to articulate and materialize so that others can easily absorb it. We would also like to call attention to a new knowledge-management paradox, the evaluation paradox, which is not well known and has not been extensively discussed. The evaluation paradox holds the most valuable knowledge – tacit knowledge – is the most difficult to evaluate; it is very difficult for a corporate manager to assess tacit knowledge resting in the hands and heads of subsidiary personnel. Consequently, it is not easy to decide which subsidiaries are the best providers of valuable capabilities to the knowledge transfer process. We want to focus on the evaluation paradox in knowledge management – the most valuable knowledge in the MNE is probably also the most "*invisible*" knowledge.

Many corporate managers more or less consciously believe important ideas are developed at the head office and then passed on to foreign subsidiaries. But today, the reverse is often true. Many of the best ideas frequently come from the field. For instance, a corporate communication tool was created at a small Danish subsidiary. A unique way to approach and integrate customers into the firm by managing customers' problems instead of "just" selling products to them was developed in the remote Swedish backyard of a US MNE. Both these cases were so important they finally received corporate-wide attention and were leveraged all across the world. The interesting question, then, is why some companies are able to access these sorts of ideas, while others seemingly ignore them.

Some initial findings

One of the firms studied had made an effort to create European centers of excellence with the aim of leveraging particularly important skills all across Europe. A corporate manager had been made responsible for selecting and appointing the centers of excellence. At first the process went smoothly. Seven departments or subsidiaries were appointed European centers of excellence in areas including Customer-loyalty Measurement, Customer-focused Marketing, and Strategic Management. They were located in Germany, the UK, Sweden, and France. As the centers of excellence were set up and initiated, they became independent entities under loose supervision from the European corporate head office in Brussels. The centers remained within the budgetary domain of the country in which they were located.

The first problem that appeared related to the issue of who should be held accountable for the costs and benefits created by the units. The managers of the units often had dual responsibilities: for subsidiary activities under the managing director (MD) of the subsidiary, as well as for center-of-excellence activities under the European operations. The main costs of the center of excellence were the time, salary and travel expenses of the manager. The center-of-excellence project had no budget of its own. Instead, the subsidiary MD's in the countries concerned had to include the costs of the center in their budgets. On the other hand, the revenues, i.e. the benefits generated by a center of excellence, were often reaped by subsidiaries located in other countries. Of course, this effect was hardly surprising, since the whole aim of the venture was to transfer know-how across geographic borders.

Nevertheless, this budgetary conflict harmed the project. One MD simply told the center-of-excellence manager to work exclusively with units within the particular country. Another center had developed a concept that allowed it to work closely with customers in solving their problems instead of just selling products to them. This approach proved to be very successful, and subsidiaries in other countries were very keen to learn from this particular center of excellence. Moreover, the MD worked very closely with the managers behind the "Customer-marketing" concept and gave his full support to the project.

A second problem related to determining the value of the centers' skills for operating units in other countries. This was especially important given the process in which the initial

designation of centers of excellence had been done. A single corporate manager had appointed the centers, and other managers disputed the actual value of the capabilities of some centers. One question was whether the particular type of skills would be valuable for other subsidiaries. A second was whether the selected center-of-excellence managers were best qualified to run the designated centers. The manager of the center for strategic management had met with considerable opposition from operating subsidiaries, since his recommendations sometimes threatened the ambitions and objectives of the subsidiary management. As a result, subsidiary managers sometimes ignored the center of excellence and even called in external consultants that gave different advice. All in all, an internal study showed that about two years after the centers of excellence had been set up, less than 10 percent of the European employees knew of their existence and less than 2 percent knew what they actually were doing.

Another firm focused on the IT/IS-based solution, and was developing a global information system intended to serve primarily as an information provider but hopefully also as a database for experience and knowledge. It was set up as an internal information system based on Lotus Notes. Initially, the system focused on storing and making available product information – such as size dimensions, availability, applications, and combination possibilities. With it a salesman in Japan, for instance, would be able to access this information immediately with a lap-top computer and a mobile telephone, thus making his customer service more effective. The ultimate goal was that salesmen also would store their experience and solutions to particular problems they had encountered during their work. If a salesman happened to face an unfamiliar situation, he would be able to search the database for possible solutions. All were welcome to use the system and to contribute input.

While these were important findings, we should concentrate on our principal issue: evaluating capability and the subsequent capability transfer. During our interviews we found one particularly interesting case in which corporate and subsidiary managers held very different views regarding a subsidiary's capability. A marketing manager at the Swiss subsidiary of one firm ranked his unit much higher than corporate management had done – a clear case of a positive perception gap. During the interview, the Swiss marketing manager – we will call him Günter – spontaneously touched upon the potential problem of evaluating the capability of a specific subsidiary. He could not definitely say how corporate managers had evaluated

his unit. "*We can never be sure. Knowing and believing are two different things!*" He explained the firm had no procedure for formal recognition of how capable units actually are. When Günter was confronted with the data showing corporate management did not rank his unit as very capable, he was silent for a long moment. After some time, he said he always created trouble for corporate management since he fought for the rights and needs of his subsidiary, adding that the subsidiary apparently was disliked by corporate managers because of its unusually high ambitions. Günter thought himself to be: "*problematic for the corporate guys and probably rated lower because of that*". It was obvious Günther was very troubled by the data he was shown. When the corporate marketing manager – a Swede – was confronted with the same data, he was not surprised. He explained the situation by saying that: "*Günter is a proud gentleman who has very high opinion of himself, but he often has an unrealistic picture of both himself and others*".

The interesting observation concerns the actual differences of opinion between the managers. It is very difficult for us to decide who was right and who was wrong. Still, the different opinions are interesting. How could the corporate manager work with knowledge management in relation to the Swiss unit? It is probably impossible to force the Swiss unit to adopt a practice from another subsidiary. If the Swiss manager thinks highly of his own subsidiary – rightly or not – he will very likely be reluctant to adopt practices from other units in the firm. Instead, he may even want to transfer practices from his own subsidiary to other subsidiaries. Conceivably, he may succeed. If his unit is capable, and if the practice is a good one, there will be no problem. But if not, we may see a transfer of a rather poor practice. The intended transfer of "best" practice may even become a transfer of "worst" practice.

The main study

To answer our principal questions, we conducted a large study. First, we made a pilot study on the European operations of a large North American MNE – 3M. Then we proceeded with the main study, which is focused on capabilities of marketing departments at subsidiaries of seven Swedish firms – Skandia, Sandvik Coromant, Sandvik Steel, Ericsson, Volvo, Pharmacia & Upjohn, and Alfa Laval Agri. The aim of the study is to acquire an understanding of how the MNE identifies the operating units that have "best practices" in certain activities, and how the MNE leverages these practices. In the study, we focus primarily on units' market orientation, which includes a subsidiary's ability to collect, internally disseminate, analyze, and act upon market information on customers and competitors. This concept has been used in many studies in marketing and is regarded as one of the best measures of marketing capability.

