



Kalevi Euro

# LOCATIONAL CHANGES OF HEADQUARTERS OF MULTINATIONAL CORPORATIONS

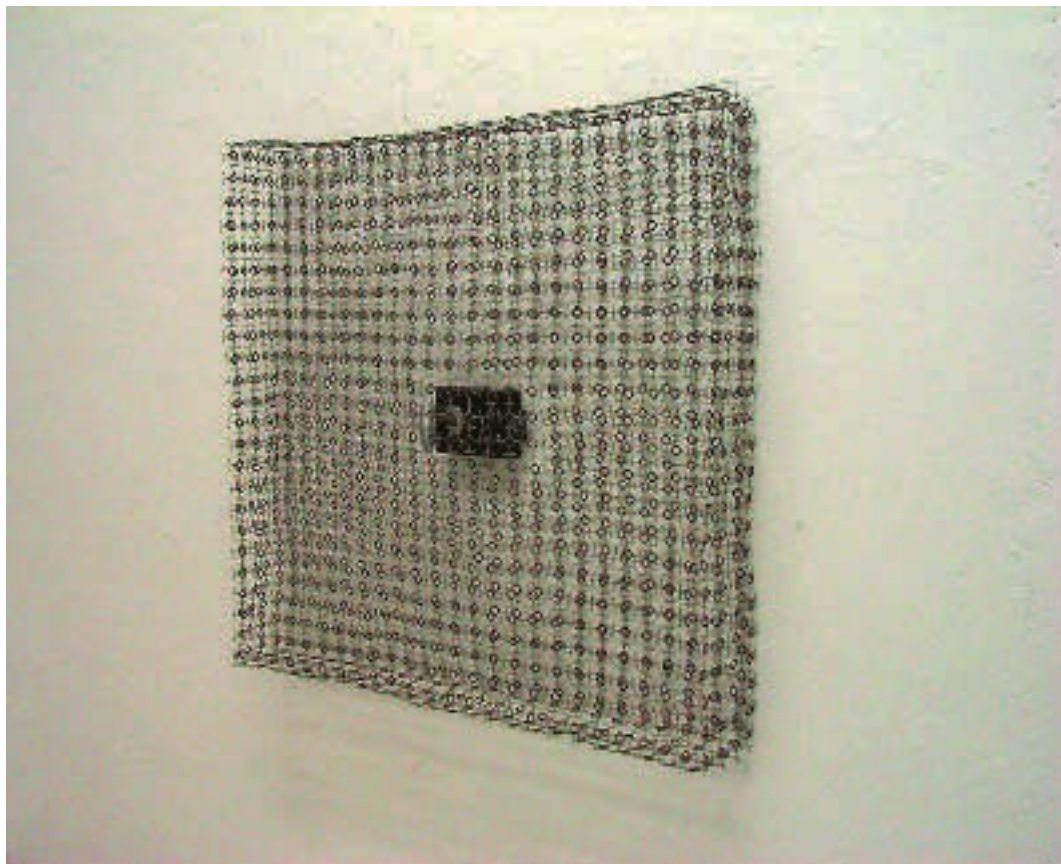
A THEORETICAL STUDY ON THE MOTIVES AND REASONS FOR  
RELOCATING FINNISH DIVISIONAL HEADQUARTERS ABROAD

---

HELSINKI SCHOOL OF ECONOMICS AND  
BUSINESS ADMINISTRATION

ACTA UNIVERSITATIS OECONOMICAE HELSINGIENSIS

A-194



'Silent'/'Vaiti' by Johanna Virtanen, textile artist. From the solo exhibition 'Territory/'Reviiri', October 2001, Art Gallery Valööri, Helsinki. The space is comprised of braided electronic resistors. Photo by Niko Nurmisto. © Johanna Virtanen and Niko Nurmisto, Helsinki, Finland.

Kalevi Euro

# LOCATIONAL CHANGES OF HEADQUARTERS OF MULTINATIONAL CORPORATIONS

A THEORETICAL STUDY ON THE MOTIVES AND REASONS FOR  
RELOCATING FINNISH DIVISIONAL HEADQUARTERS ABROAD

HELSINKI SCHOOL OF ECONOMICS AND  
BUSINESS ADMINISTRATION

ACTA UNIVERSITATIS OECONOMICAE HELSINGIENSIS

© Kalevi Euro and  
Helsinki School of Economics

ISSN 1237-556X  
ISBN 951-791-646-9  
ISBN 951-791-930-1 (Electronic dissertation)

Helsinki School of Economics -  
HeSE print 2001



## Acknowledgements

This research and doctoral thesis marks kind of an end to a thirty-five-year phase of life consisting of investigations and studies in the field of location of economic activity, as both a private entrepreneur and a civil service consultant. From the latter context arose the perplexing locational questions affecting internationalizing Finnish companies that I have tried to answer in this work. The goal and challenge in this respect has been both attractive and difficult.

In trying to find my way to reach the goal of this work, I cannot overestimate the invaluable forward drive, mental sparring, help in providing external facilities, and finally patience, which I have received from my supervisor Professor Reijo Luostarinen, Director of the International Business Department at Helsinki School of Economics. To have been able to do my research work at the Centre for International Business Research at HSE has been a great privilege.

I am also grateful to Professor Emeritus Reijo Helle and Professor Esa Stenberg at HSE, and Professor John H. Dunning and Professor Jean-Francois Hennart, doctoral tutorial members at the EIBA 1992 Conference in Reading, England, for their encouragement, ideas and suggestions.

Likewise, I warmly thank Director Erkki Eiroma of A. Ahlström Corporation/Ahlström Machinery, and Director Johan Stoor of Wärtsilä Diesel International Ltd Oy, for illuminating interviews on the contexts of the relocation phenomenon of divisional headquarters.

In addition, I express my many thanks to the pre-examiners of my cross-disciplinary thesis, Professor Göte Nyman of the Department of General Psychology of the University of Helsinki, with whom I have had encouraging discussions concerning 'sailing in unfamiliar waters', and Professor Bruce Kogut, Felix Zandman Professor of International Management, The Wharton School, University of Pennsylvania, whose critical comments have sharpened my perception and expression.

I also want to warmly thank my research colleagues at the Centre for International Business Research and at the International Business Department, particularly Dr. Zuhair Al-Obaidi, Dr. Mika Gabrielsson, Dr. Jussi Koivisto and Mr. Xavier Blanc for their constructive comments and help during my work. There are also many other friends whom I remember warmly for fruitful discussions, productive ideas on information sources, and for creating an inspiring and supportive research collective at CIBR. Likewise, I thank the staff and other doctoral student colleagues at the IB Department.

To Mr. David Miller of HSE I express my warm gratitude for improving the English of my thesis to a more comprehensible and readable means of communication, without which much of the work would be of considerably less value.

Finally, I want to express my loving gratefulness to my sons Miihkali and Teppana, who have directly made it financially possible to carry out my research work. The grants provided by Liikesivistysrahasto, The Foundation for Economic Education, also helped and provided encouraging support in the initial phase; I am very thankful for this. I also warmly thank Helsingin kauppakorkeakoulun tukisäätiö, The Helsinki School of Economics Foundation, for its grant giving relieving support at the final stage of my work.

I dedicate this work of mine to my parents Kaarlo and Margareta, and to the memory of Tuula, my wife.

Helsinki, November 2001

Kalevi Euro

## **Abstract**

One of the recent features in the internationalization and growth process of Finnish multinational companies (MNCs) and also of other Nordic MNCs has been the relocating of many of their product division headquarters (DHQs) abroad. This relocation has taken place from the divisions' home country primarily to Western European 'international centers' of high-level international interaction or the 'economic hub' areas formed by them of high-level international interaction (Helle, 1989, 1990).

The phenomenon of relocating headquarters abroad has been little analyzed and there are only a few studies with some preliminary aspects concerning the possible background causes of the phenomenon. This research work seeks to deepen the understanding of the background aspects and problems of DHQ relocation abroad. It penetrates some of the operational and cognitive aspects in a holistic mode, essentially from a theoretical point of view. The theoretical aspects consist of cognitive psychology, and the aspect of management research which is represented by strategic reference point theory and transaction cost theory, both of which rest on behavioral psychology. In the theoretical approach, these are used as avenues of deduction: 1. explanations given in public by managers of the relocated DHQ and received through the researcher's own personal interviews, 2a. literature representing logistic and cognitive information processing and behavioral aspects in the field of management research, 2b. literature on spatio-temporal and other cognitive research in experimental psychology, and 3. the researcher's own rather long experience as a consultant in relocation studies of firms in various industries.

This theoretical approach results in propositions consisting of an holistic cognitive-logistic paradigm, a conceptual framework, with reference to the MNC division's growth development abroad. According to the paradigm, this growth development characteristically contains recurrent dynamic and reciprocal cognitive-logistic information processes of the DHQ, and consequently decisions based on these processes. In operationalizing the paradigm presented a set of detailed propositions is introduced in a consequential and justified system. These propositions concern the 1. logistic information process, and the 2. cognitive information process. In an evolutive sequence this latter process consists of the 2a. identity formation, 2b. social cognition, and 2c. spatio-temporal cognition of DHQ management and staff.

As a concluding argument for the propositions, it is maintained that in a situation of identity changed by strong foreign growth and of the consequently changed social and environmental cognition of DHQ managers and staff, a strong need for new social knowledge arises. This need for new knowledge in carrying it intentionally into effect as a logistic information process is perceived phenomenologically and experientially as an event in space and time by the managers and staff of the DHQ. This perception, in the situation of a peripherally located and peripheral perceived DHQ, leads subsequently, under the various logistic information processing problems perennially encountered, to the relocation of the DHQ.

The DHQ relocation is thus proposed to be a result of a continued reciprocal and dynamic action between the cognitive information process and the logistic information process in the course of sustained international growth of Finnish MNCs, and the relocation is intended to reduce DHQ management's boundedness of rationality.

It is argued in this hermeneutic and deductive research that the proposed paradigm represents the explaining variable and the relocation decision of and by a DHQ represents the explained variable.

The theoretical implications of the work include a comparison of the proposed paradigm with the stages-model of internationalization of the firm, an evaluation of the research results in respect to 'managerial logics' of transnational corporations and the international location of various functions of MNCs. The managerial implications include important understanding of the organizational 'self' through the cognitive-logistic paradigm. Some very central and timely topics for further paradigm-based research work are put forward.

Copyright © 2001 by Kalevi Euro

Doctoral dissertation

All rights reserved

Printed in Finland

Keywords:

Finnish MNCs; divisional headquarters; divisional headquarters relocation; international growth; logistic information process; cognitive information process; company identity; socio-spatial cognition; spatio-temporal cognition, cognitive-logistic dynamic information process.

## TABLE OF CONTENTS

<b>Acknowledgements.....</b>	<b>3</b>
<b>Abstract.....</b>	<b>5</b>
<b>Table of Contents.....</b>	<b>7</b>
<b>1 Introduction.....</b>	<b>14</b>
1.1 The recent internationalization process of Finnish multinational companies.....	14
1.2 The concepts of the study.....	15
1.3 The aim of the research.....	17
1.4 The research problems.....	19
1.5 Previous literature; the research gap.....	27
<b>2 The theoretical background.....</b>	<b>32</b>
2.1 The role and tasks of the DHQ, its production mode, and factors of production.....	32
2.1.1 Role and status of the DHQ.....	32
2.1.2 The tasks of the DHQ.....	38
2.2 Methodology; extended problem analysis and discussion; the research objective and research question.....	51
2.3 Limitations of the research.....	63
2.4 Applicability of traditional location theory to the research problem, particularly from the aspect of the quaternary sector.....	66
2.5 Behavioral location theory.....	72
2.6 The background of the chosen theoretical approach of the research.....	76
<b>3 The development of the theoretical paradigm of a reciprocal dynamic cognitive-logistic information process; the research gaps.....</b>	<b>81</b>
3.1 The main characteristics of the proposed paradigm or the conceptual framework.....	81

3.2 The logistic information process.....	90
3.2.1 The contents of the concept, its application to the research topic, and the subsequent propositions (P #1a-b).....	90
3.2.2 The connection and reciprocity between the logistic and the cognitive information processes.....	96
3.3 The cognitive information process.....	98
3.3.1 General aspects about the constructed paradigm of the cognitive information process and its conceptual components.....	98
3.3.2 Introduction to the psychological framework of the cognitive information process: a cognitive-stage approach to environmental perception.....	105
3.3.3 The paradigmatic component of company identity and its change process.....	114
3.3.3.1 A general description of company identity formation.....	114
3.3.3.2 Company identity approached and described through cognitive map development.....	126
3.3.3.3 Conclusion on the paradigmatic component of company identity and the propositions drawn from it (P #2a-e).....	131
3.3.4 The self-environment relationship image and its change or the social cognitive process.....	135
3.3.4.1 The background logic and the general frame of reference.....	135
3.3.4.2 Strategic reference point theory.....	144
3.3.4.3 Transaction cost theory.....	153
3.3.4.3.1 A general background of transaction cost economics with respect to the DHQ relocation question.....	153
3.3.4.3.2 Application of the transaction cost economic approach to the Finnish DHQ relocation context.....	158
3.3.4.3.3 Aspects of the relationship between the transaction cost economic and the political approaches.....	171

3.3.4.3.4 Concluding remarks on the transaction cost economic approach.....	173
3.3.4.4 Conclusion on the paradigmatic component of the social cognitive map and information process and the propositions drawn from it (P #3a-d).....	179
3.3.5 The space-time cognition and its change, or the spatio-temporal cognitive process.....	183
3.3.5.1 A general background.....	183
3.3.5.2 Some recent research results in experimental psychology on environmental and spatial cognition and their implications.....	187
3.3.5.3 The psychological link in the change process between the social cognitive map and the spatial cognitive map: concluding remarks.....	198
3.3.5.4 Conclusion of the paradigmatic component of the spatio- temporal cognitive map and information process, and the propositions drawn from it (P #4a-k).....	211
3.4 The reciprocal dynamic interaction between the cognitive information process and the logistic information process of the research paradigm.....	215
3.4.1 The mutual complementarity of the cognitive information process and the logistic information process; the proposition of their historical reciprocity (P #5a-b).....	215
3.4.2 Aspects of organizational learning in the paradigmatic cognitive-logistic information process.....	220
3.4.3 Parallel aspects of thinking with respect to the cognitive- logistic information process paradigm: the stages-model of internationalization of the firm.....	228
<b>4 Conclusions and discussion.....</b>	<b>231</b>
4.1 Conclusions with respect to the proposed cognitive-logistic information process paradigm.....	231
4.2 Theoretical implications.....	237

4.3 Managerial implications.....	244
4.4 Suggestions for further research.....	248
<b>References.....</b>	<b>253</b>
<b>Interviews.....</b>	<b>272</b>
<b>Appendices.....</b>	<b>273</b>
<b>Appendix 1:</b> Company identity development as approached in the light of autopoiesis theory.....	273
<b>Appendix 2:</b> The proposed transition of the social cognitive information process into the spatial cognitive information process, in the light of cognitive map distortions: a general introduction and the propositions (P #4k1 - P #14).....	278
App. 2.1 A general introduction of the application of the distortions.....	278
App. 2.2 The external strategic reference point of competitors with respect to the cognitive map distortion of an hierarchy (P #4k1).....	284
App. 2.3 The external strategic reference point of competitors with respect to the cognitive map distortion of a landmark (P #4k2).....	286
App. 2.4 The external strategic reference point of competitors with respect to the cognitive map distortion of a perspective (P #4k3).....	288
App. 2.5 The external strategic reference point of customers with respect to the cognitive map distortion of an hierarchy (P #4k4).....	290
App. 2.6 The external strategic reference point of customers with respect to the cognitive map distortion of a landmark (P #4k5).....	291
App. 2.7 The external strategic reference point of customers with respect to the cognitive map distortion of a rotation (P #4k6).....	293
App. 2.8 The external strategic reference point of customers with respect to the cognitive map distortion of an alignment (P #4k7).....	295



App. 2.9 The external strategic reference point of customers with respect to the cognitive map distortion of a perspective (P #4k8).....	297
App. 2.10 The external strategic reference point of customers with respect to the cognitive map distortion of barriers and detours (P #4k9).....	299
App. 2.11 The transaction cost economic governance structure of a market with respect to the cognitive map distortion of a landmark (P #4k10).....	303
App. 2.12 The transaction cost economic governance structure of a market with respect to the cognitive map distortion of a perspective (P #4k11).....	305
App. 2.13 The transaction cost economic governance structure of a market with respect to the cognitive map distortion of barriers and detours (P #4k12).....	307
App. 2.14 The transaction cost economic governance structure of an hierarchy with respect to the cognitive map distortion of a landmark (P #4k13).....	309
App. 2.15 The transaction cost economic governance structure of an hierarchy with respect to the cognitive map distortion of a perspective (P #4k14).....	314
App. 2.16 Conclusion of the proposed socio-spatial cognitive map transitions in the light of the suggested analogy to the spatial cognitive map distortions (P #4k1-P #4k14).....	316
 <b>Appendix 3: Some other aspects of spatiality-attached social cognition</b>	
presented in literature.....	318
App. 3.1 A note on the presumption of mimetics.....	318
App. 3.2 A note on the presumption of territoriality.....	321
App. 3.3 A note on a presumption of emotional components of cognition attached to the center-periphery metaphor.....	325
App. 3.4 A note on a presumption of conceptual similarities with respect to the Japanese concept 'ba' as adapted to a knowledge creation process.....	333

App. 3.5 A note on the potential role of computer-mediated communication systems in MNCs with respect to the cognitive-logistic information process.....	338
--	-----

## List of Tables

## Page

1 Internationalization development of Finnish MNCs.....	14
---	----

## List of Figures

1 Head office type according to involvement and relationship with business units.....	40
2 Functional division of labor among headquarters, regional headquarters, and country management.....	42
3 Local and global functions.....	43
4 Organizational levels and types of strategies.....	45
5 A model of knowledge categories and transformation processes: types of knowledge.....	47
6 A behavioral matrix.....	74
7 The propositional process chain of explaining variables, to the relocation decision variable to be explained.....	87
8 The cognitive-logistic information process paradigm.....	88
9 The structural dimensions of information processing.....	91
10 The process dimensions of MNC information processing.....	92
11 Location of information processing capacity in the four elementary MNC structures.....	94
12 The capacities of information processing mechanisms.....	95
13 Neisser's perceptual cycle.....	100
14 A process model of organizational learning.....	106
15 The relationship of learning and thinking in the complex process of perception.....	108

16 The triadic causal structure: relations among behavior, cognition, and environment.....	121
17 Spiral evolution of knowledge conversion.....	122
18 Epistemological primitives.....	136
19 The strategic reference point matrix.....	146
20 Three models of strategic choice behavior.....	150
21 Return targets and risk.....	152
22 The basic mechanism of internationalization - state and change aspects.....	216
23 Components of the behavioral decision-making process of the firm.....	217
24 Factors having an effect on the international- ization, and on the product, operation and market (POM) structure of the internationalization pattern of the firm.....	219
25 Learning level and change level relationship.....	226

## **Appendix Figures**

A1 The variables applied in the socio-spatial distortions of cognition.....	280
A2 Schematic representation of taking a hologram.....	281
A3 Schematic representation of viewing a hologram.....	282

## 1 Introduction

### 1.1 The recent internationalization process of Finnish multinational companies

The internationalization process of Finnish enterprises has been very rapid since the beginning of the 1970s. Presently, there are some 22 large multidivisional manufacturing corporations which may be termed multinational companies (MNC) with turnover of at least \$ 1 billion and with manufacturing subsidiaries in six or more foreign countries. The table below presents the level of internationalization of these companies, listed individually with some general descriptive figures.

Table 1.  
Finnish manufacturing MNCs with a turnover of 1 billion or more and with manufacturing subsidiaries in six or more foreign countries in 1997

Company	Year of foundation	Turnover \$ billion	Employees total	Employees abroad (*)	Plants abroad	DHQ relocated/DHQ	Main sector(s) of industry
Ahlstrom	1851	2.9	13 500	8 800	50	0/5	Metal products, paper
Amer	1950	0.9	4 500	3 600	10	0/2	Multisector
Asko	1918	1.5	7 800	4 500	37	0/4	Multisector
Cultor	1918	1.7	7 200	3 500	20	0/5	Foods, beverages
Enso	1872	5.9	19 900	4 000	18	0/4	Forest products
Huhtamäki	1920	1.3	9 600	8 200	38	2/2	Multisector
IVO-Group	1932	2.8	8 900	2 100	55	0/4	Energy
Kemira	1920	2.9	10 400	5 200	80	0/4	Chemicals
Kone	1910	2.5	22 200	21 000	16	1/3	Metal products
Metra	1991	3.1	13 700	9 600	38	1/3	Metal products, ceramics
Metsäliitto	1953	5.2	18 100	6 600	25	0/7	Forest products
Myllykoski	1892	1.3	3 300	2 300	10	0/1	Paper products
Neste	1948	9.1	8 700	3 700	40	0/4	Chemicals, plastics
Nokia	1865	10.5	35 500	16 800	21	0/2	Electronics
Outokumpu	1932	3.8	14 000	6 400	29	0/4	Mining, metals
Partek	1898	2.1	10 500	6 000	36	0/3	Metal products, minerals
Raisio	1939	1.0	2 800	1 000	25	0/4	Foods, chemicals
Rauma	1991	2.2	10 100	6 700	29	0/4	Metal products
Rautaruukki	1960	2.7	12 900	4 700	26	0/4	Steel, steel products
Tamrock	1856	1.0	5 200	3 600	18	1/4	Metal products
UPM-Kymmene	1996	10.1	38 300	10 000	36	0/7	Forest products
Valmet	1950	2.5	13 500	4 800	22	0/7	Metal products
Total N = 22		76.8	290 600	143 100	679	5/87	

(\*) All functions, incl. at least 50% owned subsidiaries.