We structured the survey so we received evaluations of a particular subsidiary's market orientation from three different sources:

1. The subsidiary's own managers.
2. Corporate managers responsible for marketing activities of particular units.
3. Managers at other subsidiaries than the one being evaluated.

All subsidiaries of each firm were included in the study. The overall response rate was 84 percent at the subsidiary level. We thus received answers from almost all subsidiaries polled. We also received answers from 22 corporate managers, for a response rate of 88 percent at the corporate level. All in all, our data cover 176 subsidiaries of seven MNE's. In addition, we conducted over 80 hours of interviews. Our aim was to collect multiple responses – at both corporate and subsidiary levels – for as many subsidiaries as possible. Our underlying purpose in seeking multiple respondents was to validate the results. We ultimately obtained multiple respondents in both sets of managers covering 36 subsidiaries.

Our analysis compares the evaluations of subsidiary capability by corporate managers with those by the subsidiary managers themselves. We followed this procedure for all subsidiaries of all firms. If we found these evaluations were quite similar, we concluded that evaluating capabilities was not a major issue for the MNE. In such cases, the firms would be expected to

be able to identify sources and recipients in knowledge-transfer processes without significant problems. However, if we found large differences between the evaluations, the matter would appear in a very different light. The transfer process could then be expected to face problems such as the "*not-invented-here*" syndrome[1], the "*don't listen to me*" problem[2], and the risk transfers of *best* practices actually become transfers of *worst* practices.

The results – hierarchical perception gaps

The results when corporate and subsidiary managers evaluated the capabilities of the subsidiaries were clear. After comparing the evaluations of capability in a number of dimensions, we found corporate and subsidiary managers agreed on the capabilities of the subsidiary's marketing departments at only two of the seven firms! At the other five firms, there was disagreement on this point. The results thus indicate the existence of perception gaps[3], i.e. differences in how corporate and subsidiary managers evaluate marketing capability, at a majority of the firms.

We also asked questions regarding the financial performance of the subsidiaries. The reason for these questions was to compare evaluations of capability – market orientation – with evaluations of financial performance – sales, operating results, and market share. When comparing corporate and subsidiary evaluations of financial performance, we found a very different pattern than in the case of capabilities. There is much greater agreement between evaluations of financial performance than evaluations of capabilities. The results show perception gaps in around 70 percent of the capability evaluations, compared to around 40 percent for evaluations of financial performance.

Thus, corporate and subsidiary managers agree on the marketing capability of the subsidiaries in around 30 percent of the cases, and have different opinions in around 70 percent of the cases. At the same time, corporate and subsidiary managers agree on how well the subsidiaries are performing in financial terms in around 60 percent of the cases, and disagree in around 40 percent of the cases. Overall, opinions on subsidiary capabilities vary much more than opinions on how well the subsidiaries are doing financially. In other words, there are substantial perception gaps regarding how capable subsidiaries are in performing the most

important marketing activities! The managers hold very different views on the subsidiaries' marketing capability.

There are three possible reasons for such perception gaps. First, the managers may have access to different information regarding the subsidiaries that are evaluated. Second, the managers may have access to identical information regarding the subsidiaries, but focus their attention on different elements of that information. Third, the managers may have access to identical information regarding the subsidiaries and also focus their attention on the same elements of that information, but interpret those elements differently. In short, the three alternative explanations are:

1. Access to different information.
2. Selective attention to information.
3. Different – or selective – interpretation of information.

We should emphasize the three explanations represent different degrees of rationality. The first explanation represents a mild degree of irrationality – lack of access to important information. It is the most accepted restriction on hypothetical perfect rationality. In practice, it almost always applies. The third explanation represents a severe degree of irrationality – different interpretation of identical elements of important information. This type of limitation to a hypothetically perfect rationality is seldom discussed in research or practice. Researchers and managers simply disregard such severely irrational behavior in the knowledge-management structures of the MNE.

To determine which degree of irrationality explains the perception gaps we found, we built a model that was tested in a multiple regression analysis. In the model the perception gaps – calculated for each subsidiary as the difference between corporate and subsidiary managers' evaluations – were the dependent variable. The three main explanatory variables were the ones outlined above. We used different constructs to represent each of the main variables. In addition, we isolated firm-related effects by using dummy variables for each firm, but we also used a control variable reflecting the degree to which corporate managers were aware of how much they actually knew about each subsidiary's capabilities.

The multiple regression analysis tells us perception gaps are primarily explained by the attention which corporate management devotes to a specific subsidiary. We conclude there is support for the intermediate form of irrationality – selective attention – as an explanation for perception gaps. In essence, the strongest support is found for the hypothesis that selective attention explains perception gaps. The explanatory power of the model was rather high. The additional analyses also indicated there were cultural biases in the corporate evaluations of subsidiary capability.

The control variable – the awareness by corporate managers of how much they actually know about the subsidiary – is not significant, thus indicating corporate management – at least to some extent – realize how much they know about each subsidiary. This also validates our model. As previously stated, the strongest finding is that selective attention matters most. One indicator of corporate attention – the financial performance of the subsidiary – is positively related to perception gaps. The better the subsidiary's financial performance, the more positive is the perception gap, i.e., the higher the subsidiary's self-evaluation in relation to the corporate evaluation. As the financial performance of the subsidiary improves, the corporate manager lowers his/her evaluation of the subsidiary's capabilities, while the self-evaluations by the subsidiaries become more favorable. This finding is especially interesting given the way the financial-performance measure is constructed. It is based on a combination of data from both subsidiary and corporate managers, and is reliable[4]. The evaluators have similar views on subsidiary performance in financial terms, while changes in subsidiaries' financial performance seem to have opposite effects on corporate and subsidiary perceptions of how capable the unit is. It seems as if corporate and subsidiary managers use different yardsticks when they evaluate marketing capability. Interestingly, financial performance constitutes a very important yardstick for corporate managers while subsidiary managers do not seem to equate financial performance with marketing capability.

By definition, a perception gap is based on one or more subjective evaluations of subsidiary marketing capability. These subjective evaluations may have many different explanations. It seems, however, as if corporate managers did not estimate the capability of subsidiaries in which the executive managers are Swedish as extraordinarily highly proficient. In practice, Swedish corporate managers estimated the capability of subsidiaries having expatriates as executive managers as being more proficient than the other subsidiaries. At the same time,

however, subsidiaries' cultural distance to Sweden tended to have a negative impact on the corporate evaluations. The principal conclusion is the attention – or lack of attention – paid to a specific subsidiary by corporate managers explains the existence of perception gaps. In addition, cultural biases are not unlikely.

All in all, our interviews suggest that perception gaps are likely to be caused by:

- Lack of accurate and clear measurement tools.
- Managers may not stay long enough in the firm.
- Managers may not meet face-to-face often enough.
- Lack of clearly defined and mutually acknowledged roles of operating units and of corporate management in the knowledge-management process.
- Not enough "*confrontation in the squares of the matrix*" - i.e., a lack of shared decision-making and problem-solving by the managers responsible in each matrix dimension of the organizational structure.
- Cultural differences.

The results – horizontal perception gaps

The next question concerned whether a self-evaluation by a subsidiary manager is consistent with evaluations of that unit by other subsidiary managers. Even if there are hierarchical perception gaps, i.e. between corporate and subsidiary managers, there may not be horizontal perception gaps, i.e. between different subsidiary managers. To phrase it more clearly, if capabilities are best understood by those who actually holds them – as the theory suggests (Simon, 1991; Hedlund & Nonaka, 1991) – we should expect self-evaluations and horizontal evaluations, i.e., by other subsidiary managers, to be similar to one another. On the other hand, if capabilities are best understood by those who actually have responsibility for the unit in which the activities are performed, i.e., corporate and subsidiary managers respectively, we should expect corporate and self-evaluations to be similar to one another.

To compare the horizontal evaluations with the self- and hierarchical evaluations, we ranked all units according to each type of evaluations. Because of the characteristics of the horizontal

data, we then only included the subsidiaries top-ranked by horizontal evaluations. The data showed horizontal evaluations clearly differ from evaluations by corporate managers but are somewhat similar to self-evaluations. We tentatively concluded firms to be more holographic in the horizontal dimension, i.e. between subsidiaries, than in the hierarchical dimension, i.e. between corporate managers and subsidiaries. In other words, it seems as if evaluations by subsidiary managers are more similar to one another than they are to corporate managers' evaluations.

The results – transfers of best practices within the corporate network

The discussion so far has dealt with whether managers are able to evaluate capabilities in a coherent way. According to our findings, the managers were only able to do so in a minority of cases – around 30 percent. The percentage for evaluating financial performance was much higher. The next question is whether evaluation of capabilities matters in the transfer process. Do the units regarded as extraordinarily capable also transfer their skills to other units in the firm? Moreover, since corporate and subsidiary managers' evaluations often are not identical, which of the evaluations is most influential in the selection of units to be used as sources?

When we relate the evaluations – corporate and subsidiary – of subsidiary capabilities to the units' frequency of outward transfer of practices and products, we find both corporate and subsidiary evaluations are positively related to the transfer frequency. The better the evaluations, the more frequently practices are transferred from these units. In no case is the relationship very strong, however[5]. In order to test how much the selection of transfer sources is explained by the evaluations and other important variables, we first performed a simple multiple regression analysis. The analysis proved self-evaluations to be more important than corporate evaluations in explaining the selection of transfer sources. Our conclusion is that corporate managers do not have much influence on this process. Consequently, perception gaps do not seem to have much effect on the transfer patterns since subsidiaries seem to make their own decisions regarding transfers.

We also wanted to see how important the evaluations are if we include other forces likely to affect the transfer frequencies. In this analysis, we included variables that have been found to be important explanatory factors in previous research. These are:

- "Connectedness" with the rest of firm (as indicated by communication with other units in the firm, and degree of centralized decision-making).
- "Stickiness" of capabilities (as indicated by observability and codifiability of capabilities).
- The local market (as indicated by the strategic importance of the local market).
- Subsidiary characteristics (as indicated by financial performance, and marketing experience by unit's CEO/Marketing manager).

To the variables above we add our evaluation variables and the perception-gap variable, and test whether they are important for the selection of source units for the transfer of capabilities. It is important to acknowledge the test primarily shows outward-transfer frequency is explained by financial performance of the source unit, and the subsidiary managers' experience in marketing.

Again, when studying how evaluations of capabilities relate to transfer patterns, the main – but weak – indication is that selection of sources in transfer processes – as indicated by outward transfer frequency – is based on subsidiary managers' self-evaluations. Self-evaluation is more important than corporate evaluation when – explicit or implicit – selection of transfer sources is made. Still, corporate and subsidiary evaluations – as well as perception gaps – have very little influence on the selection of transfer sources. Overall, there is only a weak indication that transfer frequency is determined by an intentional milking strategy in which particularly capable subsidiaries are exploited for the benefit of less capable ones. In sum, however, the process seems to be much less deliberately conceived. We may describe the entire process as being quite organic and possibly controlled by subsidiary managers. More specifically, all the results indicate corporate management plays an unimportant role in the transfer process.

In practical terms, one of the greatest challenges we identified is behavioral. There was ample evidence that managers tend to be poorly informed on others' skills or strongly prejudiced regarding the capabilities of certain subsidiaries. The corporate managers were limited by bounded rationality and possibly also cultural biases. Moreover, we can not exclude

subsidiary managers in certain cases may misjudge their own skills. The techniques companies can use as an antidote to the pathological behaviors found in our study include the basic "knowing-one-another" strategy. The subsidiary managers in South America must have a personal relationship with their colleagues in Europe and Asia. Moreover, skilled units must receive attention so others can learn from them, and the issue of sharing and leveraging capabilities must be put high on the agenda.

To conclude, the most important variables in the transfer process include the source units' financial performance and the experience of subsidiary managers. If any of the evaluations has any influence on the selection of transfer sources, it is the subsidiary managers' self-evaluations that matter. By implication, The intentional "milking" strategy in which particularly capable subsidiaries are leveraged through structured transfer processes is not happening.

Knowledge management – an oxymoron?!

We emphasize the principal conclusion from this study: namely, that knowledge management is an oxymoron, since capabilities cannot actually be managed in the conventional sense. Management is ordinarily taken to imply intentional action to achieve a given result, whereas the flows of knowledge are mainly explained by the financial performance of sources and the individual subsidiary managers involved in the transfer process. There is no intentional leveraging of the skills of the most capable subsidiaries. Instead, it is primarily the financial performance – as an indicator of capability – and the subsidiary managers themselves determining whether knowledge will be transferred. If anything influences the selection of sources in the transfer processes, it is how the subsidiary managers view the capabilities of their own units and other subsidiaries. What corporate managers think of subsidiary capabilities often diverges from the subsidiary managers' views, and it does not seem to influence the selection of sources. Knowledge resides in the hands and heads of the operating managers and is best evaluated by these managers themselves. Thus, corporate knowledge-management systems aimed at centralizing decisions regarding sources and recipients in the transfer processes are not likely to be effective. The heterarchical ideal (Hedlund, 1986; 1993) – perhaps realizable only for operating managers – seems to be a much better solution.