©Reijo Luostarinen/FIBO Databanks

The companies presented in the table are from the continuously updated database of Finland's International Business Operations at the Helsinki School of Economics and Business

Administration (HSEBA/FIBO Project, 1970-1995). The database comprises over 2000 companies. The figures in the table have been updated to include the year 1997.

By 1997, these companies possessed a total of over 600 foreign factories through their respective foreign subsidiaries. A great majority of these have been foreign acquisitions and, a minority green-field industrial ventures. Added to these there are the marketing, sales, after-sales service, purchase, research and development, financing, and other subsidiaries of the various areas of corporate functions. Within these strongly growing and internationalizing companies, there has been a tendency since the beginning of the 1980s to move divisional headquarters (DHQ) outside of Finland. In practice, such relocation has taken place mainly from the city of Helsinki and its vicinity, to new locations in Central Europe. To a great extent, these new locations represent places which can be termed according to the literature of economical geography, for example studies by Helle (1989, 1991), as world cities or international centres. In the latter study, Helle presents a discussion within economic geography on the topic of locational requirements of MNC headquarters, too, and the role of the loci of international centers in this respect.

The number of DHQ of Finnish MNCs relocated from Finland abroad presented in the above Table 1 amounted to five at the end of 1997.

## 1.2 The concepts of the study

The concept '**multinational company**' or '**corporation**' (MNC) or multinational enterprise (MNE) refers in this research to the usage of the word according to the main criteria noted above. In this study, the concept follows closely, with a modification in money value, the MNC criteria set in Harvard's Multinational Enterprise Project of 1965 with subsequent follow-ups in Europe and Japan, as presented by Vernon (1971) and Franko (1976). The term 'multinational' as used here also includes the concepts of international, multilocal, multinational, multiregional, global, and transnational company. These refer to the various strategic approaches on the international market as presented by Ohmae (1985), Porter (1986), and Bartlett and Ghoshal (1989).

The term '**divisional headquarters**' (DHQ) refers firstly to the multinational company as a multidivisional one, where the company structure is based on production divisions along the ideas presented by for example Palmer et al. (1987), and Rumelt and Stopford (1995).

Secondly, DHQ consequently denotes the separate existence of a product or product-group-business-driven, largely independent and autonomous HQ in respect to the MNC's corporate headquarters (CHQ). As a concept, DHQ is thus an activity and a physical entity comparable to the support activities presented by Porter (1986). As an activity, the role and tasks of the DHQ are also defined to include the division's strategy planning and strategy implementation tasks as they are presented by Chakravarthy and Lorange (1991) and Stenberg (1992). This is an explicit precondition to connect the DHQ to the logistic information processing mechanisms set forward by i.a. Egelhoff (1991) and the research paradigm, the conceptual framework in this study. In other words, it includes at least the first two of the five head office tasks characterized as targetting, guiding, directing, and running as presented in Figure 1, based on a British Institute of Management (1988) survey of 45 leading British corporations.

The concept '**relocation**' here means the locational change of the above DHQ activities from Finland abroad and thus not relocation between two foreign countries. This event is also assumed to include the locational change of the human actors as well, i.e. the key personnel of the DHQ. Hence, the concept 'relocation' means that divisional headquarters have existed in Finland prior to their transfer to new target locations abroad. In practice, this notion means that the origin of the divisions and also the MNC mother-companies is Finnish. The use of the concept 'relocation' in the above meaning is analogous to that concerning 'industrial relocations' presented by Buckley and Mucchielli (1997). This definition further means that divisional headquarters that were established and have since existed abroad, for instance in connection with structural or other organizational changes of the MNC, are not included in this research.

The concept '**abroad**' means those geographical locations, which ex post are found to be target locations for the relocated DHQ outside of Finland.

The 'motives' and 'reasons' as concepts refer to those perceptual and environmental factors and conditions, the interpreting, understanding, and explaining of which could be seen as the key to the relocation phenomenon. In this research the usage of the concept '**motives**' follows its definition, "that within the individual, rather than without, which incites him to action; any idea, need, emotion or organic state that prompts to an action" (Webster's Dictionary, 1956). The concept 'motives' then refers particularly to an approach in this research that is rather

hermeneutic and phenomenological in nature and centers on cognitive aspects of the DHQ management and staff.

The usage of the concept '**reasons**' in turn follows its definition, "a ground or cause; that in the reality which makes any fact intelligible" (Webster's Dictionary, 1956). This concept thus represents a more rationalistic and empiristic approach to the factors and conditions behind the relocation phenomenon.

However, these concepts are used to a great extent together, basically as an intertwined entity as they also are in the real world (Damasio, 1996, 2000). This holistic nature of the research in respect to the factors and conditions behind the relocation phenomenon is also the leading idea in this work, its central approach.

### **1.3 The aim of the research**

The aim of the research, then, is to determine and understand the motives and reasons of DHQ management in its decision to relocate the headquarters abroad. The external conditions under which this phenomenon is recorded apply to companies, i.e. divisions, which have undergone and are still undergoing consistent and strong growth internationally. Particularly, this growth takes place through foreign direct investments in marketing subsidiaries, greenfield production facilities, and in terms of the capital volume of FDIs, above all in foreign acquisitions of companies to be incorporated in the divisions as new subsidiaries (FIBO Report, 1995).

The interest to the study of the DHQ relocation phenomenon lies both internally and externally in the important strategic and many-sided practical operational implications, as well as the high symbolic meaning which relocation of a DHQ of an MNC has.

By way of background the Finnish MNC divisions are in many cases large organizations with thousands of employees. By virtue of their size together with their usually high technological standard, or even leadership, they are important global actors in their respective fields. Understanding the relocation events must bring forth, presumably, some relevant and highly interesting aspects of the real-life contingencies, ways of thinking, and activities of these influential companies and organizations.

Subsequently, then, from the point of view of international business management research, the aim is firstly to strive for knowledge and understanding of the central space-time dimension of

decisions and actions which, by definition, are inherent to the category of organizations of the MNCs. This includes the practical logistic aspects in taking care of the DHQ tasks in space and time.

Thus the consequent aim is also to try to approach the very evident human spatio-temporal perceptual and cognitive aspects in the decisions and actions of management and staff of DHQ. In the human beings, spatial cognition is one of the most central cognitive traits, also in respect to his social context, as for example Giddens (1981, 1985) points out.

As suggested below, this question, which has to be a major one from the point of view of international business management research and the discipline of human geography, has not been researched extensively in connection with decision making in MNCs. Thus unveiling the role of human spatial perception and cognition in connection with the administration of MNCs is considered important. As will be shown in more detail below, there is a considerable research gap in this respect.

Following the above, a second aim of the research is to endeavor towards a theoretical model of understanding, tentatively explaining the phenomenon of relocation of the DHQ of an MNC abroad.

From the societal point of view, any relocation of a DHQ can be seen as a negative phenomenon from the point of view of the local society and community of the DHQ's departure. In the context of a globalizing economy with multinational companies and tense international competition between local authorities in attracting for example the headquarters and research facilities of MNCs, being a loser in this game raises the question of the external conditions of these locations. Understanding the reasons and motives for DHQ relocation also helps to explain a firm's environmental contingencies in respect to the locations of departure. This understanding is, however, an indirect and secondary aim of the study. A picture of real life aspects, pertaining both to international business needs, and to the locational environment may have implications for both management and public policy and for the relationship between them.

However, as will be brought out below, the question of relocation of a Finnish DHQ may also be seen to represent a more general aspect of a DHQ located in a geographical periphery. On that account the aim of the research is also to cover indirectly the question of the location of a



DHQ in any periphery in general, for example in any European periphery as seen from the Western European economic hub or 'international centers' area set forth by Helle (1989, 1991).

One additional aim in this study is to gain some understanding of the DHQ relocation phenomenon in relation to location theory. Location theory is "a set of theorems which seek to account for the location of economic activities" (Johnston, 1981). As will be put forward below in the discussion of the general location theory background to this research, there is a research gap concerning the location theory of quaternary industry (Selstad, 1990). Tentatively, the economic activity of divisional headquarters is below included in this industry category.

It is further assumed in this research that there are differences and factors between the locations of departure and the locations of arrival that induce a DHQ relocation. These causal differences may be termed as location factors. A location factor can be defined as "any variable which is significant in determining choice of location for an activity" (Goodall, 1987).

Still, this study does not aim at an explicit contribution in this theoretical respect. However, location theory on the other hand is to be connected to the suggested aspects of the theoretical paradigm of this research as an essential, but also indirect theoretical aspect.

#### **1.4 The research problems**

In connection with several cases of relocating DHQs, the company managements in question have primarily given two reasons for the relocation events.

One of the explanations has dealt with the question of communication in the form of travelling distance and time, due to the remoteness of Finland as seen from the 'international centers' or 'world cities' presented by Helle (1989). This locational disadvantage concerns both strategically essential foreign subsidiaries of the MNC itself and the most important market areas and customers.

The other explanation has dealt with the difficulty of recruiting the needed foreign personnel to settle temporarily with families, in general for 1 to 3 years, for an assignment in Finland. These assignments are based on the typical company and personnel needs of rotation, career development, and company acculturation (Briscoe, 1995). But the assignments also spring out of the need for management and staff specialists. Often they are not available in the home country which admittedly lacks specialists for the various functions of international business. The

need for foreign specialists is in many cases due to the great expansion of Finnish MNCs into special fields of technology, market knowledge, personnel questions, cultural contingencies, and other topics formerly not relevant to the company (Simon, 1991, Hirvikorpi, 1991).

Concerning the cases of DHQ relocation from Finland abroad, mainly to the very center and communicational hub of Western Europe, the real geographic and time dimensions between the places of departure and the places of arrival must be born in mind.

For example, for the following four MNCs which have relocated five DHQ, the place of departure has been Helsinki and the places of arrival or the new DHQ locations are the following: Kone Corporation, Lift Division, Brussels; Neste Corporation, Chemical Division, Brussels; Huhtamäki Corporation, Leaf and Polarcup Groups, Amsterdam; and Metra Corporation, Wärtsilä Diesel Division, Strasbourg.

When examining some of the above public explanations for DHQ relocation, and explanations and points of view in the two interviews with DHQ managers in this study, the following three reasons seem to be predominant:

1. The difficulty to get qualified foreign personnel, staff specialists and managers, to settle temporarily with their families in Finland,
2. The need to be close to the markets,
3. The wish of subsidiary managers and staff members to avoid long trips to DHQ meetings in Finland, with the ensuing loss of time for attending for example customers.

As the practical real-world background factor assumed in this study to be partly essential for the explanations given above, the physical distance from Helsinki to for instance the above mentioned cities varies between 1 500 to 2 000 kilometres. The net flying time, respectively, is from 2 to 3 hours.

Even though the above explanations must naturally be regarded as only a part of the total feasible explanations, they can be considered valid for formulating the research problem. The justification for this is that these have been the explanations of high officials of public companies in Finland. These rely on public credibility and goodwill in their activities. Besides, the explanations seem well grounded in substance and credible. They also coincide with the

location studies and consultancy experience of private firms in various industries known by the researcher himself.

Thus the first research problem area is attached to the logistic information processing aspects put forward above. This concerns the explanations dealing with the reluctance of foreign subsidiary managers to travel to the DHQ and the difficulties in the impatriation of foreign managers and staff specialists to the DHQ in Finland. With reference to the DHQ managers' explanations of essential logistic problems and the classification by Egelhoff (1991, 1993) of various logistic information processing mechanisms in respect to the strategic and operative level of MNCs, it is evident that the problems encountered also concern central strategic matters in the Finnish MNCs. This may also be seen in the goals and strategy details of a firm, as presented for example by Chakravarthy and Lorange (1991). Here the pronounced need for foreign personnel in DHQ management and staff when dealing with rapidly internationalizing MNCs comprising numerous strategic foreign subsidiaries is assumed to be a major problem. As suggested by Reich (1991), "in the competition for global talent, corporations that are reluctant to consider foreign nationals for top managerial positions will lose out: the most talented people simply will not join an organization that holds out no promise of promotion." Implicitly, this notion is assumed to underline the potential concern of Finnish DHQ managers. With the aim to further clarify the background of the above managers' explanations and the ensuing formulation of the research problem, a preliminary field study was carried out. This covered two companies with a DHQ that was located abroad; the study was carried out by a thorough interview with one top manager in each company.

Before proceeding further with the relocation explanations given by managers both in interviews and in public, it is necessary, however, to visualize the nature of logistic information processing for a DHQ in an MNC.

On the one hand, it has to be noted that be the role of a DHQ on any level, it is a headquarters, and thus a locus for information-based decision making. Following Egelhoff (1991), information processing capacity is a matter of company survival and therefore a strategic question in principle as well.

On the other hand, as shown in the argumentation below in connection with DHQ tasks within MNCs in general, the information processing of a DHQ is a strategic matter even more in practical concreteness, as a DHQ in its tasks makes explicitly strategic decisions in itself.

Hence DHQ relocation on logistic information processing grounds is a strategic decision. It is a decision intimately tied to company survival. This is also evident from the said explanations, which refer directly to aspects of logistic information processing requirements and capacities, following the idea of information processing fit as presented by Egelhoff (1991, 1993). Summing up, then, it is plausible to assume that a DHQ relocation event takes place only for very weighty motives and reasons of the logistic information process.

The background conditions may also be approached on a more general level of strategic principle for these Finnish MNCs where internationalization is well established. The general strategic principles of mindset may be called the 'strategic intent' of a company as suggested by Hamel and Prahalad (1989) or the 'commitment' and 'dynamic forward momentum' of a company in a continued and evolutionary process, as presented by Luostarinen and Welch (1990).

Thus the relocation event may not necessarily be an effect of any particular discrete causal need in the case of the Finnish MNCs in question, even though some particular event, as an important foreign acquisition, may have finally and strongly triggered off the relocation decision-process. Equally it could be thought of to be a result of a gradual long-term, company growth-induced cumulative logistic information processing need in the widest meaning, as presented by Egelhoff (1991). The Finnish companies in question have already experienced a rather long process of internationalization each, mostly from the 1960's and 1970's, with for example numerous acquisitions of foreign subsidiaries prior to the DHQ relocation.

This more general approach to their strategic attitude and thinking is assumed to be equally valid, and as a whole a representative background aspect to the relocation decisions made. The research problem justified in this way is more in finding out the essential nature, that of both history and future connecting continuity and strategic philosophy of the firm in respect to internationalization, following the way of thinking by Weick (1990), concerning cognitive processes in organizations.

Why, and in what external and internal logistic circumstances have the decisions of DHQ relocation taken place, then? This part of the research problem could be labelled primarily the

logistic information processing part. The research approach concerning this part could be science philosophically termed rational and empiristic. However, this approach is here a very relative one, as it is intimately tied to the part below with a different approach. This is not least so because of the above mentioned cognitive components of 'strategic intent' and 'commitment' for 'dynamic forward momentum' in the Finnish MNC managements' mindsets.

Hence, there is a second aspect that also concerns the shaping of the research problem. At the level of principle, managements' explanations in respect to the relocation events also represent the relocation phenomenon itself, as the DHQ managements and managers were, assumedly, and in the other interview-case explicitly, themselves a part of the object of the relocation decision-making. Accordingly, management's explanations above have a double content; the notion of difficulties in getting foreign personnel to travel, and the unwillingness to settle as expatriates at the DHQ location is in essence only a partial explanation. It is assumed that this shunning and underlying reluctance to participate in the peripheral DHQ's activities creates an experience of bounded rationality and uncertainty in DHQ managers and staff. Hence, the personal expatriation is assumed to confirm in substance the managements' perception of considerable logistic information processing problems, and of a consequent experience of bounded rationality and uncertainty. By way of a manager's own personal relocation or transferral abroad, DHQ relocation is assumed to have a further and deeper cognitive managerial meaning: a sense of reality of local and central presence and organizational governance, away from a shunned geographical periphery.

This logically raises further questions, which may point psychologically to the direction of the DHQ managers and staff themselves as the sources of relocation explanations. In other words, before being able to form final research questions, the explanations given by managers of the relocated DHQs should be problematized. The DHQ management did move and relocate the DHQ, but they assumedly did not do it only for the reasons explicitly given by management. With a sense of relativity of real life phenomena, i.e. an epistemological approach representing Aristotelian endoxa (Kakkuri-Knuuttila, 1996, 1997), there can be assumed to exist behind a strategic decision of this magnitude background reasons which are in principle much weightier than those given. These ungiven or unexplained reasons may be of a more profound and

essential character to the existence and survival of the company, the multinational division. This sense of relativity and the hereby expressed and justified assumption of ungiven reasons behind the problematizing could be additionally supported by a notion by Reich (1991), in which he suggests that "like the (vanishing) company town, the multinational exuded a sense of hierarchy, place, and order. World headquarters was, very simply, both in the center and at the top of the worldwide corporate pyramid. The location of the headquarters was a reflection of company history (the founder had begun the company in this place) or of industry requirements". In other words, a strong local identity is presumably connected to DHQ relocation phenomenon in connection with traditional headquarters; after all, these Finnish MNCs represent old and well established Finnish industrial companies directly or indirectly. This mode of thinking being applied, then, the question of problematizing the given explanations is a matter of problematizing ways of thinking that seem psychologically transparent. As Alasuutari (1996) notes in connection with constructing the theoretical framework in qualitative social and cultural research, there is a "difference between empirical observations and clues, which is the form in which the researcher treats them". In principle problematizing is at the very heart of qualitative research and its methodology. "It is typical to observe and ponder the object of study from many sides, to problematize every self-evident viewpoint.....it is characteristic of qualitative material that it is rich, multi-dimensional and complex, like life itself", says Alasuutari. Here a comment by Hedlund (1996) may also be relevant, in his dealing with future research avenues of transnational corporations (TNCs), that "uncritical acceptance of managers' statements and views.....contain(s) almost zero information."

An important element of the justification behind this problematizing, grounded in science philosophy, consists of the researcher's own professional experience of over 20 years as a consultant in location analyzes and investigations, in connection with the manager relocation decisions of business firms, primarily industrial plants or companies. These events also included explicit psychological factors and attitudes that could be seen to affect the contents of the relocation decisions actually made. Particularly, those psychological factors and emotional attitudes were attached to a center-periphery dichotomy, in comparison with, and contrary to, empirically measurable location factors in cases of industrial plant relocation.

The researcher's personal experience as one source of insights into theory development during the course of research is well brought forward by Glaser and Strauss (1967). The role of an observer's experience as a source of understanding when approaching a problem to be studied is also put forth explicitly in classical Aristotelian epistemology. The meaning of this approach for social research is further clarified by Kakkuri-Knuuttila (1996, 1997) within her work on Aristotelian epistemology and its adaptation to the discussion on epistemological approaches in modern social science.

Hence, the research approach in problematizing the managers' explanations could from the point of view of science philosophy be termed hermeneutic or interpreting. With reference to our research problem, the above expressed problematization process, and the concept of endoxa there may be included a short description by Johansson (1987) concerning the process of interpretation. This process rests on the premise of hermeneutics that the human being is always an interpreting being, and as a social being of necessity a historical being: "Every process of interpreting starts with a pre-understanding of the entireness in question. Later on one comes upon still new details. Now and then they fit indisputably into the interpretation produced by the pre-understanding, but sometimes they are of a kind that modifies the pre-understanding. And then the interpretation process goes on from this new point of understanding". As Eskola (1996) notes in dealing with the theory of hermeneutics, in research it is already a long admitted fact that all scientific knowledge represents the character of a hypothesis, that a researcher has to find the grounds and justification for his or her certainty. On the other hand, "no researcher is able to bypass the realities of the process of understanding. He or she is bound to him- or herself, and the provisions for procuring knowledge". According to Eskola, research on history can be perceived as an hermeneutic event, and it is the same whether the object of study is the dynamics of a historical situation, or the character of some theological text. In this work the ex post cases of occurred DHQ relocation can be thought of to represent very well instances of a historical character in themselves. The question of 'provisions' and 'knowledge' in the above citation is dealt with further below, in the chapter on 'Conclusions and discussion'.

Hence, the problematizing of the explanations of the DHQ managers contains at the level of practicality the following three points, which together can be treated as the third part of the research problem:

1. The foreign subsidiary managers were presented as not particularly willing to regularly travel to the DHQ, as it also was brought forward in the interviews (Eiroma, 1993, Stoor, 1993). They were presented as not willing to move temporarily to Finland with families (e.g. Simon, 1991; Stoor, 1993: "It is almost impossible to get foreigners to [move to] Finland"), but for reasons not given, or only partially given, by the DHQ managers,
2. What was the relationship or attitude of the DHQ management and staff in respect to those negative, by them ungiven or only partially given reasons, and the making public, per se, of these negative reasons and what aspects could these negative reasons in essence cognitively represent as a result, for example in the form of bounded rationality?
3. The given negative reasons being thus factual and publicly credible, and connected with a given geographical space and the thereto attached assumedly different physical and cultural environments, and the DHQ management proving this by relocating the DHQ, what was, then, the socio-spatial self-image of the managers and staff of the DHQ, in relation to the foreign givers of those negative answers, at the time of the DHQ relocation?

The above second and third parts of the entire research problem could be termed the cognitive information processing part, referring to Egelhoff (1991), ideas by Daft and Weick (1984), Weick (1990), and a thorough study on a cognitive theory of organizations by Jelinek and Litterer (1994). More exactly, in dealing with the second part of the research problem the thoughts of Shaffer (1977) concerning reciprocal role-taking in social cognition could be referred to, "that is, thought about the self vis-à-vis others", in his study on cognitive-developmental theory.

This aspect may also be implicitly present in the thinking and ideas of March and Simon (1958), concerning the behavioral decision-making of a firm.

The points 1.-3. above could also be approached through a phenomenological analysis. This concerns intersubjectivity, the reciprocity or Husserl's (1950/1913) 'reversibility' (Reversibilität) between 'Self' and 'the Other', for example a DHQ manager and a foreign subsidiary manager or staff specialist (Föllesdal, 1970, Heinämaa, 1996).

These cognitive aspects also form some of the basis for the above rational logistic aspects. The logistic and cognitive aspects are in other words assumed to be intimately intertwined and



reciprocal within a holistic information process in the perceptions of the DHQ managers and staff. Thus, concerning the research problem with all the above elements, the approach to the research problem in this work may be termed hermeneutic, interpretative in its entirety. The research problem entity to be thus interpreted can also be summarized in the following three separate research problem areas:

1. In order to be correctly understood, the logistic information process difficulties encountered are to be seen as attached to the firms' historically internalized intent of survival, its international growth process and strategy context;
2. There are difficulties internationally within various logistic information processing mechanisms;
3. The DHQ managers' explanations of logistic information processing difficulties contain only some of the reasons and motives for the DHQ relocation events and suggest the presence of an aspect of a cognitive information process in the background.

For practical reasons, the above problem area #1. is not dealt with below separately, but in connection with the above problem area #3., i.e. the cognitive information process aspect, with the justification of the very character of problem area 1..

On the grounds of the above formulated research problems there are then the research questions to be put forward. However, before proceeding to those questions the research gap in relation to the research problem has to be assessed.. Additionally, a thorough picture of the tasks and role of the MNC's divisional headquarters is necessary for an understanding of the immediate practical context of the research questions.

### **1.5 Previous literature; the research gap**

The topic of relocation of headquarters in the international context of MNCs, with divisional headquarters being relocated from the home country to a foreign country, has not been been studied to any greater extent.

One apparent reason for this is that organizational theory has to a great extent in the past ignored the significance of corporate spatial structure, as it is described by Palmer, Friedland, Jennings and Powers (1987). They emphasize that "corporate spatial structure.....is arguably the most important economic determinant of the intraorganizational structure.....the MDF

(multidivisional form). Presumably it affects the kinds of internal control problems firms face, which in turn influence their efficiency and ultimately their profitability. In addition, we expect that corporate spatial structure will be an important determinant of interorganizational structures, such as interlocking directorates, joint ventures, and mergers. A corporation's spatial structure affects the external environments firms face, which in turn influence its effectiveness and ultimately its survival. Thus, the more dispersed a firm's production is, the more dispersed its interorganizational linkages are likely to be."

The authors urge future researchers to study the processes that shape the interplay between the economics, politics and ecology of corporate spatial and administrative structure.

Also Forsgren and Holm (1993) in their study of relocating DHQ abroad concerning Swedish MNCs comment on the lack of research on the problem of location and the physical and psychic distance of management in the context of a divisionalized and geographically dispersed international firm. The relocation phenomenon can as a whole be seen as attached to the internationalization of the MNC, as it is put forward by Forsgren, Holm and Johanson (1995) in their study on the relocation abroad of the DHQs of international product divisions of Swedish MNCs.

Concerning studies of the international relocation of MNCs in general, the question of the relocation of headquarters, DHQ or CHQ or of other categories seems not to have attracted further notice as an object of study in recent literature, as it is to be seen for example in Buckley and Mucchielli (1997) in their work on multinational firms and international relocation.

The first two studies mentioned seem to be some of the few on the topic. The theoretical starting point in the argumentation of the study of Forsgren, Holm and Johanson lies in an analysis "in terms of a political perspective stressing power, information and resource dependence. It is assumed that power relations change as a result of the internationalization of the operations. The arguments are based on the general assumption that actors have bounded rationality and live in worlds where they have vague understanding of the effects of different decisions. No one knows a priori if organizational arrangements are going to work. Consequently, division HQ location is regarded as a result of a sequential bargaining process rather than a decision about a 'right way'". The actors in the above political question are the corporate HQ, the divisional HQ, and the operational, or subsidiary, level. The focus of the study by Forsgren, Holm and Johanson, then,

is on the political perspective of power wielding, how "MNC actors - collective or individual - can, depending on the resources they are able to mobilize, exercise influence over their own and other actors' strategies and structures, sometimes in opposition to the formal hierarchy.....congruent with their own interests." These power interests, and thus the political perspective the authors consider to be inherent in the M-form, the divisional organization, in their referring to i.a. Palmer et al. (1987) in that respect. Their study was based on a statistical analysis of 104 divisions in 19 of the largest Swedish MNCs within the manufacturing sector and with 21 per cent of the DHQ outside Sweden. In their study it was concluded, based on statistical significance, that "the location of division HQ is regarded as the outcome of a struggle for influence among MNC actors." Hence, in this study, the factor with the power to influence the relocation of the DHQ was explained to be the dominance of a foreign subsidiary within the division. Dominance weighted additionally with for example psychic distance increased the explanatory power only slightly.

However, the political perspective could be seen, even at best, as a rather narrow aspect in understanding spatio-temporal human behavior concerning the nature of the phenomenon studied. As an explanation, it could be considered a strongly culture-bound induction with statistical significance. Through logical reasoning of deductive understanding, these conclusions might not, however, be regarded as explanatory enough on a general level. Instead, the results concerning the concept of the 'political power' of the dominant subsidiaries may represent, as a kind of a seeming or apparent variable, conditions and factors more basic for understanding the spatio-temporal behavior attached to the phenomenon of DHQ relocation.

On the other hand, it could perhaps be questioned, from the point of view of a generally presumed appreciation of autonomy by dominant subsidiaries with strong resource power, whether the subsidiaries necessarily want the DHQ as its immediate neighbour (Nohria and Ghoshal, 1997). The intent to influence strategy through intimacy would also be superfluous as a result of and contradictory to the assumption of the existing resource power the subsidiaries already have. Thus the conclusion of the 'political power' of the dominant subsidiaries might be superficially right but the direction of this explanation basically incorrect on a general level, as a power relationship has two partners: the perception and idea of the compelling dominance of the subsidiaries originates perhaps not in the subsidiaries themselves but in the assumed idiosyncratic behavior of DHQ management as the researchers perceive it to be. In other words,

the researchers' explanation may also be bounded by some particular national-cultural values and social and organizational practices shared with DHQ managers.

From the point of view of the DHQ on the other hand, in a division with a generally large number of subsidiaries all with their own capabilities, assigned or potential roles and particular interests as presented by Nohria and Ghoshal (1997), Tsai (2000) and Moore (2001), it could likewise be considered politically unwise to locate the DHQ explicitly in the vicinity of the most powerful subsidiary. This could be for the sake of credibility, fairness and impartiality on the part of the DHQ in relation to all the other subsidiaries. Consideration of power politics would logically support this kind of a reasoning. At the outset of the above study referred to this aspect is in some degree taken into account.

Finally, the location of the DHQ must be seen as a permanent or at least a long-lasting solution. However, the physical composition of rapidly growing MNCs and their divisions changes almost yearly. Subsidiaries are acquired, but also divested, resulting in the possibility that even more dominant subsidiaries will be incorporated with the divisional organization.

Thus the statistically significant explanation of intra-division power politics as a location factor in the above research by Forsgren, Holm and Johanson, based on dominant subsidiaries, seems to require a qualitative interpretation pointing to some underlying parallel factors. For that purpose both a longitudinal study and a cross-section study might well give different explanations and views on relocation phenomenon.

In spite of the deviating opinions in respect to the conclusions of the above study, there evidently also may exist political power aspects attached to the DHQ location abroad that are to be reckoned with, as suggested by Forsgren, Holm and Johanson (1995).

The arguments presented indicate that there are good grounds for studying the background of the relocation phenomenon in greater depth. Hence, there is a research gap, a need to search for a more solid and basic explanation and understanding of the motives and reasons for DHQ relocation.

There also exists a research gap in terms of logistic information processing, concerning the various modes of information process mechanisms which are set forth in detail by Egelhoff (1991). This state of research knowledge is also implicit in the study of Forsgren, Holm and Johanson (1995). This applies to their presentation of the condition of bounded rationality

within an MNC and the information and knowledge level of the DHQ in respect to foreign subsidiaries and as a function of physical and psychic distance. This gap could likewise be found, within a wider management research sense still, to concern the general context of the DHQ relocation explanations given by the Finnish MNC managements.

To put both the research gap and the research questions in a proper general context, it is to be noted that MNCs represent perhaps the most important contemporary global organizational phenomenon. Hence they are studied extensively for many years by international economic and political organizations, academic institutions and many researchers, also critics, such as Garten (1997). This is due to the fact that MNCs frequently make influential spatially realized decisions which also have wide extra-company effects of an economic, cultural, political or environmental character.

The above being on the one hand a practical reality, there is on the other hand the reality of the essential and central role of spatiality and temporality in itself from a theoretical point of view. As put forward by Giddens (1979) in line with his structuration theory, "social theory must acknowledge.....time-space intersections as essentially involved in all social existence.....Social activity is always constituted in three intersecting moments of difference: temporally, paradigmatically (invoking structure which is present only in its instantiation) and spatially. All social practices are situated activities in each of these senses."

This study aims, then, to fill some of the space of this research gap, trying to incorporate itself within and support itself by the frame of reference of some well established theories and lines of thinking within management research. As stated above, this research work is fundamentally hermeneutic in nature in respect to its empirical background. Hence it endeavours to create and compile a deductive paradigm or conceptual framework, based on the latest research in experimental psychology and the appropriate theories of management research, as well as some ideas from human geography.

In its multidisciplinary approach, this work is well in line with the thinking of Dunning (1997), as he notes, in connection with 'alliance capitalism' and a new paradigmatic phase on the determinants and consequences of MNE activity attached to 'alliance capitalism', that "international business research is increasingly crossing disciplinary boundaries. For example,

much fruitful research on alliance capitalism is being undertaken by geographers, sociologists, political scientists and organizational theorists. As economists and business scholars, we really do have to extend our intellectual horizons if we are properly to appreciate and understand what really is going on in our global village; and it is very much to be hoped that all of us interested in the subject of FDI and MNEs will be prepared to examine - and, where appropriate, to embrace and exploit - some of the rather exciting ideas and concepts that are now emerging from disciplines other than our own."

## **2 The theoretical background**

### **2.1 The role and tasks of the DHQ, its production mode, and factors of production**

#### **2.1.1 Role and status of the DHQ**

Before it is possible to analyze some of the relevant factors concerning relocation of DHQs, it is necessary to understand their character. That is, the tasks and roles and internal and external connections, in order to be able to evaluate the impact of the different location-bound conditions on the work of the DHQ.

Headquarters is defined as "the quarters of any chief officer.....the center of operations and of authority" (Webster's Dictionary, 1956). The following characterization of the role and tasks of the DHQ complies with the general idea of the above definition, which, on the other hand, seems to fit quite well the specific concept of DHQ in an MNC division as it has traditionally been regarded. However, as Rumelt and Stopford (1995) point out, there is currently a lively discussion on the various alternatives to development of 'managerial logics' concerning the M-form or multidivisional organization of an MNC.

As put forward by Palmer et al. (1987), the M-form organization serves above all the economic aspect of efficiency as the basis of its justification for existence. The economic aspect is also brought forth by Dunning (1988), who in reference to the eclectic OLI paradigm (ownership-specific, location-specific, and internalisation advantages) of international production notes that the more there is "specificity, idiosyncrasy, or non-codifiable nature of information and related managerial assets", the more there is competitive advantage of centralized decision making on behalf of the MNC as a whole, instead of delegating decision making to foreign subsidiaries.

However, Dunning also includes in his economic aspect a point of transactional cost economics in noting that the role of the home country HQ grows with the likelihood of conflict of interest with the subsidiaries concerning for example risk perception and externalities. He also regards locational costs to favor the home country HQs' decision making resources when encountering difficulties in for example transferring management attitudes and practices. But there are also political explanations attached to the existence of the divisional structure. Palmer et al. (1987) introduce the political approach within organizations of the functional structure or the U-form and note that coalitions often possessing conflicting interests emerge in them and that "coalitions are engaged in an ongoing struggle for dominance, and the balance of power between them affects the organization's goals and structure." In particular, they "focus on struggle between coalitions at the highest levels of the corporation", within top management. Thus the background of the M-form serves to stress the role of top management strongly.

The above role of the M-form's top management is also effectively presented by Hedlund (1994), who consequently suggests an alternative to the M-form, the "N-form". For the tasks and role of the headquarters, including the role of the DHQ, is undergoing an obvious change of some degree within the multinational and global organization structurally and information processually, in respect to hierarchy. This change is also widely recorded in literature and brought out by researchers like Hedlund (1986, 1990, 1994) under the terms heterarchy and N-form corporation, Bartlett and Ghoshal (1989) within their idea of the transnational solution, and Ghoshal and Bartlett (1995) in stressing the shift from the traditional "strategy-structure-systems-doctrine" to a decentralized and more horizontal "purpose-process-people-doctrine". One of the aims within this change in structural approach is attached to knowledge management. This approach has its origins in a state of affairs within the organization, where the entire organization is an interactive thinking organism, a 'superbrain', "a genuine knowledge creating company" (Nonaka, 1988, in Hedlund, 1994) under conditions of relative individual and organizational freedom.

The background to this change is, as Bartlett and Ghoshal (1989) point out, the ever increasing turbulence of the business environment and the ensuing need for fast responsiveness and flexibility in local subsidiaries. But as they point out, the growing specialization of some foreign subsidiaries that command increasingly sophisticated knowledge and skills and that are

becoming in this respect strategic leaders within the MNC also demand de-bureaucratization and development of an atmosphere of freedom and autonomy to encourage and show innovativeness and entrepreneurship in their respective strategic roles. As Marschan (1996), referring to Morton (1995), notes in her study on new structural forms and inter-unit communication in a Finnish MNC, "with increased turbulence new organizational forms tend to stress forces of decentralization endeavoring to increase the level of creativity, innovation and individual motivation."

Thus, as Hedlund (1994) sees knowledge management, within the traditional M-form the DHQ is the base of all relevant knowledge and information and the central decision point in the use of that knowledge and "the organization's structure and its strategy are mirror images of its information base." His suggested "N-form" model rests on the idea that, in departing from the traditional division, "the challenge is not to divide a given task in a way ensuring maximally efficient performance. Rather it is to position the company so that new tasks can be initiated, often on the basis of a combination of several knowledge pieces from different organizational units. Instead of bringing the information to the given decision point, it becomes a matter of bringing the decision to the knowledge bases". These knowledge bases, representing both tacit and articulated knowledge, are seen potentially to reside throughout the organization. Evidently this approach also has strong implications on the strategy process of the company, not only concerning "strategic action initiative", but also formal decision making power as suggested by Hedlund (1994).

An important aspect attached to knowledge management by the DHQ, and supporting the above freedom to initiate an entrepreneurial approach is presented by Hennart (1991) as he compares the effectiveness of the price system and hierarchy as methods of information communication. He notes that "under hierarchy employees have less incentive to become informed and to transmit to the boss information on how to maximize their employer's income because they will not be directly rewarded for doing so. Even if employees faithfully transmit everything they observe, information can be lost as it is transferred across hierarchical levels." Thus, on a very general level, concerning the behavior of the individual within an hierarchy, when reward is detached from performance, Hennart (1991) points out the basic grounds for the positive value of the heterarchic, or 'transnational solution'.



A thorough account of recent developments in structural changes with respect to hierarchy, in the form of for example delayering, de-bureaucratization, and delegation, presented in literature and based on various studies on MNCs, is given by Marschan (1996) in her presentation of the, paradoxically rather laborious, global implementation of the concept 'less-hierarchical structure' in a Finnish MNC.

Regarding the opposite point of view, in respect to that of heterarchy and the 'transnational solution', an analogy can be drawn to the idea of Hennart (1991). Concerning communication of information in a price system, he points out that in a society consisting of  $N$  independent parties, the information burden of complex descriptions becomes overwhelming for an independent party in a purely mathematical sense. Additionally, there prevails in reality the contingency of bounded rationality in the widest sense of the concept, as it is defined by Williamson (1993). As an alternative, centralizing information becomes a more efficient solution. "It may be desirable for each individual to specialize in the collection of a limited type of information and to transfer the information to a central party, the "boss". The boss can then synthesize that information, make decisions, and send directives for execution. This is the essence of the hierarchical solution. The benefits of hierarchy are especially noticeable in rapidly changing environments."

Even if this comparison to the price system is somewhat extreme, it presents the essence of the problem of knowledge management in an heterarchic MNC, the problem also tangent to the Finnish MNC case above. This thought rests on the assumption that the MNC division exists for the benefits, for example, of economics of scale and scope under asset specificity and competitive advantage conditions.

From the point of view of the role of the DHQ, the study by Hennart (1991) about the control of interdependencies within a firm is interesting. Theoretically, concerning the methods of control used in firms, i.e. the controlling of interdependencies, there is available a mix of mechanisms for that purpose. The mechanisms are price controls, hierarchy, and socialization. As to the internal price control mechanism, he regards it as a "downplayed" mode in organization theory. But he also notes that a multinational enterprise (MNE) faces interdependencies which cannot be organized by prices, which are not priceable. However, "an MNE faced with interdependencies which cannot be organized by prices need not resort to hierarchical control (centralization): it can instead socialize subsidiary managers so that their decisions align with

those that would be made by HQ." Whether it is a case of hierarchy or socialization, the role of the DHQ, as it is put forth in the research problem of this work, comes forward in an essential way. The central informational and culture mediating role of the DHQ comes forward in the work of for example Bartlett and Ghoshal (1989), in their idea of "creating a matrix in managers' minds".

Despite an evident change in the picture of the knowledge management tasks, and consequently a part of the role of the headquarters, the quantity or quality of information requirements and level of knowledge of the management and staff at the DHQ is not necessarily diminishing. On the contrary, it could even mean the opposite, growth in the data and information needs of the DHQ. It consists, inevitably, of the subsidiaries' entrepreneurial decision making practices, some of the decision contents, and the potentially strategic implications of the decisions, these forming a new dimension in the knowledge need of the DHQ. This results from the new character of the MNC division mentioned above. Information in virtuality is needed by the DHQ to be able to follow where the laterally communicating, entrepreneurial, and fast moving subsidiary, and with that the entire division, is heading. Increased 'speed' in respect to the company's environment requires a comparable growth of information processing capacity.

Paradoxically then, in order for the organization to function as a "genuine knowledge creating company" (Nonaka, 1988, in Hedlund, 1994), the informational role of the DHQ will not diminish even if its structural and hierarchical role is decreasing. As Egelhoff (1991) notes with reference to Bartlett and Ghoshal, "it is obvious that transnational strategies create much greater requirements for information processing between parent HQ and foreign subsidiaries and among subsidiaries than is the case under more traditional strategies."

Dunning and Sauvant (1996) note in the introduction of the concluding volume of an United Nations Conference on Trade and Development (UNCTAD) series of 20 volumes published in the years 1992-1994 and dealing with transnational corporations, that "many of the contributors see the future TNC as an **orchestrator** of a myriad of cross-border **value-added activities**, some of which they own, some which are the result of non-equity cooperative relationships. Most also believe that the role of **parent** companies will shift from being primarily providers of resources and capabilities to that of **coordinators** of regional and global **networks** of interrelated **assets** and **markets** to meet global objectives. Finally, it is generally agreed that the

widening and deepening of the territorial linkages of firms over the past two decades has not only been facilitated by advances in transportation, telecommunications and the liberalization of markets, but has been **driven** by the need to **protect** and **strengthen** global **competitive positions**." Hence, the role of global governance of information and knowledge, which is in practice carried out by the DHQ, underlines its crucial role and function in the MNC.

From the point of view of an MNC's product division and the justification for its existence as a means to establish economics of scope and scale, its integrative and synergetic abilities are easily subject to the law of entropy, logically with constant turbulence in the environment, in a relatively short time. This prospect of "entropic decline" in global firms has also been put forward by Kogut (1990, in Forsgren and Holm, 1991).

It then must be seen that the formal hierarchical decision making power, most central to its very legitimization of existence, is the key to the correct use of the great amount of knowledge and information represented within the organization, in order to an optimal performance out of that knowledge to serve company survival. As Marschan (1996) points out, in reference to a case study by Bartlett and Ghoshal (1989), "formal structure has no discernible influence on inter-unit communication. Rather, ad-hoc integrative mechanisms have significant positive effects on the frequencies of both headquarters-subsidary and inter-subsidiary communication at the managerial level."