Moreover, it is prudent to assume all dimensions of an organization – especially knowledge, position, and action (Hagström & Hedlund, 1998) – are not structured in identical ways. Formal authority, i.e. the position structure, is not likely to coincide with the knowledge structure, i.e. the way capabilities are structured among employees. Thus, top management will not be able to understand the inherent capabilities of all subsidiaries and to make correct assessments of their skills. If knowledge management is to be effective, the organizational structure and approach must acknowledge that "*capabilities reside in the hands and heads of operating managers*". Thus, a centralized form of management is not appropriate. Our study thus provides substantial support to the organizational model described by Hagström & Hedlund (1998).

The tacit nature of much important knowledge suggests it is difficult to know the capability of a specific subsidiary. Our study corroborated this statement. By implication, corporate knowledge management is not likely to be effective; one cannot manage what one cannot

understand. The study shows the attention in knowledge management research should be devoted to the identification of capabilities, as opposed to the traditional focus on the implementation of the transfer. We believe both researchers and managers need to study the issue of how to identify capabilities in the MNE.

A possible organizational structure for knowledge management would be a matrix structure in which one of the normally used dimensions – let us say geography – is replaced by a capability dimension. According to our findings, one major problem with effective knowledge management is that capabilities usually are crowded out by seemingly more important factors – such as the country dimension; the reporting and accounting systems are generally set up to measure performance within a country. The implication is that country managers have few incentives to pursue capability leverage beyond the national border. The fundamental reason for this structure is that national governments want to tax the firms operating within the nation's borders. Is this reason a valid one for the MNE?

A reporting structure organized to match capabilities could enable the MNE to leverage effectively the knowledge and capabilities residing within the organization. The MNE could then pursue effective knowledge management. The counter-argument – supported by our study – is that centralization of power and authority in knowledge management should not be taken too far. Many of the meta-capabilities needed to pursue effective knowledge management are naturally found in the hands and heads of operative managers. A centralized corporate management function is not always qualified to understand and manage capabilities in subsidiaries. Moreover, the fleeting nature of knowledge restricts the value of a too formalized knowledge management structure.

Suggestion for future research and a summary of the summary

In short, our main suggestions for future research include; First, acknowledging managerial decision-making to be subjective and boundedly rational, and studying causes to as well as effects from these characteristics on the organization and the management. Second, test whether perception gaps are found in other activities like manufacturing, R&D, logistics, or HRM in the MNE. Third, acknowledging the evaluation dimension in studies on knowledge

management and capability transfers. Four, building stronger connections between international marketing and international business through two bridges: the implications from the inter-market segment idea on international business and the acknowledgement of possible effects from internal managerial differences global marketing strategy research.

To sum up, the study showed neither corporate nor subsidiary marketing managers always know how capable the marketing units in the firm actually are. There are sometimes considerable perception gaps, i.e., differences between corporate evaluations and subsidiary self-evaluations, regarding the capabilities of a subsidiary. We have shown perception gaps exist, and we relate the evaluations of capabilities to the patterns of knowledge transfer in the MNE. In doing so, we find practices do not tend to flow from the units believed to be most capable to the ones believed to be least capable. The dominant flows are actually among the seemingly most capable units. We also saw evaluations of capability had little impact on the selection of transfer sources. It was primarily the financial performance of the transfer sources and the experience of the subsidiary managers that explain transfers. If anything, self-evaluations had some impact on the selection of transfer sources. On the basis of these findings, we infer knowledge management to be an oxymoron. In conclusion, we present two paradoxes of knowledge management. First, the most valuable knowledge is the most difficult to transfer, and, second, the most valuable knowledge is the most difficult to find in the first place.

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[1] I.e. the potential recipient in a transfer process believes anything thought up elsewhere must be inferior to what he/she has developed by him/herself. Thus, the practice is not worth being adopted and implemented. The result is a lack of willingness to accept practices developed by other units.

[2] I.e. the potential source in a transfer process believes anything thought up elsewhere must be superior to what he/she has developed by him/herself. Thus, their own practices are not worth being transferred elsewhere. The result is a lack of willingness to transfer practices to other units.

[3] We calculate the perception gap at the firm level by analyzing the correlation between corporate and subsidiary managers' evaluations of the same subsidiary. If the correlation is positive and significant, there is no perception gap. In all other cases, there is a perception gap. In practice, the correlation within a firm for a particular dimension ranged between +0.780 (α=0.000) and –0.725 (α=0.165).

[4] The reliability measure - Cronbach alpha – is high (0.7922).

[5] The correlation is +0.240 ($\alpha < 0.01$) for corporate evaluations and transfer frequency, and +0.187 ($\alpha < 0.05$) for subsidiary evaluations and transfer frequency.

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APPENDIX.

Appendix 1. The Camino project.

The Institute of International Business (IIB) – a research institution at the Stockholm School of Economics – developed a unique research program in 1997 in co-operation with six corporations: Askus KW (active in organizational consulting), SE-Banken (banking), Volvo (automotives), Skandia (insurance), Pharmacia & Upjohn (pharmaceuticals), and Ericsson (telecommunications). The program grew out of an interest in current changes in the firms and industries presented above. An important force in this change is the revolution in information technology over the last twenty years. The crucial question was how larger firms are affected by these changes and what they can and should do to take advantage of the new conditions for doing business. As a result, the Camino research program was launched in January, 1997. Camino is an acronym for "Capability management in network organizations." The program is based on three elements: capabilities and networks – as the name indicates – as well as information technology. The word "camino," which means "road" in Spanish, informs us that the program should be seen as a journey toward new knowledge and a better understanding of the management of multinational enterprises. In our case, the findings relate to knowledge management in multinational enterprises.

The practical structure of the Camino project is based on the idea that the firms open their organizations to researchers from IIB, and the firms, in return, receive first-hand access to data and the research conclusions. The firms, however, have no influence on the fundamental research questions and methodologies the researchers want to pursue. This study involves four of the six Camino firms, namely Skandia, Volvo, Ericsson, and Pharmacia & Upjohn; these four firms found the study interesting and decided to join it. The remaining two firms, SE-Banken and Askus KW were not included, since the overwhelming majority of their activities are located within Sweden and this project focused on geographical and inter-cultural aspects of knowledge management.

Appendix 2. The subsidiary questionnaire.