As Ghoshal and Bartlett (1995) note, "empowerment of frontline managers does not mean abdication or anarchy", and Hedlund (1994) likewise realizes that the top management's primary role in the N-form is to handle the "need for integration, to give direction and consistency to the knowledge development activities."

In a sense, it could be stated that there is no contradiction between these two aspects, referring to the seemingly diminishing role of the DHQ. Both the entrepreneurship of the subsidiaries and the continued knowledge-commanding integrative role of the DHQ can also be seen as an autonomously and possibly evolutionarily developed response to the turbulent environment. That kind of an environment has to be followed on all levels, concerning for instance knowledge management. Also Hedlund (1994), in his presentation of the N-model states that "the optimum probably is some mixture of the two", somewhere between the M-form and his own N-form. Consequently, a possible change of company management "doctrine" would

evidently not, then, affect the prerogatives of a DHQ and thus subsequently the potential motives and reasons for relocating a DHQ.

Hence, it is assumed that a potential formal change in the tasks and role of a DHQ is not significant for this research work. Concerning, then, the managerial implications of this research work this is even more the case as the "strategy-structure-systems-doctrine that most managers rely on today" is still the prevailing practice, according to Ghoshal and Bartlett (1995).

To conclude then, how could the role of physical distance, or more basically, the dimensions of space and time in connection with any event be seen in relation to the mechanisms of control and coordination used in firms? That is, how does it relate to the entire information processing of the organization, to the extent that the DHQ is attached to it?

As Hennart (1991) states above, the mechanisms of control and coordination of firms are price controls, hierarchy, and socialization. Hence, the space-time dimension must evidently be a central factor to these mechanisms, above all to hierarchy and socialization. However, space-time does not change the hierarchical structure of the company or any other information processing requirement serving the performance and survival of the firm, according to the requirements specified by Egelhoff (1991). The space-time dimension cannot be seen as an independent factor in respect to the organization and its activities and their proper functioning. Instead, it can be defined as a basic contingent factor in respect to the entire DHQ information processing event, and the various institutional arrangements attached to that particular event.

### **2.1.2 The tasks of the DHQ**

The above presented prevailing role of the DHQ is also the starting point in the study for some of the explanations of DHQ relocation abroad by Forsgren, Holm and Johanson (1995). Concerning the division executives they note that "their main task is to coordinate and control operations in the different countries and for that purpose they need reliable information about the operations of foreign subsidiaries and conditions affecting the operations. Thus, they need close contacts with the subsidiaries.....With increasing internationalization foreign operations are getting more important. A growing share of the resources are generated in foreign operations and the task of coordinating these operations grows. The need to control those operations and to have better information about them increases." Also Hedlund (1994) regards communication or

information processing within the entire organization, on all its levels and in the form of various practical mechanisms, a main task of top management.

In principle, then, the DHQ can be viewed within the corporate enterprise or its separate division as any production unit or production pertaining, for example R&D unit. Within the profit creating organization each organizational unit is in principle required to bring its own surplus value to the entity. The functions and parts not satisfying this basic demand do not have a justification for existence within the corporate body in the long run.

The value adding aspect is clearly brought out by Gupta and Laine (1991) in their critical presentation of the role of the corporate headquarters (CHQ) with respect to the entire organization. This reasoning is also well expressed in the conspicuous and repeated internalization and externalization processes taking place in many large enterprises. These processes include several categories of corporate service functions. The level of surplus or added value of headquarters has, however, been an object of debate in practically all large enterprises, as well as in the field of management and administration research. The continuous discussion shows that the assessment of this added value is very difficult in direct monetary terms (Sveiby, 1989, Hansen and Peytz, 1991).

On the basis of this value added production role of headquarters, it must be asked what is the mode of production of headquarters and what could be the production function, i.e. the production factors, affected by the location factors? The tasks and role of DHQ can be divided for instance into the following four categories: targetting, guiding, directing and running, which are used in the following British study on corporate headquarters (CHQ). However, there cannot be said to exist any clear-cut demarcation between the tasks and roles of a CHQ and a DHQ. A very clear sign of this could be the fact that the number of employees of CHQ of MNCs may vary from a few dozen to over ten thousand (Sveiby, 1989). This notion of an unclear demarcation of tasks and roles between headquarters categories is also put forward by Stenberg (1992) in his study of the post-acquisition international steering systems of Finnish MNCs, as he says that "in practice the strategies and operations are very often formulated at the divisional level."

The following Figure 1, based on a British interview of 45 leading British firms, a third of them MNCs, depicts the range of tasks undertaken by their headquarters and four distinct types of head offices in respect to those tasks (Cresap / British Institute of Management, 1988).

Figure 1. Head office type according to involvement and relationship with business units. Source: Cresap / British Institute of Management survey, 1988

Tasks	Targeting	Guiding	Directing	Running
Set fundamental objectives	▲	▲	▲	▲
Monitor financial targets	▲	▲	▲	▲
Conduct external relationships	▲	▲	▲	▲
Meet statutory obligations	▲	▲	▲	▲
Manage senior executive resources	▲	▲	▲	▲
Coordinate business plans		▲	▲	▲
Provide services		▲	▲	▲
Integrate business decisions			▲	▲
Control business decisions				▲

In most MNCs, it may be maintained that the tasks in the category of targeting are at least to some extent also handled in DHQs. Divisional managers are responsible for the business family strategies with all the ensuing practical implications of the strategic process, starting with the objectives and goals and ending with the monitoring, control, learning, incentives and staffing of the family (Chakravarthy and Lorange, 1991). Palmer et al. (1987), in their work on the economics and politics of the multidivisional structure, note with reference to Alfred Chandler's and Oliver Williamson's works that "decentralization of all but the most important strategic decisions to the divisional subunits is the hallmark of the MDF." In other words, strategic

decisions can also be made on the divisional level. This same idea is also expressed by Rumelt and Stopford (1995) in their study and discussion of the recent development of 'managerial logics' - between hierarchical coordination, and decentralization and delayering - in the characteristic organizational form of most large Western corporations, the M-form or multidivisional structure. According to them "M-Forms can differ with regard to the degree to which strategy and policy has been decentralized. In some M-Forms, top management (=CHQ) does the preponderance of strategic thinking, giving divisions primarily operating roles. In other M-Forms, strategy is delegated to the divisions, or "SBUs" and top management merely acts to review the internal logic and consistency of strategy plans. These modes, and the range of alternatives between them, represent different managerial logics".

In dealing with the role of global headquarters Ohmae (1985) sets forward the basic demand that "headquarters' role should be defined by the synergy it can provide to keep its key operating units flexible and responsive to the marketplace. The scope of this role is defined by finding out where the most value-added increment can be brought about by the corporate functions." This same demand naturally also applies to a DHQ which has a global responsibility.

Particularly Ohmae points out that the world headquarters in its roles must play uniquely as a value-setter, "lubricator", strategic "sensitizer", and, as a global organization take care of the "insiderization" of the company. With respect to the last point, he points out that the characteristics of locally spontaneous responsive business functions with quick and autonomous decision-making, "but which is fully synchronized and in communication with the rest of the corporation (that is, corporate headquarters is fully informed of, but seldom interferes with, regional management)." On the practical level this means according to Ohmae "active communications at all costs within the corporation at the interfaces with affiliated companies, and with the headquarters, by telephone and face-to-face conversations as well as by longer-term exchange of people." One of the results, then, of this active communication in securing the insider position of the corporate center is the "significant presence and weight felt throughout the community where operations are located." As already noted, this global perspective concerns the equally responsible divisional headquarters, too. The ideas of Ohmae (1985) are presented in Figures 2 and 3 below.

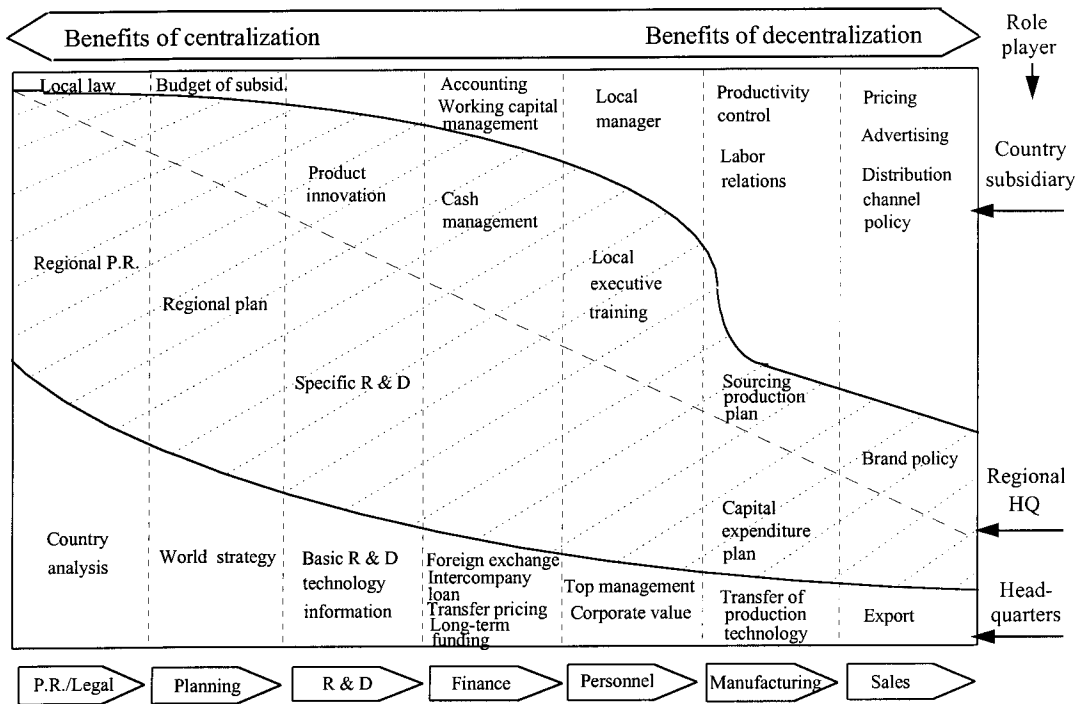


Figure 2. Functional division of labor among headquarters, regional headquarters, and country management: triad regional company. Source: Ohmae, 1985

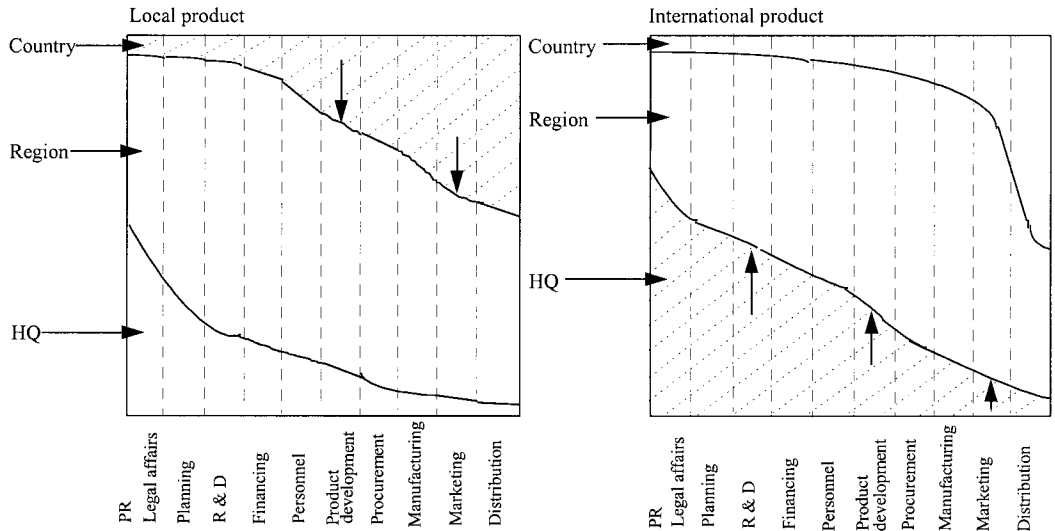
At all levels of the strategy process in the DHQ this process takes place in the form of exchange of information through different forms of communication, as electronic, written or personal contacts by people travelling. Primarily the DHQ communication is organized within different information systems and it is both internal and external in respect to the whole corporation and environment. A large portion of it takes place within the divisional family, between the subsidiaries and the DHQ.

The mode of production in the DHQ, following the ideas of Egelhoff (1991), Chakravarthy and Lorange (1991), Hedlund (1994), Ghoshal and Bartlett (1995), could be described as follows:

1. the procuring and receiving of data and information,
2. the handling and processing of data and information by management and staff specialists,



Figure 3. Local and global functions by type of product. Source: Ohmae, 1985



3. the making of conclusions and decisions based on this information,
4. the subsequent transmitting and storing of the above processed information to the extent seen fit or important, including support, guidance, help, control, strategy realignment, setting up of task forces, teams, integrating roles, and direct contact.

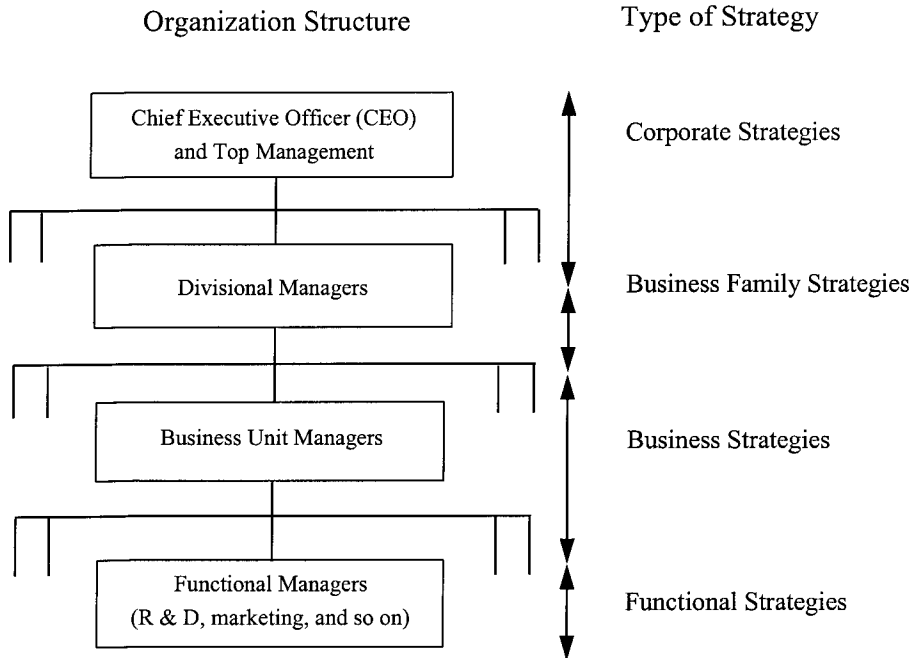
The effectiveness of for example global sourcing, global marketing, globally rationalized production, and technology transfer are all constrained by the ability of the DHQ to set up an efficient intelligence and information gathering and processing network, and coordinate and control its highly complex activities.

Lorange (1987) puts forward, in connection with the strategic planning process of an MNC, the important role of for example "listening posts" to spot weak signals and early signs in the socio-economic environment, in customers, and competitors, through global scanning and using networks of contacts in various fields. However, he notes that although the information is readily available, "frequently it is not examined and analyzed in an overall global manner. The strategic planning process should ensure that the data is lifted up one level, away from the focus of the bottom-up driven, geographically well-defined business strategy kingdoms, to get a global picture of emerging consumer preferences." Likewise he notes that "it is critical, therefore, that the strategic process allows for competitor assessments on a global basis, not only on the basis of bottom-up, country-by-country competitive analysis."

Within information processing this stresses the overviewing, synergic role of the DHQ. Figure 4 below presents the organization structure by type of strategy, including the role of divisional managers and the DHQ, according to Chakravarthy and Lorange (1991).

Figure 4. Organizational levels and types of strategies.

Source: Chakravarthy and Lorange, 1991



Concerning for example organizational control systems there are two distinct modes of control, bureaucratic and cultural. Even within a single subsidiary a variety of control strategies has to be applied, based on the information processing requirements of the function.

An information processing system in a division must be capable of handling multiple types of information. The information processing view of control in MNCs alludes to the fact that the nature of an MNC's operations requires it to deal with at least two fundamentally distinct types of information that differ in their suitability for transfer across national boundaries. The difference is in the content of information. One part of the information is technical information and is transferred with little risk of misunderstanding. The other part is social information associated with the social tasks inherent in any human organization, as presented by Pucik and Katz (1986).

It is very evident that for instance this classification of information processing could be suitable for the entire strategic process of a division.

However, there are also other aspects to information processing with regard to the tasks of the DHQ of an MNC. As Hedlund (1994) points out concerning the management of knowledge and information (he uses the terms interchangeably while noting their basic difference) there are two primary distinctions to be made concerning knowledge/information. "First, we distinguish between tacit and articulated knowledge. Tacit knowledge is defined as in Polanyi (1962), indicating knowledge which is nonverbalized or even nonverbalizable, intuitive, unarticulated. Articulated knowledge is specified either verbally or in writing, computer programs, patents, drawings or the like. Second, we distinguish between four different levels of carriers, or agents, of knowledge: the individual, the small group, the organization, and the interorganizational domain (important customers, suppliers, competitors, etc.)." The above presentation by Hedlund refers to the various types of knowledge, illustrated in Figure 5 below, and adapted from a presentation by Hedlund and Nonaka (1993) on knowledge management in the West and Japan.

The explanations given by managers of the reasons for relocating the Finnish DHQ abroad and concerning the difficulties in getting foreign personnel to settle temporarily at the DHQ in Finland, would in further investigations also prove to refer indirectly to management's implicit perception of a mode of obtaining tacit knowledge. In other words, tacit knowledge accrued in a social context, presented in more detail by Nonaka (1994), and concerning for example market, competitor and internal organization cultural conditions, could be considered obtainable by impatriate carriers of this type of knowledge from a particular social context to the DHQ, as well as by expatriates from the DHQ to a particular social context. In fact, the essential role of personal contacts concerning tacit knowledge dealing with various technologies, and transferred abroad by DHQ representatives from the company's home country, was brought out explicitly in the other interview of this study (Eiroma, 1993).

This salient factor in MNCs representing fields of high technology seems to have a pronounced effect on the relative importance and role of the various logistic information process mechanisms presented by Egelhoff (1991) and which are dealt with more below. Consequently, this state of affairs concerning crucial knowledge comes to the heart of the cognitive

information process aspects of this research by way of its factual role in the concept of asset specificity, the idiosyncrasy of company know-how and idiosyncratic transactions as presented by Williamson (1986) concerning transaction cost theory.

Figure 5. A model of knowledge categories and transformation processes: types of knowledge (adapted from Hedlund and Nonaka, 1993).  
Source: Hedlund, 1994

	INDIVIDUAL	GROUP	ORGANIZATION	INTERORGANIZATIONAL DOMAIN
ARTICULATED KNOWLEDGE/ INFORMATION Cognitive Skills Embodied	Knowing calculus	Quality circle's documented analysis of its performance	Organization chart	Suppliers' patents and documented practices
TACIT KNOWLEDGE/ INFORMATION Cognitive Skills Embodied	Cross-cultural negotiation skills	Team coordination in complex work	Corporate culture	Customers' attitudes to products and expectations

In dealing with information costs and the organizational structure of the MNC, Casson (1995) also points out, as one of the general principles, the tacit character of much of the information dealt with in the organization. As he puts it, "the more tacit the information, the higher the costs of interpersonal communication will be." In the same connection he also suggests that "it is often useful to allocate the synthesis of information to the person who collects information of

the most tacit form." He further continues with the suggestion, which refers to the explicit role of the organizational headquarters, that "the advantage of identifying certain people as synthesizers, and vesting authority in them, explains why consultative organizations evolve a hierarchical structure in which subordinates gather information and their superiors act on it.....authority tends to be vested in those people who possess the most tacit information: access to tacit sources confers power of synthesis and synthesis confers authority over those who collect the less tacit information."

In considering the various ideas of forms and aspects of information presented above it is obvious that they tentatively suite as a background for approaching the research problem of this study. In particular, this seems to be so when relating them to the explanations given by managements in respect to the DHQ relocation decisions. In these explanations, as they were illustrated above, the problems encountered in travel by the managers of foreign subsidiaries and their temporary location with their families in the DHQ location in Finland, had a pronounced role. As described by Hedlund (1994) in reference to knowledge typology in the above Figure 5, "we focus on the interaction between, for example, individual and organizational knowledge, rather than only using the former as an analogy of the latter. Posing the group as an intermediate level allows a more fine-grained look at what goes on within the organization. The prominence of small groups, often temporary, in innovation and product development indicates that this is the level at which much of knowledge transfer and learning take place."

When applying the tacit knowledge aspect to the logistic aspects of information processing, it could be assumed that the transfer of tacit knowlege is especially attached to and served by some particular mechanisms of logistic information processing, following Egelhoff (1991). This may be even more so as transfer of tacit knowledge in for example cases of acquired old, well established and strategically important foreign companies, may be very much reciprocal in nature between the DHQ and the new subsidiary. In the context of the knowledge creation of MNCs, the role of tacit knowledge seems to have a very central position, according to Kulkki (1996).

The question concerning interaction between the individual and organization and pertaining to their knowledge is also elaborated further below, based on the ideas put forth by Wood and Bandura (1989) in their research on social cognitive processes.

The development of the MNC towards an increasingly decentralized operative system or transnational character also stresses the role of cultural control. Cultural control on the other hand is not possible without a continuous close person-to-person exchange of values, views and ideas between subsidiaries and the DHQ. This requires a well developed international human resources management system. This includes, as one means for team creation in information processing, job rotation on a sustained basis and on many levels, as Pucik and Katz (1986) set forth.

Based on the views above it is here set forth that, as an added value production unit within the division and the entire MNC, the form of production of the DHQ is information processing covering the entire scope of the tasks and role of the DHQ. The DHQ is, then, an "information factory" with its due inputs, production process and outputs. The factors of production in the DHQ are capital, labour and knowledge or know-how embedded primarily in the labour factor. Although relative proportions of these factors vary a dominant part is handled by knowledge. It may be noted that the information input to the DHQ from for example a subsidiary may appear in two forms: as an information output of the subsidiary itself but also as a factor of production like a manager (labour) with his knowledge, when he takes part in a strategy meeting (information processing) at the DHQ. In practise, this means the travel by the manager and a consequent transportation cost, which is a location factor, for both the knowledge factor input and the labour factor input. Such travel is probably more for the transferring and processing of social information, than for technical information (Pucik and Katz, 1986).

On the other hand, due to its very nature concerning for example different value systems and cultural traits in social information, the factor of production of knowledge is not in many cases sufficiently available in the home-country personnel of the DHQ. For this specialist knowledge requirement there is personnel needed also from the host-countries.

This need may be more pronounced in those home-country locational conditions of the DHQ where the supply of knowledge in the form of specialists in for example global cultures and management is scarce. This is particularly so in small peripheral countries with scarce internationally trained human resources. This condition, concerning Finnish MNCs, is clearly

indicated in one of the managers' explanations of the reasons behind the DHQ relocation abroad, as the firm must have the ability of "attracting talented and dedicated managers to work for several years on headquarters assignments" and to acquire more international expertise at various levels within the organization (Simon, 1991).

A particular aspect attached to the role and tasks on the DHQ in this research concerns the assumed background of the process of growth and internationalization of MNCs and their divisions in this study. In terms of employees and turnover concerning foreign direct investments in the MNC divisions referred to above with interviews, an essential part of these investments consists of subsidiaries which are acquired foreign companies. An important load on communication and information processing of the DHQ occurs at the beginning of the acquisitions and the integration of the subsidiaries with the division and the MNC. This integration of the subsidiaries, and particularly the importance of sufficient reciprocal communication between the DHQ and the subsidiary's management, is well documented and pointed out by Stenberg (1992) and Santala (1996) in their studies on the foreign acquisitions of Finnish MNCs. As Santala states concerning the post-acquisition situation in a particular case and communication between the acquiring and the acquired company, "the information gap causes uncertainty, anxiety and frustration. People are not committed nor are they motivated to carry out the tasks required during the post-acquisition integration."

With reference to the managers' explanations for the difficulties in acquiring foreign personnel in the DHQ relocation cases, this scarceness is made worse by the notion that the turnover of highly qualified staff in the turbulent quaternary industry occupations is normally very high, with due cost consequences (Selstad, 1990). These jobs and occupations are very similar to those in the DHQ.

Within the European context, a multinational company in its management development would gain the most advantage from a recruiting policy using rich, European-wide human resources. This would benefit for example subsidiary identification with corporate continent-wide strategies and develop transnational capabilities to manage across national boundaries as Hilb (1992) notes. However, this is where the Finnish DHQ seem to have difficulties.

Thus concerning the DHQ it seems viable to point out that from the point of view of its tasks and role the most central input from outside the DHQ into its production process is information and the most central factors of production are knowledge and labour, i.e. human resources.



Concerning the DHQ tasks and role it can be said in conclusion that the DHQ in essence also takes care of the strategic process, following the presentation by Chakravarthy and Lorange (1991). In so doing the reciprocal feedback information process and structural aspects attached to it, for example relocation of the DHQ, indirectly as a means in strategy-making is likewise a strategic question. This is also noted by Lecraw and Morrison (1996) in presenting the foundations of transnational corporation strategy. The sustaining and developing of the information process itself becomes thus a crucially strategic matter and must be included, as such, in the firm's strategy. It also is very evident that the strategy process in its entity is a cognitive-logistic process when taking into account, through strategy implementation, the feedback monitoring, control, and learning system concerning the firm's strategy objectives, programs, competencies etc. in a turbulent environment. This notion pertaining to the mutuality of the firm itself and its environment seems implicitly valid when thinking of the strategy process system and model presented by Chakravarthy and Lorange (1991).

## **2.2 Methodology; extended problem analysis and discussion; the research objective and research question**

As it was above presented in Chapter 1.4 on the research problems, the formulation of the problems took place directly and indirectly on the basis of explanations given publicly by managers of relocated Finnish DHQ. Additionally there was presented the problem of the general context of strategic intentionality of the company management. As it also was noted with reference to Alasuutari (1996), when posing the research questions of relocation it is advantageous and methodologically valid to take under consideration various aspects of explanations and opinions given, by problematizing them. It has to be realized, additionally, that the respective managers through their participation in the decision making of the DHQ relocation events, in most cases also represent and are a part of the relocation phenomenon itself which is being studied, while they simultaneously act as an explanatory information source. By that token they, themselves as such, are part of the relocation phenomenon to be studied.

Supporting the point of an hermeneutic and holistic approach in this work in respect to the logistic and cognitive aspects of the explanations above, the role of hermeneutic holistic, particularly in connection of research problems like this one should be brought forth. On the other hand, as Johansson (1987) and Eskola (1996) point out, any researcher in any field is tied

by the realities of the process of interpreting and understanding, that is the role of himself, and the conditions of procuring data and information. It should particularly be seen that, following Alasuutari (1996), through the justified problematization of the managers' explanations there has been in this work opened up an empirical passage to a theoretical elaboration of the basic perceptual and cognitive nature of the DHQ relocation phenomenon. On purely theory-based grounds this socio-spatial nature of international management might have been much more difficult to be put forward and formulate.

Thus, the above problematization can be considered valid and useful in putting forward a further problem analysis and the consequent research question below. The research question is followed by subsequent propositions in connection with the theoretical paradigm. As mentioned above the personal experience of the researcher himself in this work provides support for this problematization. It includes for example psychological and behavioral phenomena in connection with the relocation decisions of business enterprises. This experience, a part of the 'endoxa' of Aristotelian epistemology, is also applied to the problem analysis below and it can be seen as an additional validation and justification for it, and for the subsequent formulation of the research question.

The concept of 'endoxa' ('doxa', opinion) includes the experience of specialists, the grounded majority views of the nature of a phenomenon, and the convictions presented by the 'most trustworthy' and 'all the wise, or philosophers', in the original terms of the philosopher himself. The concept 'endoxa' is further elaborated by Kakkuri-Knuuttila (1996, 1997) in its contemporary usage, in order to fully take into account the level of knowledge and the epistemological base reached by modern social sciences. This means that in construing the research questions and in justifying the subsequent theoretical formulation, the researcher obtains support from the interviews and observations themselves, previous research results in pertinent disciplines and literature, grounded common views as expressed in for example economic and business magazines, and the researcher's own experiential understanding as a professional on locational problems, and as a witness to the related managerial behavior. This approach also closely follows the line of thinking of Glaser and Strauss (1967). In connection with insight and theory development they contend, that "the researcher can get - and cultivate - crucial insights not only during his research (and from his research) but from his personal experiences prior to or outside it". In the whole, then, the 'endoxa' aspect of personal prior

experience is present above all in the idea of problematizing the explanations given by DHQ management on relocation events and the subsequent extended research problem analysis and discussion.

The initial approach in this study has been inductive. This has been the mode of perception attached to the observations, together with noticing those in managements' explanations given repeatedly similar reasons behind the DHQ relocation decisions. This was supported particularly by one of the researcher's own thorough interviews and an economic journal article on the problematics of non-willingness to impatriation, i.e. expatriation of foreigners to MNC headquarters in Finland (Hirvikorpi, 1991). However, the recorded phenomena and the explanations given, with the researchers above 'endoxa', provide the key to proceed deductively in searching for a theoretically based understanding in the sense noted above by Glaser and Strauss (1967) and Kakkuri-Knuuttila (1996, 1997).

Then, instead of collecting further empirical data and analyzing it to create the basis for an emerging theory or model, the approach for this work was chosen differently. It is based on searching for existing, related, and potentially relevant scientific studies in literature, the results of which could with the same amount of effort and time available perhaps better serve the same aim, through insightful inference. The justification for theoretical research lies essentially in this thought and the above grounds.

The reason for using literature, likewise, in empirical qualitative research to develop a theoretical model or theory is explained effectively by Eisenhardt (1989). In the context of her elaboration on doing case study research, she notes that "an essential feature of theory building is comparison of the emergent concepts, theory, or hypotheses with the extant literature.....A key to this process is to consider a broad range of literature.....Literature discussing similar findings is important as well because it ties together underlying similarities in phenomena normally not associated with each other.....Overall, tying the emergent theory to existing literature enhances the internal validity, generalizability, and theoretical level of theory building from case study research. While linking results to the literature is important in most research, it is particularly crucial in theory building research because the findings often rest on a very limited number of cases".

The above notion by Eisenhardt also seems to suit this work, which aims at a theoretical study for an understanding of the motives and reasons for DHQ relocation. Hence, the rather narrow

background of empirical DHQ relocation material indicates that a problem does exist and is actually present in real life, as a concrete evidence of a phenomenon per se. The science philosophical approach of the concept of 'endoxa' is, likewise then, well in congruence with this evidentiality of the phenomenon.

Thus, the deductive and hermeneutic development of the theoretical paradigm in this research, with its contents of fitting and as such established and indispensable theories of management research, confirms the choice of the cognitive-logistic approach. Neither could this notion be seen as circular reasoning, as those theories were found explicitly during the course of this problems-oriented deduction.

The extended problems analysis below and the subsequently construed paradigm or conceptual framework with its propositions also greatly resemble the science philosophic approach of structuralism (Johansson, 1987), even though this likeness and analogy was not an aim in the course of this study. This analogy lies for example in the nature of existing structures being overwhelmingly necessary to human existence; this is later brought out concerning features of the various elements in the proposed paradigm. It also lies in the structures as being holistically reciprocal interdependencies. This can also be said to convey well the idea of the cognitive-logistic paradigm of this work. Additionally, according to the main ideas of structuralism, "structures are seen to lie behind that which directly is observable.....structures may only be found through scientific theorizing" (Johansson, 1987). The deductive and theoretical process of reasoning in this work has been in essence idiosyncratic and independent in nature, but as the ideas produced therein are close to those of structuralism, the latter could well lend support to the mode of thinking put forward in this research.

It can also be noted that this work may have some features resembling the structuration theory of Giddens (1981). This concerns the spatio-temporal features and stress of this work. At the outset, in presenting his own social theory, Giddens notes that "social systems are composed of patterns of relationships between actors or collectivities reproduced across time and space. Social systems are hence constituted of situated practices. Structures exist in time-space only as moments recursively involved in the production and reproduction of social systems. Structures have only a 'virtual' existence." Thus, together with the space-time dimension in the holistic

cognitive-logistic paradigm and its propositions, this work may be said to have close support from the thinking of Giddens (1981) on a general social theory level.

Based on the research problems presented above there are two main aspects of an extended problem analysis and discussion to be set forward prior to posing the research questions.

On the one hand, there is the logistic information process of division management and staff. This deals with and is justified by the physical communication problems in taking care of DHQ tasks. It is assumed that these problems involve an explicit notion by management and staff about the concrete negative effect of a 1500-2000 kilometer physical and temporal distance on logistic information processing. This information processing aspect with an array of various mechanisms concerning MNCs has been thoroughly analyzed by Egelhoff (1991, 1993).

On the other hand, there is the cognitive information process. It rests in part on an assumed locational identity and in part on a justified hermeneutic problematizing of the DHQ managers' explanations about the relocation instances.

The latter part is assumed to be grounded in the company's strategic and mental background, in its cognitive structure in logical connection with the DHQ relocation decision. It deals with the above noted historical 'strategic intent', suggested by Hamel and Prahalad (1989) and the continued evolutionary 'commitment' and 'forward momentum' suggested by Luostarinen and Welch (1990) in respect to internationalization and growth abroad.

This 'strategic intent'/'forward momentum' part of the cognitive aspect, at the management's facing of logistic information processing problems, is assumed through hermeneutic problematizing, to be connected with the former part of the cognitive aspect, dealing with a more social, specifically spatio-temporal perception and cognition, which is based on an assumed locational identity of the DHQ management and staff. The locational identity focuses on the historical site and/or home country of the company, as it is set forth below by Shamai (1991) and Reich (1991). It is further assumed that this locational identity is attached as a contrary element to the perception of peripherality, which is defined in more detail below. This peripherality is inferred through the problematizing of managers' explanations of the logistic information problems.

In other words, these two modes of information processing, the logistic and the cognitive, seem to be intimately interconnected.

Cognitive information processing aspects in management research have been thoroughly dealt with by for example Weick and Bougon (1986), Weick (1990) and Meindl, Stubbart and Porac (1994). The relevance of the approach of these two main aspects of information processing and their evident intertwinedness in this research is further strengthened by the preliminary presentation above of the existing research gaps concerning spatial cognition in MNC management.

The extended problem analysis is expressed in the form of the following questions covering the logistic and the cognitive information processes and their mutual relationship. In conclusion, there is also the question of this research work itself, i.e. how to theoretically approach these processes within the discipline of economic organization and management research. The following five questions are not to be understood as research questions in the ordinary meaning of a scientific study. Instead, their meaning is to open up the 'hermeneutic space' of the background aspects, a holistic picture of inferable reciprocal or mutual cognitive-logistic variables in the hermeneutic-process sense. As this process is expressed by Johansson (1987), "in order to understand the meaning of one part one has to have understood already the entirety, but in order to understand this one must understand the meaning of the part.....this is a differently constituted relation of determination than the usual causal relation" (transl. by K.E.).

The questions are, then, firstly:

**1a:** What were the internal and external logistic information processing problems of the DHQ top management and staff in general, in carrying out the tasks and role of the DHQ?

**1b:** In which way did these problems materialize prior to the relocation decision: were they due to the latest major foreign growth change of the division, for example a major foreign acquisition, or did the problems gradually accumulate throughout the extending organization or was it a result of particular structural or other information processing attached changes?

According to the more explicit terms of the logistic information process theory aspects, put forward by Egelhoff (1991), particularly then:

**1c:** What were the problems encountered with respect to the various information processing mechanisms concerning the different DHQ tasks and referring to the various categories of

information characteristics, as for example strategic/tactical, routine/nonroutine, sequential/reciprocal, and information-processing capacities of the mechanisms?

The question attached to those above is, secondly:

**2:** Was there any particular and concrete strategic goal, decided strategic aim, or general contingency of perceived strategic importance, external and/or internal, in respect to which the DHQ logistic problems were felt menacing and in respect to which the relocation decision was consequently and explicitly made?

Thirdly, the extended problem analysis questions refer to those aspects which were presented in connection with problematizing the DHQ managers' explanations. The grounds for this problematizing were presented above in connection with the research problem, particularly from the point of view of the science philosophy of hermeneutics, and qualitative research methodology (Glaser and Strauss, 1967, Johansson, 1987, Eskola, 1996, Alasuutari, 1996). A fitting preamble at this point, with a logistic and cognitive information process contents, is the suggestion by Horng (1993) in her study on the problem of cultural differences, trust and their relationship to business strategy and control in MNCs between headquarters and subsidiaries: "specifically, the practice of extensive transferring of managers throughout the whole MNC may provide a foundation for participants to build a network of close interpersonal relationships. This network can facilitate the development of trust".

To state these grounds in other words, the idea and thinking in the problematization is that within these given explanations, the implicit factors not explained by DHQ managers are assumed in this research to have something to do, in a contradictory and counteracting way, with the locational identity of the DHQ management. Hence, in the perception of DHQ management the implicit factors threaten the logistic information process necessary for satisfying the need for new knowledge on company survival, for example the follow-up of opportunities and threats in the environment. This idea stems logically from management's assumed cognizance that the de facto re-location event is a cognitive information process-based change of locational identity; the DHQ did move abroad despite a home-location identity. Thus, it is assumed that both the cognitive motive aspect and the rational logistic reasons aspect are attached to the DHQ management's locational identity aspect. This perceptual entity of the

management and its change process has to be analyzed in order for the DHQ relocation to be understood.

Thus it is assumed that there was also both an individual and a collective locational identity in the DHQ management and staff, a 'sense of place' of some spatial dimension and scale of intensity. This idea would correspond to the study and concepts by Shamai (1991) and assumably compares with the emotional components discussed by Forgas and Melamed (1976) to be thinkable concerning cognitive processes. According to Shamai, "sense of place is part of the social and political reproduction process of each society". In their study on cognition, as an approach in behavioral research on spatial problems, Golledge and Timmermans (1990) contend that "each individual must have some knowledge of important objects or places (called landmarks, nodes or reference points)". In dealing with cognitive mapping they continue: "preferences are located in multidimensional psychological space, which may or may not have attributes of physical space. It is as important to determine the dimensions of psychological spaces as it is to determine the significant dimensions of physical space". This notion may well be put in relation to the notion of Damasio (1996, 2000) about the basic and all-penetrating role of emotions in the formation and structure of human consciousness and decision-making. Applying the thinking by Shamai, Golledge and Timmermans, and also of Reich (1991) and Damasio, the usually long history of the Finnish MNCs and DHQ has assumedly enhanced, in a symbolically and emotionally important way, the locational identity or socio-spatial perception of these Finnish multinational companies, which have existed for a long time and become large. It is consequently assumed that the background reasons and motives for relocation may have been rather strong and definite. As the relocation instances have taken place in favor of international centers which are of the kind presented by Helle (1989, 1991) in his discussion of the locations of the headquarters of non-profit organizations and MNCs, and at the cost of an international non-center or periphery of the DHQ home country location, it is consequently further assumed that an essential part of the strong relocation motives and reasons lies in a perceived peripherality. Peripherality as a concept is defined as and here means "the condition experienced by individuals, firms and regions at the edge of a communication system, where they are away from the core or controlling centre of the economy" (Goodall, 1987). In connection with the above problematization it has to be implied and assumed, *ex post*, that despite managements' explanations, or rather because of them, impatriation has been without



results, and hence the above definition of a communicational “condition experienced” by management. This DHQ self-perception of peripherality which lies, then, at the core of the problematizing of the DHQ managers’ explanations for relocating, can be also considered a perceptual cause-effect relationship. This could be described as ‘Mohammed going to the mountain when the mountain did not come to Mohammed’, even if the original relationship of which is the mountain and who is Mohammed, seemed reversed. This perception may also have been a self-sustaining cumulative process between the DHQ managers and staff on the one hand, and those as impatriates non-transferable managers and staff of foreign subsidiaries of the growing division on the other hand. Thus, this is assumed to have been the contingency and prevailing reality. Hence, this reality must have had some location-bound socio-spatial reason. This reason is assumed to have been perceived by DHQ management and staff, as directly and/or indirectly attached to the essence and character of the DHQ.

Subsequently, then, DHQ relocation can be considered a measure of perceived peripherality. This peripherality exists in relationship to the managers and staff of foreign subsidiaries who are non-transferable to the periphery. The socio-spatial, environmental behavior of these subsidiary representatives is, then, perceived and consequently explained by DHQ managers to be in nature of a general character (Hirvikorpi, 1991, Simon, 1991, Stoor, 1993, Laitinen, 1995).

With the above a) presented problematization of the DHQ managers’ explanations, with the b) assumption that the managers and staff of the DHQ have a locational identity, and with the thereby c) as a powerful event, per se, assumed DHQ relocation as justifications, the questions concerning the socio-spatial perceptions and cognitive structures and processes, in accordance with basic ideas of cognition and psychology in thinking by Forgas and Melamed (1976), and Weick (1990), are the following:

**3a:** What was the socio-spatial perception of the DHQ management and staff of itself, of the DHQ, and of the home-country company at large, in the context of the multinational and possibly even global organization, immediately prior to the moment of the relocation decision?

**3b:** What was the socio-spatial perception of the DHQ management and staff:

**3b1:** - internally in respect to the various foreign subsidiaries of the divisional organization, and their managers and the attitudes of theirs, as a result of their and their staff’s non-willingness for impatriation and regular travelling to the DHQ?

**3b2:** - externally in respect to the foreign divisional environment, immediately prior to the relocation decision?

**3b3:** - in particular, what was the socio-spatial perception in respect to the most important customers and competitors, immediately prior to the relocation decision?

**3c:** Further on, in which way was this socio-spatial perception influenced by the latest foreign growth phase of the division, for example a major acquisition, prior to the relocation decision? Or more explicitly, what was the DHQ management's and staff's perception of the connection and relationship between its new post-growth socio-spatial perception and its assumed traditional basic company identity of 'strategic intent' and 'continuous commitment and forward momentum', prior to the DHQ relocation decision?