INSTITUTE OF INTERNATIONAL BUSINESS – IIB

STOCKHOLM SCHOOL OF ECONOMICS

<FIRM>

BEST PRACTISES IN MARKET ORGANIZATIONS

Niklas Arvidsson, Institute of International Business at the Stockholm School of Economics. Tel. +46-(0)8-736 9514; E-mail: iibna@hhs.se

Section 1. This section asks questions about your personal background and your local company, i.e. the Sales and Marketing unit of the local company in <firm> within which you are working.

1. WHAT IS YOUR CURRENT TITLE/POSITION_____
2. FOR HOW LONG HAVE YOU HELD THIS TITLE/POSITION? _____
3. IN WHICH YEAR DID YOU START WORKING FOR <FIRM>? _____

4. IN WHICH YEAR WERE YOU BORN? _____
5. WHICH IS YOUR NATIVE LANGUAGE?_____AND YOUR NATIVE COUNTRY?_____

6. INDICATE YOUR PRIOR EXPERIENCE - IN ANY FIRM - IN THE FOLLOWING FUNCTIONS:

I have worked ____ years in R & D
I have worked ____ years in Sales and marketing
I have worked ____ years in Human Resources
I have worked ____ years in Manufacturing
I have worked ____ years in Corporate staff
I have worked ____ years in_____

7. IN WHICH YEAR DID YOUR LOCAL COMPANY LOCAL COMPANY START OPERATING? _____
8. A) HOW MANY PERSONS ARE EMPLOYED IN YOUR LOCAL COMPANY? _____
   B) HOW MANY OF THESE ARE PRIMARILY WORKING WITH MARKETING? _____

9. A) TO WHICH GEOGRAPHICAL MARKETS DOES YOUR LOCAL COMPANY SELL? _____
   B) WHAT IS YOUR APPROXIMATE MARKET SHARE IN YOUR LOCAL MARKET? _____%
   C) APPROXIMATELY HOW LARGE WAS THE LOCAL MARKET 1996? _____
   D) WHICH APPROXIMATE SHARES OF YOUR TOTAL SALES ARE SOLD TO:
      i) Industrial buyers ____% ii) Distributors ____% iii) End users ____%

10. HOW LARGE WAS YOUR MARKETING BUDGET 1996? (AS SHARE OF TURNOVER)_____%
11. YOUR LOCAL COMPANY'S TOTAL SALES 1996? _____
12. YOUR LOCAL COMPANY'S OPERATING PROFIT 1996? _____

NB. Please specify the currency in your answers to questions 9c, 11, and 12.

Section 2. This section asks questions about your local company's market activities.

1. ASSESS HOW YOU COLLECT MARKET INFORMATION.

	1 strongly disagree						*1 strongly agree*
• People from other <firm> local companies regularly interact with our customers.....	1	2	3	4	5	6	7
• We do a lot of in-house market research.....	1	2	3	4	5	6	7
• We are slow to detect changes in customers' product preferences.....	1	2	3	4	5	6	7
• We often communicate with those who can influence end users' purchases.....	1	2	3	4	5	6	7
• Our local company regularly collects intelligence on competitors.....	1	2	3	4	5	6	7
• We are slow to detect changes in our industry structure.....	1	2	3	4	5	6	7
• We periodically review the likely effects on customers of changes in our business environment	1	2	3	4	5	6	7

2. ASSESS HOW YOU DISTRIBUTE MARKET INFORMATION.

	1 strongly disagree						*1 strongly agree*
• We have meetings with other <firm> local companies at least once a quarter to discuss market trends and developments.....	1	2	3	4	5	6	7
• We often discuss customers' future needs with other local companies.....	1	2	3	4	5	6	7
• Data on customer satisfaction is regularly disseminated to all in our company.	1	2	3	4	5	6	7
• There is minimal communication between our local company and other local companies in <firm> on market developments.....	1	2	3	4	5	6	7
• When other local companies discovers something important about competitors, they are normally slow to alert our local company.....	1	2	3	4	5	6	7

3. ASSESS HOW YOU RESPOND TO MARKET INFORMATION.

	I strongly disagree						*I strongly agree*
• It takes us forever to decide how to respond to competitors' price changes	1	2	3	4	5	6	7
• Market segmentation principles drive product development in <firm>....	1	2	3	4	5	6	7
• We tend to ignore changes in customers' product or service needs.....	1	2	3	4	5	6	7
• Our business plans are driven more by products than by market needs.....	1	2	3	4	5	6	7
• The choice of products that we sell depend more on internal politics than real market needs	1	2	3	4	5	6	7
• The activities of different functions in <firm> are well coordinated.....	1	2	3	4	5	6	7
• We are quick to respond to changes in competitors' pricing structures.....	1	2	3	4	5	6	7
• When we find that customers are unhappy with the quality of our products, we take corrective action immediately.....	1	2	3	4	5	6	7
• When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.....	1	2	3	4	5	6	7

Section 3. This section compares your and other <firm> local companies' ability with each other.

1. RATE YOUR LOCAL COMPANY'S EXPERTISE IN THE MARKET ORIENTED PROCESSES AND ACTIVITIES LISTED BELOW. For each category, circle a number reflecting your local company's ability in relation to other <firm> local companies.

	Much worse			*About average*			*Much better*
• Collecting market information.....	1	2	3	4	5	6	7
• Distributing market information in <firm>.....	1	2	3	4	5	6	7
• Analyzing and acting upon market information.....	1	2	3	4	5	6	7
• Linking up with customers activities.....	1	2	3	4	5	6	7
• General marketing.....	1	2	3	4	5	6	7
• <Firm-specific item 1>	1	2	3	4	5	6	7
•	1	2	3	4	5	6	7
• <Firm-specific item 6>	1	2	3	4	5	6	7

2. INDICATE YOUR COMPANY'S RELATIVE PERFORMANCE COMPARED TO OTHER LOCAL COMPANIES.

	Much worse			*About average*			*Much better*
• Overall sales revenues.....	1	2	3	4	5	6	7
• Sales revenue growth.....	1	2	3	4	5	6	7
• Overall market share.....	1	2	3	4	5	6	7
• Operating profit.....	1	2	3	4	5	6	7

3. HOW WOULD YOU CHARACTERIZE HOW OTHERS REGARD YOUR COMPANY'S CAPABILITIES?

	I strongly disagree						*I strongly agree*
• Our capabilities are typically well understood by <firm>'s BA managers	1	2	3	4	5	6	7
• Our credibility with regional top management is very high.....	1	2	3	4	5	6	7
• Other local companies in <firm> see us as a very capable local company.	1	2	3	4	5	6	7
• We are viewed as a leading edge player by our local competitors.....	1	2	3	4	5	6	7
• Local industry analysts rate <firm> as a leading actor in our industry.....	1	2	3	4	5	6	7

4. FOR EACH OF THE ACTIVITIES BELOW, IDENTIFY WHICH LOCAL COMPANY IN <FIRM> THAT YOU CONSIDER THE MOST CAPABLE. (You may nominate your own local company.)

	The leading-edge local company is:	*OR*	All local companies are equally capable.	*OR*	I have no idea.
• Collecting market information.....	_____		___		___
• Distributing market information in <firm>.....	_____		___		___
• Analyzing and acting upon market information	_____		___		___
• Linking up with customers activities.....	_____		___		___
• General marketing.....	_____		___		___
• <Firm-specific item 1>	_____		___		___
•	_____		___		___
• <Firm-specific item 6>	_____		___		___

Section 4. This section asks questions regarding transfers of knowledge within <firm>.

1. ESTIMATE HOW OFTEN - IF AT ALL - THE FOLLOWING OCCUR.

	Never	Less than once a year	Once or twice a year	Around 3-6 times a year	More than 6 times/year
• New products or services are transferred from country/BA HQ to our local company.	1	2	3	4	5
• New "Best practices" are transferred from country/BA HQ to our local company.	1	2	3	4	5
• New products or services are transferred from other <firm> local companies to us.	1	2	3	4	5
• New "Best practices" are transferred from other local companies to our company.	1	2	3	4	5

• State the most recent case when a product, service or best practice was transferred to your local company from another part of <firm>._____

2. ESTIMATE HOW OFTEN - IF AT ALL - THE FOLLOWING OCCUR.

	Never	Less than once a year	Once or twice a year	Around 3-6 times a year	More than 6 times/year
• New products or services are transferred from our local company to country/BA HQ.	1	2	3	4	5
• New "Best practices" are transferred from our local company to country/BA HQ.	1	2	3	4	5
• New products or services are transferred from us to other <firm> local companies.	1	2	3	4	5
• New "Best practices" are transferred from us to other <firm> local companies.	1	2	3	4	5

• State the most recent case when a product, service or best practice was transferred from your local company to another part of <firm>._____

3. HOW WOULD YOU CHARACTERIZE <FIRM>'S KNOWLEDGE MANAGEMENT SYSTEM?

	I strongly disagree						I strongly agree
• We thoroughly adhere to the advice we receive from Business Area management on how to manage our strengths and weaknesses.....	1	2	3	4	5	6	7
• All formally recognized "Centers of Excellence" in <firm> are justly appointed as the best <firm> local companies in their particular field.....	1	2	3	4	5	6	7
• We and BA management have similar views on Key Success Factors.....	1	2	3	4	5	6	7
• BA management is always able to help us to find and adopt a new practice	1	2	3	4	5	6	7
• BA management possesses the resources needed to effectively support transfers of capabilities between <firm> local companies.....	1	2	3	4	5	6	7
• <Firm> has a history of successful transfers of capabilities.....	1	2	3	4	5	6	7

Section 5. This section asks questions about general characteristics of your local company.

1. PLEASE ANSWER THE FOLLOWING QUESTIONS ON YOUR COMMUNICATION PATTERNS.

How often do you:	Daily	Once a week	Twice a month	Once every month	Four times a year	Twice a year	Yearly or less
- meet BA managers face-to-face to discuss operations?	1	2	3	4	5	6	7
- meet managers in other local companies face-to-face to discuss operations?	1	2	3	4	5	6	7
- communicate with BA managers to discuss operations?	1	2	3	4	5	6	7
- communicate with managers in other local companies to discuss operations?	1	2	3	4	5	6	7

2. HOW WOULD YOU CHARACTERIZE THE GOAL-SETTING PROCESS IN <FIRM>?

	I strongly disagree						I strongly agree
• Country or BA management basically sets our goals and objectives.....	1	2	3	4	5	6	7
• Our sister companies exert a strong influence on our goals and objectives..	1	2	3	4	5	6	7
• Our goals and objectives are highly influenced by competitors.....	1	2	3	4	5	6	7
• Our company act autonomously when setting our goals and objectives.....	1	2	3	4	5	6	7
• Goals and objectives are set after negotiating with country/BA managers...	1	2	3	4	5	6	7

3. HOW WOULD YOU DESCRIBE YOUR USE OF THE INFORMATION TECHNOLOGY SYSTEM?

	I strongly disagree						I strongly agree
• IT has significantly contributed to our ability to learn from other local companies in <firm> how to perform new practices.....	1	2	3	4	5	6	7
• IT has significantly contributed to our ability to transfer skills and capabilities to other local companies in <firm>.....	1	2	3	4	5	6	7

4. HOW MANY OF YOUR EMPLOYEES HAVE TAKEN PART IN TRAINING PROGRAMS? _____

5. HOW MANY OF YOUR EMPLOYEES HAVE TAKEN PART IN JOB ROTATION SCHEMES? _____

6. WHICH CORPORATE ENTITY IN <FIRM> TEND TO MAKE EACH OF THE DECISIONS BELOW?

	Local company management	Country Management	Business area management
• Setting operative goals for our local company.....	A	B	C
• Introducing new products in our local market.....	A	B	C
• Changing product prices in our local market.....	A	B	C
• Appointing executive managers to our company..	A	B	C
• Deciding if we should enter new markets.....	A	B	C
• <Firm-specific item 1 to 4>	A	B	C

7. HOW WOULD YOU CHARACTERIZE YOUR LOCAL COMPANY'S USE OF SOURCES OF EXPERTISE?

	I strongly disagree						*I strongly agree*
• We frequently draw on external expertise when we perform our activities..	1	2	3	4	5	6	7
• The most critical expertise for our operations is held inside our company..	1	2	3	4	5	6	7
• We regularly draw on critical expertise from other <firm> companies....	1	2	3	4	5	6	7
• Country/BA functions are providing vital expertise for our daily activities.	1	2	3	4	5	6	7
• Other <firm> local companies are important sources of expertise for us..	1	2	3	4	5	6	7
• Local customers are frequent sources of ideas for product development....	1	2	3	4	5	6	7

8. HOW WOULD YOU DESCRIBE <FIRM>'S MARKETING STRATEGY? (Mark your answer below.)

A high level of responsiveness to national markets and customization of products to specific customer needs. 1 2 3 4 5 6 7 A tightly coordinated approach in which products are standardized throughout the world.