**3d:** Assuming an increased requirement for new information as a result of the latest foreign growth phase of the company (Egelhoff, 1991, Santala, 1992, Stenberg, 1992), how did this requirement affect the socio-spatial perception of the DHQ management and staff?

**3e:** How did the company's latest foreign growth phase, and assumed subsequent change in social perception, and assumed increased information and communication requirement change the space-time perception of the DHQ management and staff, and its perception of the traditional locational identity, prior to the DHQ relocation, or, how was the threshold to relocating met in the contradictory spatial-cognitive situation between the company identities of 'strategic intent' foreign growth, and the traditional 'sense of place', under a contingency of perceived peripherality?

Fourthly, due to the above problematizing of the DHQ explanations indirectly concerning the company's foreign personnel's assumed socio-spatial perception and behavior, and taking into account the assumedly consequent Finnish DHQ management's socio-spatial perception of itself, it is then further assumed as logical that there exists some explicit space-time aspect attached to these environmental perceptions within the DHQ management and staff. This idea would in essence be akin to the thinking of March and Simon (1958) and Williamson (1986) concerning management's relationship to its environment and of boundaries of cognition and rationality.

Consequently, this space-time perception aspect of the management seems to have connections with management's experience and perception of logistic aspects, relating to the procurement of

data and information about the organization internally in respect to the foreign subsidiaries, and externally in respect to i.a. customers and competitors.

The questions on these grounds are, then, the following:

**4a:** What kind of a reciprocal relationship was there between the logistic information process mechanisms and the cognitive information process of new knowledge need, in the perceptions of management and staff, and based on their experience?

**4b:** As this reciprocity was logically connected with a perception of time, in which way, in a dynamic sense, did this reciprocity in management's cognition take place between the logistic information processing mechanisms and the perceived cognitive socio-spatial need for information in the course of the long sustained foreign growth process of the company?

As a fifth point, it may be assumed that the above aspects, which were not explained by the DHQ management, could have something to do with features of the basic theoretical character of the firm, especially the Finnish MNCs in question. Particularly, in this work representing a distinctively theoretical approach, it must be asked how two very essential and important theoretical aspects of management research would be attached to the above hermeneutic problematizing concerning these companies, which have experienced strong internationalization and foreign growth.

One of the theoretical approaches concerns the general effort to internationalize Finnish MNCs to ensure sustained stage-wise growth and search for opportunities with 'dynamic commitment' and 'strategic intent' and 'strategic reference points' as a driving force, as brought forth by for example Luostarinen (1970, 1979), Johanson and Vahlne (1977), Hamel and Prahalad (1989), Luostarinen and Welch (1990), and Fiegenbaum, Hart and Schendel (1996). Thus, the very character of a Finnish MNC, with strong foreign direct investment activities and growth, can tentatively be identified theoretically with the stages-model of internationalization, and thereby with the strategic reference point theory in particular.

The other theoretical approach concerns the economic rationales of Finnish MNCs in the course of the many-phased process of internationalization under conditions of considerable uncertainty and bounded rationality. The Finnish MNCs are companies with notable ownership advantages and specific assets and hence they unavoidably recurrently encounter questions dealing with governance of integrity of transactions, that is matters dealt with in transaction cost theory, as

brought forth by Dunning (1988, 1992), Hennart (1991) and Rugman and Verbeke (1992). This aspect is also approached through the socio-cognitive questions above, concerning the problematized explanations of the managers.

In dealing with Finnish MNCs, it may thus be suggested that there is justification for regarding the role and relationship of the above two well established behavioral management research theories as valid to management's explanations. Consequently, the problem analysis questions should also include these theories. The former of these, the 'strategic intent' representing aspect, is approached below by means of the prospect-theory-based strategic reference point theory of Fiegenbaum, Hart and Schendel (1996). The questions attached to these theories are the following:

**5a:** Assuming that the identified Finnish MNCs represent strong sustained internationalization and foreign investment growth, what is the role of some theoretically analyzed driving force aspects, for example those of the strategic reference point theory, within the identities of these companies, in connection with the DHQ relocation?

**5b:** With an equal assumption of company characteristics as above, what is the role of aspects of transaction cost theory, both internally and externally as to the organization, in respect to these companies and in connection of the DHQ relocation?

The array of the above questions pertaining to the DHQ's **logistic** information process, the assumed **cognitive** information process of the division's management and its staff, the assumed continued dynamic **reciprocity** between these two information processes, and the two theoretical aspects assumed valid, illustrate the explaining variable sought in this theoretical work. The variable to be explained is accordingly the empirical DHQ relocation event, or the final managerial decision having led, and assumptively leading to the realization of this event.

In concluding the above thinking on the methodology of this work and its closer research problem analysis it is herewith put forward that for this work the **research objective** is to find through deductive, 'endoxa'-based reasoning a theoretical model that would encompass the cognitive-logistic, holistic phenomenon presented above in the closer problem analysis questions. The subsequent question is, then, in the form of the **research question** to be set forth for this work:

Would it be possible to construct for the strategically and internationally dynamic, through foreign direct investments growing Finnish MNCs a **holistic model** which would contain both the **logistic problems**, and likewise the **cognitive aspects** inevitably envisaged and put forward in connection of the above problematizing of the DHQ managers' explanations of relocation events, and the thereby ensuing above extended problem analysis of five question areas?

The **aim and task** of this work is to try to give an answer to this research question posed.

### 2.3 Limitations of the research

The primary limitation in this research is that it is an attempt of a deductive nature to construe a theoretically elaborated theoretical model on empirically documented phenomenon of DHQ relocation. This model construction takes place within the realm of rather abundant new research literature, particularly on various topics of cognitive information processing, but also on the literature of logistic information processing. Thus, it does not include an empirical testing and verification part. The above limitation can be justified as follows:

Firstly, there are apparently no other theoretical studies dealing with the spatio-temporal dimension in terms of information processing in the international and global context of MNCs and their management. This point is brought out by Palmer et al. (1987): "the significance of corporate spatial structure, largely ignored by organizational theory in the past." In their research on DHQ relocation by Swedish MNCs, Forsgren, Holm and Johanson (1995) refer to them and repeat their notion. However, as mentioned in connection with the research gaps, their work in itself clearly brings a continuing need for a profound theoretical analysis of the basic aspects of the problematics of the cognitive and logistic information processes of the headquarters of an MNC.

Secondly, like Palmer et al., and Forsgren, Holm and Johanson in the works mention above, spatial structure is determined by various processes and factors. As it is also suggested above in the Research Problems of this work, it is a plausible assumption that the DHQ relocation phenomenon is really a many-faceted and deep-rooted matter; both cognitive and logistic aspects must be illuminated for a holistic and valid understanding. Hence, a comparable theoretical handling is needed.

Thirdly, in particular concerning the assumed central research question area of human cognition in this work, there is abundant literature on research in this field. It deals with basic research on cognitive processes in general. However, new research has been done which can be found in the literature concerning spatial cognition, which is by definition a core topic in spatial DHQ relocation phenomenon. The understanding of this dimension in the human mind, as well as its connection with other cognitive processes, is in its formation with new ideas, as it is presented by, for example, Golledge and Timmermans (1990), Franklin (1992), McNamara (1992) and Tversky (1992). With this in mind, this research approaches this question as profoundly as possible, with the subsequent weight and role of basic theoretical work in dealing with the DHQ relocation problem.

On the above grounds it is obvious, then, that a theoretical framework and understanding in itself encompasses a rather comprehensive basic task of the problem of research on the DHQ relocation phenomenon. Consequently, there is justification for omitting empirical research on the topic at present.

This research, it does not make any inquiry into or further reference to the question of hierarchical vs. non-hierarchical or heterarchical and transnational organizations within its realm of information processing of DHQ, either cognitive or logistic or in the reciprocity of these. The latter aspects are well presented and advocated by Hedlund (1986, 1994) in his N-form knowledge management and by Bartlett and Ghoshal (1987, 1989) in their mentality of organization and mindset of management of future MNCs. The need for an extended organizational discussion and studies on the attributes and key dimensions of decentralization and a less-hierarchical structure in MNCs is brought out by Marschan (1996). Likewise, the research by Nohria and Ghoshal (1997) on a processually differentiated information network in MNCs underlines this aspect. Hennart (1991) in the context of MNCs also deals with this problem. He takes part in the above discussion with his presentation of a model of the control mechanisms of hierarchy, socialization and price control (and their mix) for organizing the interdependence of individuals in order to achieve an efficient firm. Rumelt and Stopford (1995) also deal with the problem of general ongoing change in approaches to managing large corporations, presenting their ideas under the term 'managerial logic' rather than the terms 'form' or 'structure'. As they say, "for us, a large company's managerial logic is its way of solving the problem of organizational efficiency and effectiveness - its way of managing more efficiently or

more capably than its competitors. Just as a firm's competitive strategy is its particular way of dealing with the economics of productions and market competition, so its managerial logic is its particular internal "strategy" for dealing with the issues of organizational economics and social conditions."

Space-time conditioned cognitive-logistic information processing inevitably represents a central but differing aspect concerning various control, coordination and cooperation mechanisms. While the cognitive and logistic information processes are central with respect to the principles of the above question of internal organization and management of firms to harness their 'dynamic capabilities', as expressed by Hedlund (1994), the starting point in the above discussions of many researchers concerns the possibilities of the roles of the various actors and participants in a vast international organization.

As to this research, its starting point is the fact of an existing DHQ, without questioning its role and tasks, as seems reasonable based on the above presentation. On this notion rests the justification to omit any further discussion of the various aspects of reciprocal cognitive and logistic information processing attached to the question of a hierarchical and less-hierarchical organization from this research.

In focusing this research on a theoretical approach to a cognitive-logistic information process within DHQ tasks and role context, it does not address itself to for example company taxation or other financial or economic reasons for DHQ relocation. Neither does it deal with factors that indirectly affect the cognitive-logistic information process. These factors are for instance the cultural attitudes of foreign employees with respect to the DHQ home country or taxation of foreign personnel working at the DHQ, even though these factors may from a superficial level seem to be important reasons for DHQ relocation abroad through their effect on logistic information process mechanisms.

The proactive role of the DHQ in performing its tasks as an highly autonomous actor in its own divisional organization was assumed above as an essential starting point. Hence, a study of the information processual aspects of the relationship between the DHQ and the corporate headquarters (CHQ) of the MNC is not attempted, even though this relationship may have some effect in counteracting the DHQ relocation abroad, as noted by Forsgren, Holm and Johanson (1995).

A theoretically very interesting and oncoming aspect explicitly concerning cognitive and logistic information processes, the reciprocity of these, and spatial behavior, as for example relocation of headquarters, is connected with the development of global virtual teams, or telepresence. In other words, how will computer-mediated communication systems in the form of virtual teams versus face-to-face teams affect socio-spatial perception as a phenomenon attached to basic human psychology and behavior in the global organizational context. As brought out by for example Draper, Kaber and Usher (1998), this area of research has concerned both psychological aspects and practical managerial implications and value. It is still in its formative phase and is a rather contested area of research as to more conclusive results. Consequently, and as it would require a theoretically profound treatment from the point of view of the basic aspects of this research work, and represents a novelty in the context of the Finnish MNCs during the period covered by this research, it is regarded as justified to be left outside a further treatment here. However, some features of the subject and points of view in respect to this research are presented in Appendix 3.5.

#### **2.4 Applicability of traditional location theory to the research problem, particularly from the aspect of the quaternary sector**

Location theory is not a homogenous conceptual model "but a body of various theories which seek to account for the location of economic activities" (Gregory and Gertler, 1994). Concerning divisional headquarters, it can be argued that it is an economic activity with value-added meaning. In fact, the function of the headquarters is at the very heart of the theory of the firm, i.e. the theory of internalization through the effect of rationalization, by way of organizing economic activity. The crucial dimension in this rationalization has to do with, besides organizing the internalized transactions, the gathering of data and processing of information about customers, market, competitors, and the rest of the environment. By that token the headquarters' tasks and role of managing the firm may be called economic activity following the ideas of Coase (1986/1937).

But the same market and environment information pertinent function of the headquarters also refers to another theory of the firm, that of Hymer's (1976) market power or oligopolistic theory. This, in turn, is closely connected with the MNC's international growth or internalization process of increased concentration, as put forward by Cantwell (1988) and Corley (1992).



The same value-adding aspect of managing the firm is present, rather explicitly, in the study by Palmer et al. (1987) referred to above, concerning the economics and politics of structure in connection with the multidivisional form. In their study, the above researchers confirm the previous economic explanation of the M-structure, "especially Chandler's (1962) version." They continue by noting that "according to the economic approach, actors choose modes of organizing their economic transactions that maximize their efficiency and thus profitability. More specifically, firms pursuing complex strategies use MDF (multidivisional form) rather than the UF (functional or unitary form) because the costs of completing internal transactions are reduced when organizing to this form. If firms pursuing complex strategies retain the UF or firms pursuing simple strategies adopt the MDF, their profitability will decline and they will die or be acquired (and presumably reorganized)" (Palmer et al., 1987).

Thus it is evident according to the above definition that location theory is in principle also applicable in studying the location of the headquarters, the DHQ among others. Historically, location theory centered for a long period, from the 1820's to the 1920's, on various gradually more and more refined geometrical and mathematical spatial models around the idea of least-cost location. The most important factors in the least-cost models are raw material, intermediate product and final product transportation costs. But also the locationally varying cost of material and labor is taken into account. Also, for example the agglomeration effect and dynamic considerations are noted. In least-cost location theory the demand factor is held constant.

In the 1920s, the theoretical approach was widened in the spirit of the neoclassical economic equilibrium theories to include market demand. Thus, according to Smith (1981), the consumer behavior and locational decisions of other firms, i.e. locational interdependence, were noted. This brought agglomeration returns between firms into consideration more than before. Altogether, the theory also developed to take into account the revenues of the firm in addition to costs.

Location theory has to a great extent been a theory of industrial location. However, the same principles of transport and communications costs, or logistic costs, and costs of factors of production, costs of external and internal agglomeration, as well as consumer demand, have long been applied to the field of the different service industries, too. Above all, service activities

are extremely market-oriented, with the consumers' optimal access to services as the central rationale, according to Selstad (1990). A considerable part, if not the majority of the service industries deals, in turn, with information as an intermediate and final product. This means that the logistic cost aspect also deals essentially with information logistics.

According to Selstad (1990) and Helle (1991), at the advent of the post-industrial society in the meaning of an information-based society, "the information age", a new concept called quaternary industry was developed in the 1960s. The contents of this sector, also called the fourth sector, was much researched in the 1970s and 1980s. It was studied not only by academics, but also by for example the Organisation for Economic Co-operation and Development (OECD) and governmental agencies in many countries (Selstad, 1990).

The information society is characterized by production, storing, transformation, and processing of information in all forms. These functions are carried out by persons in information occupations and the tools in these occupations represent the new information technology. More specifically, these occupations may be called, according to the basic ideas of the post-industrial economic transition, the knowledge-based service industry, that is, the quaternary industry.

The definition of this sector excludes services based on routine or elementary information processing, but includes those representing the advanced knowledge sector.

It should be noted, according to Selstad, and Helle, that as an industry it does not include quaternary occupations inside the firms of the traditional sectors, even though the development of these occupations is very much parallel and to a large extent even in mutual relationship with those in the actual quaternary industry organizations.

By definition, this sector includes, according to the presentation by Selstad (1990), the following three parts:

1. the knowledge-producing sector, i.e. specialized firms and institutions producing scientifically based knowledge, such as R&D institutions and R&D firms,
2. the institutions transferring scientific knowledge i.e. universities and colleges,
3. the institutions and firms with applied scientific knowledge based on academic skills and R&D, i.e. the consultancy branch.

Following the above presentation, then, by conventional statistical taxonomy these parts are the branches of : 1. research and development (R&D), 2. higher education, universities and colleges, 3. consultants.

Concerning the location of the knowledge-based or information activities there is no comprehensive established theoretical explanation or model of location according to Selstad (1990), the above presentation by him being a suggestion in this direction. One of the starting points for such an explanation is that the primary resource of the services is advanced human capital. This means that the location factor of the activities comprise the activities themselves or the location factor of information production is information and knowledge itself within a dynamic and cumulative self-sustaining system. The quaternary industry is in a way the only industry which produces its own production requirements, according to Selstad.

In a turbulent and continuous process of competition and development of knowledge in all fields, survival in terms of the competitive knowledge advantage of organizations and individuals, is a matter of knowledge renewal and creativity based on it. This is best enhanced in surroundings of intensive interaction among knowledge producers, particularly through personal and often informal contacts. A successful quaternary organization needs a stimulating milieu which intensifies synergy between people of different competences. According to Selstad, then, this model of a creative self-sustaining system prefers agglomeration, in practice large cities.

Another locational thought is that quaternary industries locate in large cities, because competent personnel tend to concentrate in them, and are readily available there. To this aspect is attached the notion that in the turbulent quaternary industry, the turnover among highly qualified staff is normally rather high. This job changing is, on the other hand, one of the core characteristics in sustaining the competence of knowledge of both people and firms and other institutions, according to Selstad. This appears, then, to be a compelling cumulative reciprocal circle between organizations, and organizations and individuals.

This resembles the idea of resource based production location. This idea naturally leaves open the consequent question of why the concentration of quaternary occupations takes place in large cities; as Selstad states, there is still no explicit answer to this question. Evidently it initially has something to do with larger personal experiential knowledge and job possibilities within the course of occupational careers. This possibility would lead to a similar self-sustaining and dynamic process as in the resource-based model of thought, but for somewhat different, although not completely unrelated reasons.

A third locational thought is that suppliers and demanders of services locate near each other just because this makes personal contacts easier, as Selstad suggests.

On the other hand, along a somewhat similar course of thinking Helle (1991) suggests, in dealing explicitly with quaternary activities in the form of headquarters, and headquarters of MNCs and their location, that external communication including international traffic, in conditions with "a rich variety of economic activity and concentration of public administration decision (making)", is a prerequisite for headquarters. "Abundant availability of information and the facility to transfer it, and the vicinity of different organizations supplying financial, juridical, accountant, technical as well as cultural services, are the variables which support the agglomeration of quaternary operations." These needs, "the location requirements of centrality", are being met "in as maximal a way as possible" by the biggest cities, the "world cities" and the "international centres", which combine an economic activity and its location factors in a reciprocal cumulative process, according to Helle.

The above, implicitly as a process-character treated phenomenon is, as a cross-study, also presented by Helle (1989) concerning three categories of international organizations: non-profit organizations, banking, and multinational enterprises (MNEs). The study includes a reference to the air transport level of the "world cities" and the most important "international centres" of locations of these headquarters.

The above presented approach by Selstad (1990) includes the question of the costs of communication for both technical and time reasons. Implicitly, then, the transactional cost aspect in knowledge supplier-demander relations is also included within the personal contact-easiness idea. This is because of the characteristics of the pronounced asset specificity of advanced level knowledge and transactions taking place with this kind of information.

Selstad thus suggests that the transaction cost aspect, with reference to propositions by Oliver Williamson, could be seen as applicable to the problem of quaternary development in spatial perspective, as one locational factor.

He adds that asset specificity and uncertainty being basic determinants of transaction costs, frequent quaternary services, under conditions of considerable uncertainty, could imply an internalized solution for knowledge transactions in a firm.

This course of thinking adds up, on empirical data and in pertinent services, to some of the tasks and role of headquarters, also the DHQ category. The resulting difference is that the transactional costs are inside the firm boundaries, the costs there being only weakened, but still present. This line of thinking, in connection with transaction cost economics, is presented by i.a. Robins (1987), and Hennart (1991, 1993), the latter in analyzing the organization of transactions within a firm through the mix of hierarchy and prices.

Consequently, the question of the location of quaternary services and its location factors turns out also to resemble the question of location of headquarters. That is, the DHQ could be seen, with due conditions, as a quaternary firm or institution in respect to its own internal organization and the external environment, building on the ideas set forth above by Selstad (1990), Robins (1987) and Hennart (1991, 1993).

The theoretical search for the principles of location of quaternary industry is an ongoing process. In his own literature-based analysis of the characteristics of the quaternary industry, the factors of production of its institutions and firms, their production process and the production costs, Selstad comes to the conclusion that the three most essential perspectives concerning the factors of locational decision-making are the following:

1. the neoclassical perspective of the supply-demand equilibrium objective total production costs (including the different transportation and communication costs),
2. the transaction cost perspective which is a behavioral approach regarding subjective aspects, and an institutional explanation,
3. influential historical facts through decisions of political authority, which has given existence to universities and research institutions in politically chosen locations, and which are exogenous from the point of view of economic analysis; they are given locational resources, *per se* (Selstad, 1990).

Thus the theoretical models and ideas of the classical location theory, applied to quaternary industry, but at the same time to the newer behavioral aspects of transaction costs pertinent to quaternary industry, are interesting with respect to the research questions of factors behind the relocation of a DHQ presented above.

## 2.5 Behavioral location theory

The objective logic and determinism of economic theory in the framework of locational analysis, the assumption of "economic man" gave way, from the end of the 1960s, to an approach taking into account actual human behavior in making locational decisions. This development of thinking was intimately tied to the general development of the behavioral aspect of economics and management, based on the works by H.A. Simon, R.M. Cyert and J.G March (Smith, 1981).