9. HOW WOULD YOU CHARACTERIZE <FIRM>'S ATTITUDES TO NEW IDEAS?

	I strongly disagree						*I strongly agree*
• People are very secretive about their ideas in <firm>.....	1	2	3	4	5	6	7
• I would get no recognition at all in <firm> if I helped another local company	1	2	3	4	5	6	7
• The "not-invented-here" syndrome is a real problem in <firm>.....	1	2	3	4	5	6	7
• <Firm> has experienced top managers sponsoring entrepreneurial efforts.....	1	2	3	4	5	6	7
• Individual risk-takers in <firm> are recognized whether successful or not....	1	2	3	4	5	6	7
• There is encouragement for calculated risks in <firm>.....	1	2	3	4	5	6	7

10. HOW WOULD YOU CHARACTERIZE <FIRM> COMPANIES' UNDERSTANDING OF EACH OTHER?

	I strongly disagree						*I strongly agree*
• <Firm> has a shared language that helps us learn from other local companies	1	2	3	4	5	6	7
• We have a clear vision of how other <firm> local companies could help us..	1	2	3	4	5	6	7
• We know which activities we perform poorly and which to improve.....	1	2	3	4	5	6	7
• We have the ability to effectively absorb capabilities from other companies...	1	2	3	4	5	6	7
• We almost always know where and how to search for ways to improve the way we perform certain activities.....	1	2	3	4	5	6	7
• We have a clear idea of how other <firm> local companies should be helped to improve their operative performance.....	1	2	3	4	5	6	7
• We never interfere with how other local companies perform their activities....	1	2	3	4	5	6	7
• We know which activities we perform better than other local companies.....	1	2	3	4	5	6	7
• <Firm> has a shared language that helps us to teach other local companies...	1	2	3	4	5	6	7
• We are definitely willing to transfer people/practices to other local companies	1	2	3	4	5	6	7
• There is regular transfer of people between us and other local companies.....	1	2	3	4	5	6	7

11. HOW WOULD YOU CHARACTERIZE YOUR LOCAL MARKET?

	I strongly disagree						*I strongly agree*
• Information regarding customer needs is often uncertain or missing.....	1	2	3	4	5	6	7
• It is often hard to know how much we would lose if a decision is incorrect.....	1	2	3	4	5	6	7
• Competition in our local market is extremely intense.....	1	2	3	4	5	6	7
• Relationships between our company and suppliers/buyers are very strong.....	1	2	3	4	5	6	7
• The speed of product or service innovation by competitors is high.....	1	2	3	4	5	6	7
• Market demand is growing rapidly in our local market.....	1	2	3	4	5	6	7

12. HOW WOULD YOU CHARACTERIZE YOUR LOCAL COMPANY'S KNOWLEDGE?

	I strongly disagree						*I strongly agree*
• A manual describing how our activities are executed could be written.....	1	2	3	4	5	6	7
• New staff can easily learn how to perform the services that our local company offers by talking to skilled employees within our company.....	1	2	3	4	5	6	7
• Training new personnel is typically a quick, easy job for us.....	1	2	3	4	5	6	7
• New personnel with a university education can perform the services that our local company offers.....	1	2	3	4	5	6	7
• A competitor can easily learn how our local company structures and performs its activities by studying the way we do business.....	1	2	3	4	5	6	7
• It's easy for local companies to understand how we perform our activities.....	1	2	3	4	5	6	7
• Large parts of our products and services are embodied in methodologies that are easily applied by other <firm> local companies.....	1	2	3	4	5	6	7

Appendix 3. The corporate questionnaire.

INSTITUTE OF INTERNATIONAL BUSINESS – IIB

STOCKHOLM SCHOOL OF ECONOMICS

<FIRM> CORPORATE MANAGEMENT

BEST PRACTISES IN MARKET ORGANIZATIONS

Niklas Arvidsson, Institute of International Business at the Stockholm School of Economics, Tel. +46-(0)8-736 9514; E-mail: iibna@hhs.se

Section 1. This section asks questions about your personal background and <firm>.

1. WHAT IS YOUR CURRENT TITLE/POSITION_____
2. FOR HOW LONG HAVE YOU HELD THIS TITLE/POSITION? _____
3. IN WHICH YEAR DID YOU START WORKING FOR <FIRM>? _____
4. IN WHICH YEAR WERE YOU BORN? _____
5. WHICH IS YOUR NATIVE LANGUAGE?_____AND YOUR NATIVE COUNTRY?_____

6. INDICATE YOUR PRIOR EXPERIENCE - IN ANY FIRM - IN THE FOLLOWING FUNCTIONS:

I have worked ____ years in R & D
I have worked ____ years in Manufacturing
I have worked ____ years in Sales and marketing
I have worked ____ years in Corporate staff
I have worked ____ years in Human Resources
I have worked ____ years in_____

7. WHICH SHARE OF ALL <FIRM>'S EMPLOYEES ARE WORKING WITH MARKETING?_____%
8. WHAT IS <FIRM>'S MARKETING BUDGET 1996 (AS SHARE OF TURNOVER)?_____%
9. WHAT IS <FIRM>'S TOTAL SALES 1996? _____MSEK
10. WHICH SHARES OF <FIRM>'S SALES ARE TO: Industrial buyers___% Distributors___% End users___%

11. HOW WOULD YOU BEST DESCRIBE <FIRM>'S MARKETING STRATEGY? (Mark your answer below).

A high level of responsiveness to national markets and customization of products to specific customer needs. 1 2 3 4 5 6 7 A tightly coordinated approach in which products are standardized throughout the world.

12. ASSESS EACH OF THE MARKETS BELOW IN TERMS OF STRATEGIC IMPORTANCE FOR <FIRM>.
Mark your answer on the given scale where 1 equals not important and 7 equals extremely important.

Market	Strategic importance	Market	Strategic importance	Market	Strategic importance
Unit X, country y	1 2 3 4 5 6 7	Unit A, country b	1 2 3 4 5 6 7	Unit E, country f	1 2 3 4 5 6 7
Unit Z, country w	1 2 3 4 5 6 7	Unit C, country d	1 2 3 4 5 6 7	Unit G, country h	1 2 3 4 5 6 7

13. ASSESS EACH OF THE MARKETS BELOW IN TERMS OF PRESENCE OF KEY GLOBAL COMPETITORS.
Mark your answer on the given scale where1 equals no presence and 7 equals strong presence of key global competitors.

Market	Presence of competitors	Market	Presence of competitors	Market	Presence of competitors
Unit X, country y	1 2 3 4 5 6 7	Unit A, country b	1 2 3 4 5 6 7	Unit E, country f	1 2 3 4 5 6 7
Unit Z, country w	1 2 3 4 5 6 7	Unit C, country d	1 2 3 4 5 6 7	Unit G, country h	1 2 3 4 5 6 7

Section 2. This section asks questions about the relative ability of <firm>' operative subsidiaries.

1. RATE EACH SUBSIDIARY'S EXPERTISE IN THE ACTIVITIES LISTED BELOW. Rank each subsidiary relative to other <firm> subsidiaries on a scale where 1=much below average, 4=average, and 7=much above average.

	Collecting market information	**Distributing market information**	**Analyzing and acting on market information**
Unit X in country y	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Unit Z in country w	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

Section 2, question 1 continued...

RATE EACH SUBSIDIARY'S EXPERTISE IN THE ACTIVITIES LISTED BELOW. Rank each subsidiary relative to other <firm> subsidiaries on a scale where 1=much below average, 4=average, and 7=much above average.

	Linking up with customers	**General marketing**	**<Firm-specific item 1>**	**<Firm-specific item 6>**
Unit X in country y	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Unit Z in country w	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

2. ASSESS EACH SUBSIDIARY'S PERFORMANCE COMPARED TO OTHER <firm> SUBSIDIARIES.

Use a 7-point scale where 1 = much below average, 4 = average, and 7 = much above average.

	Overall sales revenue	Sales revenue growth	Overall market share	Operating profit
Unit X in country y	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Unit Z in country w	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

3. TO WHICH EXTENT DO YOU AGREE WITH THE FOLLOWING STATEMENTS?

			I strongly disagree						*I strongly agree*
• The capabilities of the	**X**	subsidiary are well understood by us.	1	2	3	4	5	6	7
• The capabilities of the	**Z**	subsidiary are well understood by us.	1	2	3	4	5	6	7

Section 3. This section asks questions regarding transfers of knowledge within <firm>.

1. ESTIMATE HOW OFTEN - IF AT ALL - THE FOLLOWING OCCUR.

	Never	*Less than once a year*	*Once or twice a year*	*Around 3-6 times a year*	*More than 6 times/year*
• New products or services are transferred from corporate HQ to operative subsidiaries.	1	2	3	4	5
• New "Best practices" are transferred from corporate HQ to operative subsidiaries.	1	2	3	4	5

Please, state the most recent case when a product, service or best practice was transferred from you to an operative subsidiary in <firm>._____

• New products or services are transferred from operative <firm> subsidiaries to corporate HQ.	1	2	3	4	5
• New "Best practices" are transferred from operative <firm> subsidiaries to corporate HQ.	1	2	3	4	5

Please, state the most recent case when a product, service or best practice was transferred to you from an operative subsidiary in <firm>._____

2. ESTIMATE HOW OFTEN - IF AT ALL - THE FOLLOWING OCCUR.

	Never	*Less than once a year*	*Once or twice a year*	*Around 3-6 times a year*	*More than 6 times/year*
• New products or services are transferred from one operative <firm> subsidiary to another.	1	2	3	4	5
• New "Best practices" are transferred from one operative <firm> subsidiary to another.	1	2	3	4	5

Please, state the most recent case when a product, service or best practice was transferred between two operative subsidiaries in <firm>._____

Section 4. This section asks general questions about <firm>.

1. HOW WOULD YOU CHARACTERIZE <FIRM>'S KNOWLEDGE MANAGEMENT SYSTEM?

	I strongly disagree						*I strongly agree*
• Operative subsidiaries thoroughly adhere to our advice regarding how to manage their strengths and weaknesses.....	1	2	3	4	5	6	7
• We and operative subsidiaries generally have similar views on Key Success Factors	1	2	3	4	5	6	7
• We are always able to help an operative subsidiary to find and adopt a new practice	1	2	3	4	5	6	7
• We possess the resources needed to effectively support transfers of capabilities between <firm> subsidiaries.....	1	2	3	4	5	6	7
• <Firm> has a history of successful transfers of capabilities.....	1	2	3	4	5	6	7

2. HOW WOULD YOU CHARACTERIZE THE GOAL-SETTING PROCESS IN <FIRM>?

	I strongly disagree						*I strongly agree*
• We basically set each subsidiary's goals and objectives.....	1	2	3	4	5	6	7
• Each subsidiary's goals and objectives are much affected by their sister units' goals..	1	2	3	4	5	6	7
• Each subsidiary's goals and objectives are highly influenced by competitors.....	1	2	3	4	5	6	7
• Each subsidiary act autonomously when their goals and objectives are set.....	1	2	3	4	5	6	7
• Each subsidiary's goals and objectives are set in negotiations between us and them..	1	2	3	4	5	6	7

3. WHICH CORPORATE ENTITY IN <FIRM> TENDS TO MAKE EACH OF THE DECISIONS BELOW?

	Local company management	Country management	Business area management
• Setting operative goals for each subsidiary.....	A	B	C
• Introducing new products in each local market.....	A	B	C
• Changing product prices in each local market.....	A	B	C
• Appointing new executive managers in each subsidiary	A	B	C
• Deciding if a subsidiary should enter new markets.....	A	B	C
• <Firm-specific item 1>	A	B	C
• <Firm-specific item 4>	A	B	C

4. HOW WOULD YOU CHARACTERIZE <FIRM> ORGANIZATIONAL SYSTEM?

	I strongly disagree						*I strongly agree*
• People are very secretive about their ideas in <firm>.....	1	2	3	4	5	6	7
• Managers would get no recognition in <firm> if they helped another subsidiary..	1	2	3	4	5	6	7
• The "not-invented-here" syndrome is a real problem in <firm>.....	1	2	3	4	5	6	7
• <Firm> sponsors entrepreneurial efforts.....	1	2	3	4	5	6	7
• Individual risk-takers in <firm> are recognized whether successful or not.....	1	2	3	4	5	6	7
• There is encouragement for calculated risks in <firm>.....	1	2	3	4	5	6	7

5. HOW WOULD YOU CHARACTERIZE <FIRM> SUBSIDIARIES' UNDERSTANDING OF EACH OTHER?

	I strongly disagree						*I strongly agree*
• <Firm> has a shared language that helps subsidiaries to learn from each other....	1	2	3	4	5	6	7
• Subsidiaries have a clear vision of how other subsidiaries could help them.....	1	2	3	4	5	6	7
• Subsidiaries normally know which activities they perform poorly and which to improve....	1	2	3	4	5	6	7
• Subsidiaries normally have the ability to effectively absorb capabilities from each other....	1	2	3	4	5	6	7
• Subsidiaries usually don't know how to search for ways to improve their activities	1	2	3	4	5	6	7
• Subsidiaries usually have a clear idea of what other subsidiaries should do to improve their performance.....	1	2	3	4	5	6	7
• They never interfere with how other operative subsidiaries perform their activities	1	2	3	4	5	6	7
• They generally know which activities they perform better than others subsidiaries.	1	2	3	4	5	6	7
• <Firm> has a shared language that helps subsidiaries to teach each other.....	1	2	3	4	5	6	7
• They are definitely willing to transfer people and/or practices to other subsidiaries	1	2	3	4	5	6	7
• There is regular transfer of people between <firm> subsidiaries.....	1	2	3	4	5	6	7

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