Some ideas deviating from the purely mathematical economic optimum to include the entrepreneur's "psychic income" satisfaction and thus reach a total optimum location had been, however, presented by certain traditional researchers of locational analysis in the 1950s. But a more profound change came with the development of the behavioral theory of the firm. Thus the new locational analysis was very close in principle to research on management and economics (Smith, 1981).

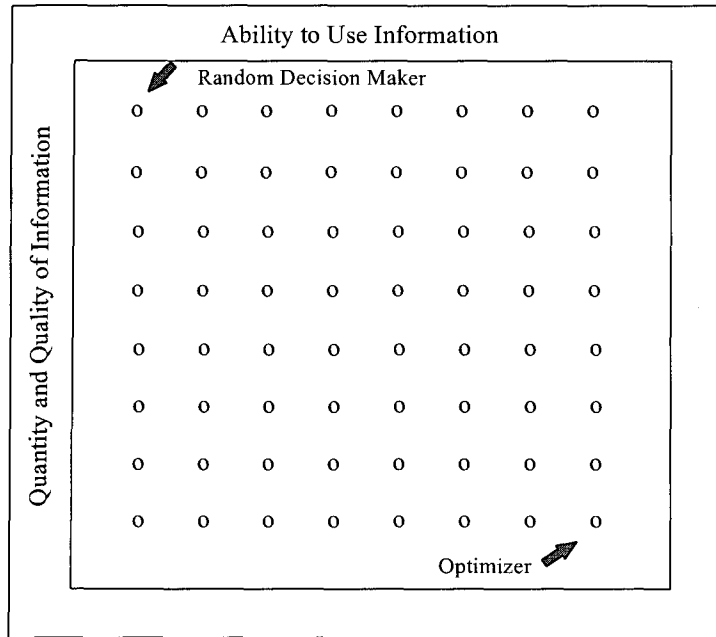
However, the development of this new strand of locational analysis of economic activity came to stay predominantly within the discipline of geography, and particularly its subfield human geography.

Under the concepts of 'behavioral environment' and 'behavioral geography' in human geography, behavioral location theory has thus developed as a field studying the decision making which takes place in relation to the spatial environment by the management of firms and entrepreneurs (Pratt, 1994, Ley, 1994). From this background, it is natural that the motives and reasons of locating economic activity in some particular location include a very wide spectre of aspects. One of the most important of them is company strategies and the wide variety of for example goals and objectives within the concept of strategy (Smith, 1981).

One of the locational aspects is the level of information to make locational decision. The behavioral matrix of Pred (1967) presents this for the decision maker as a function of, on the one hand, the quantity and quality of information, and on the other hand, the ability to use this information for making the location decision. These parameters are dependent on the environmental contingencies of the decision maker. The behavioral matrix, which builds essentially on the concept of 'bounded rationality' and other aspects of the behavioral theory of the firm, as Pred points out, is presented in the following Figure 6.

The aim and contents of this research on DHQ relocation deals, then, with the core aspect of the behavioral matrix of Pred. Thus this work studies the question of both axes of the matrix, the quantity and quality of information and the ability to use this information to make location decisions. Further, this takes place in respect to the proposed aim of a DHQ management to raise the level of the variables of these axes through the decision to relocate the decision-maker himself. Hence, the following suggestion by Pred, that spatial biases may affect the variables of the behavioral matrix, is a fitting introduction to this study from the point of view of behavioral location theory and human geography. "The ignorance, risk and indeterminacy components of uncertainty can vary spatially. Or, in Wolpert's words: "Uncertainty has a spatial dimension,..., not only because the inherent stability of phenomena may vary from place to place, but also because communication channels diffuse information unevenly in space, and because perception varies." (Wolpert, 1964)".

Figure 6. A behavioral matrix (adapted from Pred, 1967)  
Source: de Souza and Foust, 1979



There also have been attempts to understand broader behavioral strategies which may, on the one hand, incorporate uncertainty under which real-world decisions are made, and on the other hand as well the characteristics of the decision-makers themselves (Smith, 1981).

This last aspect of 'broader behavioral strategies' presented by Smith, through understanding it from the point of view of the 'emergent strategy' concept, could be regarded an interesting starting point as to the research on the relocation of the DHQ. It also could include the above mentioned concept of uncertainty and the idea of the characteristics of the decision-makers themselves (Smith, 1981).

This could be seen, within the uncertainty aspect, to touch the proposition set forth above by Selstad (1990) concerning locating of quaternary services, from the point of view of transaction costs which aspect represents the behavioral approach of the management of the firm.



Within the behavioral location theory approach, lacking any actual covering theory, there are both attempts at an a priori theory or model and generalizations from empirical experience. For the most part, the emphasis has been on studying the responses of the decision makers to spatial and social structures, instead of on understanding the motivations underlying the behavior (Goodall, 1987).

As a conclusion of the possibilities of the traditional location theory approaches centering around the minimum-cost aspect and the behavioral location theory approach centering around the uncertainty and bounded rationality aspects, it can be said that these theoretical approaches together could evidently handle the question of the uncertainty-based (Egelhoff, 1991) logistic information processing aspects of the DHQ in depth. However, the question in the Extended Problem Analysis above dealing with the problematizing of managers' explanations of DHQ relocation is by nature very complex. Its implicit aspects of an individual psychological and social psychological nature can probably not be approached with enough depth through these theoretical means at present.

However, as the study by Oinas (1998), which broadly reviews and cites human geography and organization science literature brings out within the concept of 'geography of enterprise', that field of research aims to approach the same basic questions as those set forth in this work. As Oinas in her concluding part says, "Geographical analysis aims to gain a deep understanding of the different socio-spatial contexts of organisational action by asking a broad set of questions on what the localities and regions are like in which firms operate, and how their characteristics relate to the characteristics of firms. The notion of **embeddedness** was thus interpreted as an attempt to deal with firms' relations with their socio-spatial environments in broad terms."

The human geography concept 'environmental perception' suggests that "decision-makers operating in an environment base their decisions on the environment as they perceive it, not as it is. The action resulting from decision, on the other hand, is played out in a real environment. The study of environmental perception in geography focuses on the ways in which the actors' understanding of their surroundings conditions their behaviour within their surroundings. The ordinary language use of the term notwithstanding, 'environmental perception' does not exclude such elements as values, ideas and cognition" (Emel, 1994).

This statement, based on strong ties with psychology and decision sciences, for example by the work of Herbert Simon (1956), can then be regarded, together with the other points of view referred to above by researchers in human geography, as leverage for the development of the ideas of this research. It is accordingly obvious that behavioral location theory, extending to the disciplines of both human geography and macro-economy, the traditional home of location theory, is in many respects tangent with this research on cognitive-logistic information processing in DHQs of multinational corporations, which represents the more specialized field of international management research in micro-economy.

## **2.6 The background of the chosen theoretical approach of the research**

In briefly summarizing the background, there is as a general starting point for the chosen theoretical frame of reference, i.e. the fact that the DHQ performs an economic activity. Within the headquarters, "the center of operations and of authority", the above described information process, which is the basis for the existence of the firm, takes place. That is, the internalization or rational organizing of economic activity for cost saving or inversely, adding net value to the production chain in accordance with the ideas of Coase (1986/1937). Consequently this organization of economic activity by headquarters may lead on the international market to a further gain, that of an oligopoly as presented by Hymer (1976/1960). These headquarters activities are clearly indispensable and of essential economic value; they are crucial to the existence of a firm. As Thompson (1967) notes, an organization in strategy aspects can be seen more as an open system than a closed system, "incorporating uncertainty by recognizing organizational interdependence with environment.....With this conception the central problem for complex organizations is one of coping with uncertainty. As a point of departure, we suggest that organizations cope with uncertainty by creating certain parts specifically to deal with it, specializing other parts in operating under conditions of certainty or near certainty. We also suggest that technologies and environments are major sources of uncertainty for organizations....."

Naturally, this also can be assumed as a point of departure for multinational corporations, the headquarters representing the support activity of the value chain of primary activities, securing organizational performance and survival as it is presented by Porter (1986), Doz and Prahalad (1987), and Egelhoff (1991).

On the basis of the actual factors of production, above all labour and information, and how the production process of the net value adding support activities take place, it would be possible to rather closely assess the direct costs of performing the tasks and role of the headquarters. Thus the headquarters is a legitimate object of research from the point of view of location theory. This applies particularly to the classical least-cost location theory where demand is held constant. This would also fit this problem on the grounds that headquarters does not have a market, in the actual sense of the word, for its services. Instead, the headquarters could be seen more as acting like a monopoly, according to the origins of the terms headquarters and hierarchy, within its organizational frame of reference.

From this point of view there is, then, a possibility to see the relocation of the headquarters as a strictly logistic information process question, rationally to be economized as to the many different information processing aspects, including time costs. The theoretical frame of reference could on that basis be the logistic information processing theory, as performance of the tasks and role of the DHQ are represented essentially by the mechanisms of the logistic information process as are set forth by Egelhoff (1991, 1993) concerning the multinational corporation.

It is obvious, however, when taking into account the explanations given by some of the managers of the Finnish companies in the relocated DHQ and the subsequent extended problem analysis in questions 3a-3d above, that there are implicitly involved and also must be set forward, some other theoretical aspects following the above presented argumentation by Glaser and Strauss (1967), and Alasuutari (1996). These are aspects serving the proposition of an hermeneutic approach in respect to a tentatively perceptual and cognitive socio-spatial map of DHQ management in its relation to the far-flung international internal organization, the external environment of customers and competitors, and the relationship between these two spheres. This notion includes the question of the logistic information process mechanism contingencies of a firm with idiosyncratic transactions. The suggestion of a cognitive theoretical approach under the general conditions of the DHQ relocation event described, including any potentially unresolved internal conflicts of interest, could be seen to fit the notions of March and Simon (1958) and Cyert and March (1992). According to them, intendedly rational behavior is behavior under informational constraints.

Thus, the presence of psychological factors in the DHQ relocation process justifies a cognitive information process approach in this research, and the above reference to pertinent literature may be regarded as a justification for this theoretical approach.

The above empirically based reasoning and problem analysis-questions 3a-3d together with the background contingencies faced by DHQ management lead to inclusion in the research of the concept of uncertainty, 'the boundaries of rationality' or the notion that behavior in organizations is intendedly rational, but only limitedly so. This is the basic starting point for "examining cognitive aspects of human behavior in organizations", following March and Simon (1958). From a theoretical point of view, the above justifies use of the concept of 'bounded rationality' as a condition, considering the non-impatriating behavior of unwilling foreign personnel, for example the specialists and managers of foreign subsidiaries, or subsidiary managers' reluctance to travel to DHQ meetings. This suggests, further, the adoption of the transaction cost theory approach in closer studying the DHQ management behavior. Consequently, then, this leads to applying in general the cognitive information process view, referring to the thinking and ideas by i.a. Williamson (1986), Robins (1987), Dunning (1988), and Rumelt, Schendel and Teece (1991).

Close to the transaction cost theory aspect is the notion of the effect of resource power and a power-based political perspective in an organization, in connection with the psychic distance between the home-country DHQ and a foreign subsidiary. This is brought out in recent empirical studies on foreign DHQ relocation by Swedish MNCs referred to above. The transaction cost theory aspect is taken up in even more detail in that study as it concerns important foreign subsidiaries in multi-center divisions. Apart from its main argument the study points out the divisional management's need for vicinity and better control over important foreign subsidiaries laden with resource and structural power, as it is noted by Forsgren and Holm (1991).

Altogether, the approach in this research is from the science philosophical point a holistic one, attempting to explain both the objective rational reasons and to interpret and understand the behavioral motives of relocation, as expressed in the title of this work. The research is an ex-post study on the DHQ management's cognitive-logistic information process and decision making leading to the conclusion in favor of a relocation abroad of the DHQ from Finland.

Furthermore, it is a deductive and multidisciplinary study where the theoretical approach and the construed suggested paradigm with its propositions are essentially based on the literature of theories of the firm, international production and management, and experimental psychology on spatial cognition in particular. In passing, human geography and some aspects of location theory are introduced. The justification for the deductive approach lies in the availability of pertinent theoretical literature on the basic issues to be studied, even if the topic of headquarters relocation abroad in holistic terms has until now been insufficiently understood. However, the proposed basis of the problem lies in the different aspects of information processing, a field which as such seems rather well covered in literature. Thus, in this research the paradigm and the attached propositions, which aim at clarification of the research problems, have been construed by combining and applying some basic areas of theoretical knowledge and ideas available in the literature.

Characterizing the nature of the generating process of the theoretical paradigm of this research could be compared to the idea of the 'direct formulation of formal theory' Glaser and Strauss (1967). As they note, in comparison to the comparative analysis-based generating of a substantive theory, "it is possible to formulate formal theory directly. The core categories can emerge in the sociologist's mind from his reading, life experiences, research and scholarship. He may begin immediately to generate a formal theory by comparative analysis, without making any substantive formulations from one area.....The sociologist must make certain through pilot tests that the formal categories are relevant to data". Following the terminology of Glaser and Strauss, the formal categories in this work can be thought of to consist of the logistic information process and the cognitive information process. The comparable substantive properties of these can be thought of to consist of, respectively, the various logistic information process mechanisms as presented by for example Egelhoff (1991, 1993), and the dimensions of identity, social cognition and spatio-temporal cognition, as put forth in the form of propositions in this research, with equal reference below to pertinent management literature, such as Alvesson (1990), March and Simon (1958), Weick and Bougon (1986) and Nonaka and Konno (1998).

As noted earlier, the start of this research is inductive. It used published material on the explanations of DHQ managers' and on that ground incited own interviews of comparable

social organizations, these sources representing the evidence and data of the relocation phenomenon, per se. The formal category of the logistic information process is clearly relevant, then, to these data. Concerning the formal category of the cognitive information process, the relevance may not be so self-evident in concreteness, but its plausibility in the role of human inborn evidence is indisputable and impossible to be ignored, following the justification above on this point. In assuming this latter category, the words of Glaser and Strauss themselves above on the “reading, life experience...” of the researcher himself are relevant. This aspect of theirs is in reality identical to the concept of Aristotelian ‘endoxa’, as presented above by Kakkuri-Knuuttila (1996, 1997). However, in applying to formal theory generation the category of cognitive information process, which research processually follows the idea of ‘problematization’ by Alasuutari (1996), the subsequent hermeneutic process represents above all the logico-deductive method, thus deviating from the real-life data based ‘grounded theory’ approach of Glaser and Strauss. Instead of real-life data, in this cross-disciplinary work the data concerning the cognitive information process are above all based on expedient and relevant research literature in experimental cognitive psychology. The results of these disciplines can be regarded with justification as reliable and valid, as well as indispensable building blocks for constructing a theoretical model of the kind presented. The many-sided use of these building blocks in various aspects in organizational or management research is referred to. The role of literature is also regarded as very important by Glaser and Strauss. Here it would also be fitting to quote the notion of Eisenhardt (1989) on the role of literature in connection with case study research, as she says that “an essential feature of theory building is comparison of the emergent concepts, theory, or hypotheses with the extant literature. This involves asking what is this similar to, what does it contradict, and why. A key to this process is to consider a broad range of literature.....literature discussing similar findings is important as well because it ties together underlying similarities in phenomena normally not associated with each other.....overall, tying the emergent theory to existing literature enhances the internal validity, generalizability, and theoretical level of theory building from case study research”. This idea of Eisenhardt also effectively characterizes the approach in this research. This work, then, presents a proposition of a holistic theoretical paradigm and thus, using the concept of Glaser and Strauss, simultaneously a proposition which could be called a ‘formal theory’, or perhaps what Glaser and Strauss call a ‘one-area formal theory’. To explicate the concept theory in more detail for the purposes of this

work, the following definition will be applied: “a judgement, conception, proposition, or formula (as relating to the nature, action, cause, or origin of a phenomenon or group of phenomena) formed by speculation or deduction or by abstraction and generalization from facts: as.....a hypothetical entity or structure explaining or relating an observed set of facts” (Webster’s Dictionary, 1986; emphasis added). Consequently, if taken as a formal theory the paradigm is also more widely applicable and more general than its original context of creation, the phenomenon of DHQ relocation abroad by Finnish MNCs.

According to the above presentation the main aspects for a theoretical study in the research paradigm suggested below are:

1. The different costs, time, unsurmountable obstacles, and other factors encountered in communication and other logistic information processes, from the rational empirical point of view,
2. The historical action-culture background, environmental contingencies with uncertainty, identity, and mentality, inducing cognitive information processes and behavior in the course of a company's general international and foreign growth.
3. The intertwined, dynamic and reciprocal information process of the cognitive and logistic aspects during the course of a firm’s foreign growth.

The proposed cognitive-logistic information process paradigm presents a concrete contribution with reference to the suggestion by Meindl, Stubbart and Porac (1994) concerning the most interesting and important topics in future research on managerial and organizational cognition.

### **3 The development of the theoretical paradigm of a reciprocal dynamic cognitive-logistic information process; the research gaps**

#### **3.1 The main characteristics of the proposed paradigm or conceptual framework**

The point of departure for the paradigm suggested below for the relocation phenomenon has been the notion that this phenomenon is not solely understandable or explainable by way of analyzing the logistical information process. Explaining the information requirements of the DHQ and the different ways and forms of technical communication and organizational

mechanisms used by the DHQ in performing its tasks and roles would not suffice for an understanding of DHQ relocation.

The justification for suggesting a reciprocal cognitive-logistic paradigm in order to understand the DHQ relocation decision is based on the one hand on the given explanations of logistic information processing problems, following the line of thinking of Egelhoff (1991).

On the other hand, concerning the cognitive aspects as well as the reciprocity of the elements in the paradigm, it is evident that the problematized perceptual and cognitive explanations contain in themselves the encountered difficulties of a logistic nature, hence the consequent reciprocity. This problematizing is done as seen suggestive to reasoning, following Alasuutari (1996). It is based on the intuitive and evident features of the complementarity of those two information processing aspects, as also presented by Egelhoff. Additionally, the growth at large of the role of cognitive theory of organizations and management can be seen as a general research contextual justification for the chosen paradigm, following Jelinek and Litterer (1994). Hence, the two main science-philosophical approaches in the construction of the paradigm, the rational-empiristic and hermeneutic ones, are in reality profoundly intertwined in this research. This may also be grounded on the fact that the two spatially conditional elements of the paradigm, that relating to logistic information processing and that to cognitive information processing, have a common background in the literature in the concept of environmental uncertainty, as presented by March and Simon (1958) and Egelhoff (1991). Consequently, they are attached to the question of managing the firm under uncertainty through the question of information processing and knowledge.

As a whole, the study is then to a great extent a study of information requirements and capacities in firms, and the managerial behavior induced by these from the above presented various points of view.

In the words of Egelhoff (1991), the "logistical view of organizational information processing views organizations as systems that need to balance the organization's information-processing capacities against the information-processing requirements inherent in its strategy and environment. Fit is equated with good organizational performance and survival, and misfit with poor performance and failure.....The focus of the cognitive view is primarily on how informational processing is influenced by the psychological and social-psychological characteristics of organizational members. The two perspectives should be viewed as



complementary and not contradictory explanations of organizational information processing. The cognitive perspective largely addresses how strategic decisions are made. It argues that much of the input or influence is cognitive and that strategic decisions are not merely, or even primarily, determined by organizational and environmental considerations. The unit of analysis tends to be the strategic decision or strategic issue".

As Egelhoff says above, the two approaches are complementary. However, this could be expressed even more strongly; the cognitive approach is embedded in the logistic one, as the logistic information-processing requirements are "inherent" in the MNC's "strategy and environment," according to Egelhoff above.

In the cognitive approach, the "environmental considerations" have an important role, but the "unit of decision tends to be the strategic decision or strategic issue." From the point of view of this research, the strategic issue and object of decision is the relationship in respect to the environment, or more exactly, the cognitive governance of the DHQ environment.

This is equal to the uncertainty-attached point of departure of logistic information-processing. But also inversely, the logistic information processing capacity-requirement fit is one aspect of that cognitive governance. Thus the reciprocity of the logistic and the cognitive information processing aspects is self-evident and unavoidable, and in Egelhoff's (1991) words "the two perspectives should be viewed as complementary and not contradictory explanations of organizational information processing".

An attempt at this complementary approach is, then, the paradigm of this research work. However, in Egelhoff's above implicit notion that these two approaches are also viewed as somehow contradictory, there is also indication that these two approaches need to be made consistent and congruous within the field of organizational information processing research. Consequently, then, there are two gaps in this field of research in acquiring an understanding of the whole of information processing.

One gap concerns the holistic understanding of the relocation of the DHQ from the point of view of the strategic question of information processing, when relocation is seen as providing DHQ the ability to perform its tasks and role.

The other gap concerns information processing per se, the relationship and reciprocity, in Egelhoff's words the 'complementarity' between logistic information processing and the cognitive information processing in the work of an MNC's divisional management.

Furthermore, this holistic approach can also be founded on the ideas presented by Simon (1987) in his study of "realism" in the discipline of economics, i.e how decisions are actually made within business firms. Instead of the neoclassical fully informed profit maximizing firm, the aim in economic research ought to be the searching, information processing and satisficing firm. Also, instead of perfect substantial rationality in the study of decision making, he advocates switching to bounded procedural rationality. As he notes, "in a substantive theory of rationality there is no place for a variable like focus on attention. But in a procedural theory, it may be very important to know under what circumstances certain aspects of reality will be heeded and others ignored". What is then needed is a more realistic theory in the sense of more comprehensiveness (Simon, 1987, in Mäki, 1989).

The justification in choosing the logistic information process theory in the suggested paradigm lies in the very nature of the DHQ tasks and role within its international internal and external context. Particularly, the external environment turbulence and the very central time aspect implied by that concept, as brought forward by Zander and Kogut (1995), have been a central point of departure. The background in the logistic information process theory is environmental uncertainty, according to Egelhoff (1991), uncertainty being the difference between information required and already possessed to perform a certain task. The uncertainty aspect is the common denominator with the behavioral features of factors that affect location decisions presented by March and Simon (1958) above. Thus, for instance the logistic information process theory mechanisms for reciprocal non-routine information, as presented by Egelhoff (1991), can in practice also include transaction cost theory aspects, particularly if socializing or the implicit behavior control features of information are taken into account, as suggested by Hennart (1991). For the cognitive information process theory, including the social cognitive aspects presented by Wood and Bandura (1989) and Ginsberg (1990), the justification for application lies in the historical cognitive process of managing the internationalization growth process of the companies to be studied, i.e. Finnish multinationals, as presented by Luostarinen (1979) and Luostarinen and Welch (1990). Within the over-all conceptual framework of the behavioral theory of the firm presented by March and Simon (1958), the cognitive information process aspects, as set forward by Daft and Weick (1984), Weick and Bougon (1986) and Weick (1990), are joined with those particular ones of the strategic reference point theory of Fiegenbaum, Hart

and Schendel (1996), and transaction cost analysis by Williamson (1986, 1989, 1991), Teece (1986), Hennart (1991) and Rugman and Verbeke (1992). The two latter aspects have related backgrounds in the psychology of perception.

The justification for applying the strategic reference point theory is the general dynamic and ongoing growth and internationalization process of Finnish MNCs, also of those with the DHQ having been relocated, their 'strategic intent' and historical 'forward momentum', as presented by Luostarinen and Welch (1990), their role as 'high technology challengers' as studied by Alahuhta (1990), but the justification is also implied in the Swedish DHQ relocation study by Forsgren, Holm and Johanson (1995).

For applying the transaction cost theory, the justification lies in the possibility of perceived opportunism which can be thought of to be implicit, within bounded rationality, in the DHQ managers' relocation explanations that are problematized, as it was illustrated above. Partly the justification lies in the literature referred to in the work by Selstad (1990), as well as the implied presence of transaction cost aspects in the above mentioned work by Forsgren, Holm and Johanson (1995) on DHQ relocation.

In studying the literature on the general level on international production and competitive MNC strategies, as presented by i.a. Cantwell (1988), Dunning (1988) and Hamel and Prahalad (1989), and transaction cost economics literature on MNCs, including the varying national culture context effects or organizational knowledge advantages as presented by i.a. Teece (1986), Dunning (1988), Hennart (1991), Kashlak and Hamilton (1992), Horng (1993) and Rugman and Verbeke (1992, 2001), the reason for inclusion of the management research theories of strategic reference point theory and transaction cost theory becomes obvious.

From the point of view of this study, the close relationship between the logistic and cognitive information processes also comes indirectly forward in a study by Hennart (1991), in dealing with the role of price and hierarchy in controlling multinational firms. As he notes, "the three control techniques of hierarchy, socialization, and price control are used in varying proportions by MNEs to control their foreign subsidiaries. Hierarchical control over subsidiaries is exercised through visits from HQ personnel to the subsidiary and/or from subsidiary managers to HQ, written and oral directives sent to the subsidiary, and requests for information. When communication costs are high, socialization strategies may be the only way to control far-flung subsidiaries.....Increasingly, socialization is being used to develop a corps of both home-

country and foreign country nationals..... Bartlett and Ghoshal.....document the efforts of some MNEs to create such a cadre through extensive training and job rotation."

As it can here be noted, the cost problems within the logistic information processing area of communication are transformed to the area of socialization within the perceptual and cognitive information process. More closely, the cognitive information process is realized within the organization itself, between the perceived self of the DHQ management and the social environment of the foreign subsidiaries and their managements of the internal organization. Within this study, this cognitive relationship is approached through, for example, transaction cost economics. However, the aspect of socialization has turned out to be on a practical level a matter of logistic information processing in the form of, above all, training and job rotation according to Finnish empirical material (Hirvikorpi, 1991, Simon, 1991, Stoor, 1993). This consequently meant impatriation with families to the Finnish location of the DHQ, which turned out to be a procedure that was one of the original DHQ-relocation inducing problems in this study. Thus, the evident reciprocity of the logistic and the cognitive information processes, which is more thoroughly considered below, also emerges indirectly from the above notion by Hennart (1991).

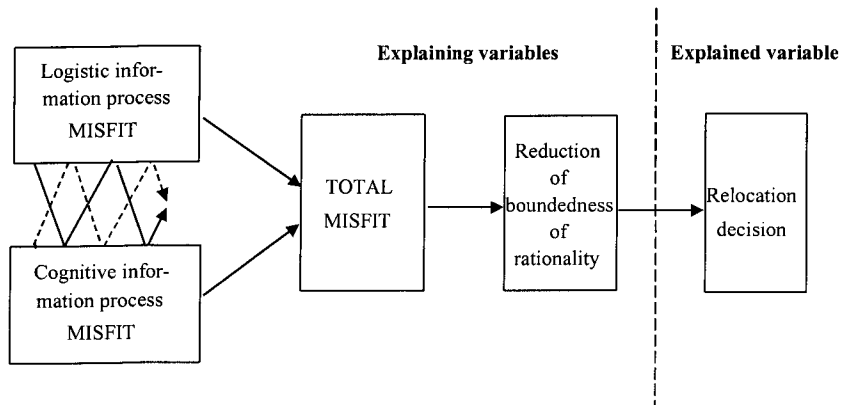
Hence, the variable to be explained in this research is the positive relocation decision of management, i.e. that the DHQ was indeed relocated. The variables explaining this positive relocation decision, and thus the object of the research questions, are set forth in the form of propositions, which are in the suggested paradigm a chain, or loop, of propositions. They refer to the DHQ managements' motives and reasons assumed to be contained and implicit within the paradigmatic logistic information process on the one hand and the cognitive information process on the other hand.

The concept of proposition in this connection means a statement of theoretical orientation and focus of attention of causal relations, "an expression of anything which is capable of being believed" (Webster's Dictionary, 1956). The propositions are, in their collective entirety, in this work based essentially on: **1.** the real-world empiric logistic problems, **2.** the own experience-based hermeneutic problematizing of the DHQ managers' explanations in public and in interviews, and **3.** the thereby inferred and attached behavioral and cognitive literature in management research and cognitive psychology. The nature of the concept of proposition is here comparable to that set forth by Yin (1984) in his presentation of qualitative research design

and strategy of research analysis. The propositions here also serve implicitly as a proposal for further study.

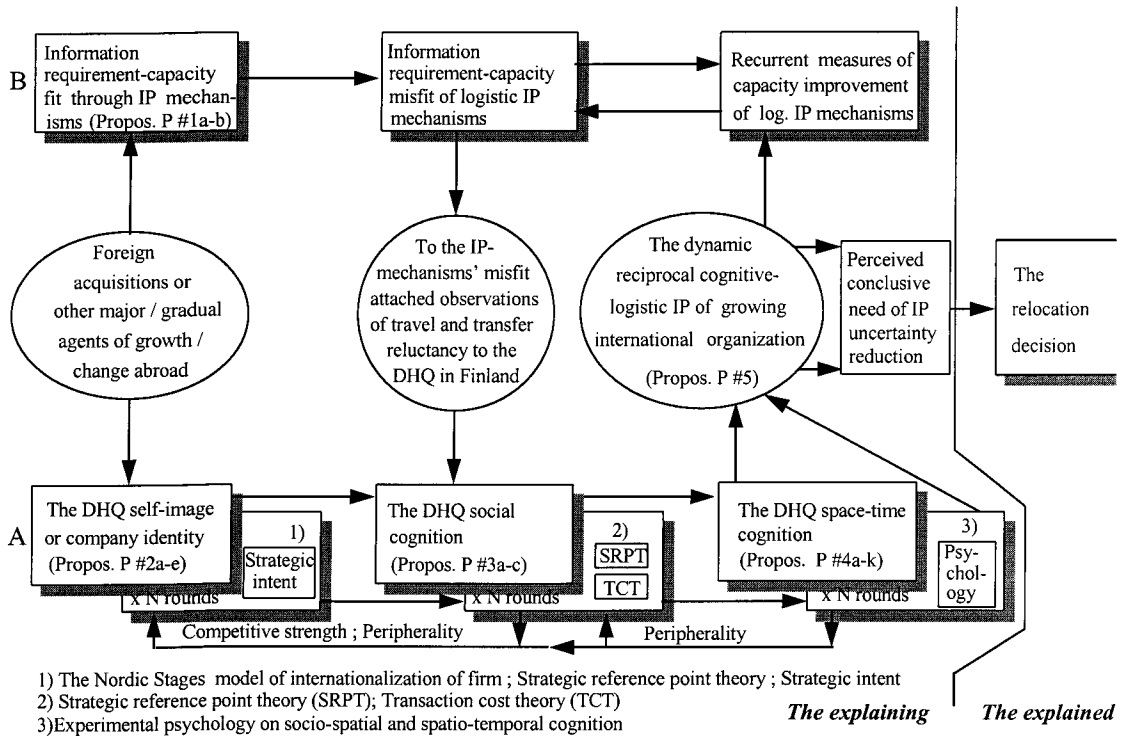
The paradigm general framework of reasoning is as follows, in Figure 7:

Figure 7. The propositional process chain of explaining variables leading to the DHQ relocating decision variable to be explained



The more detailed paradigm reasoning, and presentation of the theoretical framework constructed is subsequently presented in Figure 8.

Figure 8. The cognitive-logistic information process: the reciprocal and dynamic cognitive (A) and logistic (B) information process (IP) of a DHQ in the course of a MNC's international growth, potentially leading to relocation of the DHQ abroad. A paradigm proposed.



As can be seen from Figure 8, a real-world growth impulse or accumulated impulses create, when empirically needed, concrete rationally inferred improvement activities within the realm of the logistic information process in the upper part of the figure. The same growth impulse or accumulated growth impulses simultaneously create a perceptual process within the realm of the cognitive information process in the lower part of the figure. In the lowest section there is also depicted a reciprocal cognitive process, where the elements of identity, social cognition and space-time cognition influence each other in a feed back manner. As a whole, the logistic and the cognitive information processes are intimately intertwined, forming an holistic cognitive-logistic information process, with the aim and survival-bound necessary outcome of fulfilling the company-growth induced need for new knowledge, inherently omnipresent in the managers

and staff of the DHQ. This reciprocal cognitive-logistic information process is depicted as the counterclockwise process in the right half of the figure. This process is proposed to be, and historically to have been, continuous in nature. It is proposed to form an increasing, many-layered process in information quantity and in space. However, in temporal details, it can be thought of as discrete both on the cognitive side, in the changing perceptions of management and staff, and on the logistic side, concerning improvement changes in information flows and their mechanisms. Additionally, even though Figure 8 is a sequential cognitive-logistic model, the actual cognitive information process in the lower part can also be conceived to progress independently, possibly forming multi-layered clockwise loops before advancing further to the main cognitive-logistic process and counter-clockwise loop.

The elements of the proposed paradigm in Figure 8 and their mutual relationships are elaborated in detail in the respective chapters below.

The research gaps primarily concern the holisticity of the approach to the DHQ relocation abroad, or for that matter, potentially to relocation of corporate headquarters (CHQ) abroad as well. Until these days there are within the international context and concerning multinational companies the studies by Forsgren and Holm (1991, 1993) and Forsgren, Holm and Johanson (1992, 1995), the latter of Forsgren, Holm and Johanson more thoroughly referred to above in Chapter 1.5. The explanations of these studies give implicit support to the research questions proposed in this work and they are also a strong support for the theoretical approach set forth above. This inference applies both to the logistic information process aspect and, as the above researchers in their conclusion express the point of view of implicit political power aspects from the side of the foreign production centres, it also applies to the cognitive information process aspect as well. The explanations given for example in the study by Forsgren, Holm and Johanson (1995) logically lead, as suggested in Chapter 1.5, to the question of the more basic perceptual and cognitive background motives and reasons for the phenomenon of DHQ relocation under the newly given, for example political circumstances.

## **3.2 The logistic information process**

### **3.2.1. The contents of the concept, its application to the research topic, and the subsequent propositions (P #1a-b)**

Organizational information processing theory contains both the logistic information processing view and the more cognitive views of organizational information processing, as put forward by Egelhoff (1991).

The logistic approach, in Egelhoff's terms, "views organizations as systems that need to balance the organization's information-processing capacities against the information-processing requirements inherent in its strategy and environment. Fit is equated with good organizational performance and survival, and misfit with poor performance and failure".

Within the information processing theory aspect it is possible to tackle the difficult question of conformity between the different organizational types and the environmental conditions, particularly with respect to the amount of uncertainty around the firm.

Uncertainty can be said to be the primus motor of the conceptual development of the logistic information processing theory, or as expressed by Egelhoff (1991), "effective organizations are those that fit their information-processing capacities (for gathering, transforming, storing, and communicating information) to the amount of uncertainty they face." On this point, Egelhoff also refers to Galbraith (1969, 1973, 1977) by quoting him: "Uncertainty is the difference between the amount of information required to perform the task and the amount of information already possessed by the organization."

Within this theoretical approach, logistic information processing as a system presents an operating entity in which, for instance, the formal or hierarchical structure is only one means of information processing. This system is seen as living continuously according to the requirements of changing conditions, and according to Egelhoff (1991), "to transfer information within an organization, to move it across the boundaries of an organization, and to access specific kinds of knowledge and decisionmaking capabilities needed to transform data or information".

Thus this theory is most feasible in encountering the fast changing informational circumstances and demands which are met by an internationally dynamic firm in its turbulent environment.



Notably Egelhoff (1991, 1993) has analyzed the different conditions and requirements of MNCs, and the consequent logistic information processing alternatives and solutions with their capacities and structural location. The requirements he refers to are classified according to dimensions such as sequential/reciprocal and routine/non-routine, or country and company/product matters and strategic/tactical perspectives.

The above ideas are presented in the following four figures by Egelhoff (1993).

Figure 9. The structural dimensions of information processing.

Source: Egelhoff, 1993

PURPOSE AND PERSPECTIVE OF INFORMATION PROCESSING		SUBJECT OF INFORMATION PROCESSING	
Strategic	Tactical	Company and country matters	Product matters
		<p>Tactical information processing for company and country matters</p> <p>Example: Evaluating how and when to raise money in international money markets</p>	<p>Tactical information processing for product matters</p> <p>Example: Deciding on a routine change in the price of a product</p>
Strategic	Tactical	<p>Strategic information processing for company and country matters</p> <p>Example: Deciding on the company's position <i>vis-à-vis</i> foreign government pressures for local ownership in foreign subsidiaries</p>	<p>Strategic information processing for product matters</p> <p>Example: Deciding on the long-range level of R&amp;D support for a major product line</p>

The individual characteristics of organizational members are not regarded in the logistic information processing approach, but are studied instead in the cognitive approach (Egelhoff, 1991).

Assuming the continued existence of the DHQ, its location notwithstanding, in performing DHQ tasks and role as it is assumed in this research, then the relocation of the DHQ can be accordingly defined and regarded as a spatio-temporal mode of the company's structural solution. The relocation solution aims at fitting the information processing requirements of the MNC division, in accordance with the above notion of logistic information processing theory under uncertainty. This idea is congruous with the thinking in the study by Forsgren and Holm (1991), where the relocation of the DHQ is seen to influence the formal organization, that is, as a structural solution.

Figure 10. The process dimensions of MNC information processing  
Source: Egelhoff, 1993

		INTERDEPENDENCY BETWEEN PARTIES TO AN INFORMATION-PROCESSING EVENT	
		Sequential	Reciprocal
ROUTINISM OF AN INFORMATION-PROCESSING EVENT	Routine	Routine - sequential information processing  Example: Deciding on a routine change in the price of a product	Routine-reciprocal information processing  Example: Deciding how to handle an(d) expatriate manager's request for reassignment back to the parent company
	Non-routine	Non-routine - sequential information processing  Example: Exploring the possibility of selling a customer products not available in the local subsidiary, but available in another subsidiary	Non-routine - reciprocal information processing  Example: Deciding on the long range level of R & D support for a major product line

To study and understand the assumed misfit in the organizations in this research work, from the point of view of the relocated DHQ, it may be analyzed multidimensionally according to the different classifications and dimensions as they are presented by Egelhoff (1993) in Figures 9-12.

When regarding those above noted and in practice encountered difficulties by the managements of relocated DHQs, the explanations of these centered as mentioned, firstly, on the unwillingness of subsidiary managers to travel intermittently to the DHQ in Finland. Secondly, there has been an unwillingness on the part of career-rotating foreign subsidiary managers and foreign staff specialists needed by the DHQ to expatriate to Finland for normal temporary assignments of 1 to 3 years.

Figure 11. Location of information-processing capacity in the four elementary MNC structures  
Source: Egelhoff, 1993

Type of structure	Types of information-processing capacity			
	Tactical information-processing capacity for company and country matters	Strategic information-processing capacity for company and country matters	Tactical information-processing capacity for product matters	Strategic information-processing capacity for product matters
Worldwide functional divisions	Company and country-related functional divisions of parent HQ (e.g., finance, human resources). Similar functional divisions of foreign subsidiaries	CEO and executive committee of parent HQ	Product-related functional divisions of parent (e.g., R&D, manufacturing, marketing). Similar functional divisions of foreign subsidiaries	CEO and executive divisions of parent HQ
International division	International division HQ  Foreign subsidiary HQs	Higher management of international division HQ  Higher management of foreign subsidiary HQs	Domestic product divisions (outside of international structure) Product divisions of foreign subsidiaries	Higher management of domestic product division (outside of international structure) Higher management of product divisions of foreign subsidiaries
Geographical regions	Company and country-related management and staff of regional HQs  Domestic and foreign subsidiary HQs	Higher management of parent corporate HQs Higher management of regional HQs Higher management of domestic and foreign subsidiaries	Product-related management and staff of regional HQs  Product divisions and domestic and foreign subsidiaries	Higher product related management of regional HQs  Higher management of product divisions of domestic and foreign subsidiaries
Worldwide product divisions	Foreign subsidiary HQs	Higher management of foreign subsidiary HQs	Parent product division HQs and domestic product operations Product divisions of foreign subsidiaries	Higher management of product division HQs Higher management of product divisions of foreign subsidiaries

In applying these explanations to the framework presented in Figures 9-12 by Egelhoff, it may be assumed when dealing with worldwide product divisions that from the empirical point of view of structural dimensions in information processing, the primary subjects and perspectives could have concerned strategic matters relating to products, company, and countries. The latter may also be thought to be very important when dealing with companies that are experiencing dynamic growth with new foreign subsidiaries and, accordingly, new markets and market possibilities, according to Figure 11. The aspects of the routinism of information processing events and interdependency between parties in this respect may consequently be thought of in the Finnish companies to encompass non-routine sequential, as well as both routine and non-routine reciprocal information processing, according to Figure 12.

Figure 12. The capacities of information-processing mechanisms

Source: Egelhoff, 1993

	Sequential information-processing capacity		Reciprocal information-processing capacity
Routine information-processing capacity	Rules and programmes (H) Single-cycle planning (H) Post-action control (H) Stand-alone computer systems (H)		Integrated data-base computer systems (H)
	Vertical information systems: assistants; clerical staff: and planning staff (M)	Steering control (M) Multi-cycle, interactive planning systems (M)	
Non-routine information-processing capacity	Hierarchical referral (L)		Horizontal information systems: direct contact (L); task forces (M); teams (M); integrating roles (L); matrix designs (M)

*Note:* The letters in parentheses indicate relative volumes of information processing capacity : H = High, M = Medium, L = Low

Following those ideas presented above in Figures 9-12 by Egelhoff and "having created a kind of directory of where knowledge and capability tend to lie in an MNC, we need to produce an analogous directory of the kinds of information-processing mechanism that can be used to access and connect the various sources of knowledge and capability", as Egelhoff says.

Concerning the Finnish target companies in this research, it is assumed that the logistic difficulties encountered by the companies in practice, both concerning travelling and impatriation of foreign personnel to the DHQ at the relevant points, pertain to any of the simultaneously non-routine and reciprocal mechanisms in the lower right-hand corner of Figure 12.

However, these problems obviously also pertain to those 'in-between column' mechanisms of more sequential and routine nature, and those 'in-between row' mechanisms of a sequential, vertical nature. The basis for the latter assumptions is that the problem concerns internationally fast growing companies with new foreign acquisitions and consequently very large and demanding information requirements. This is pointed out by Stenberg (1992) and brought forth in the form of information gaps by Santala (1996) in their research on foreign acquisitions of Finnish MNCs.

On the grounds of the above presented features of the logistic information process, the following two **propositions** are set forward:

**P #1a:** Those explanations given by the managers pertaining to the DHQ relocation events and referring to the **problems** attached to **travelling** and **impatriation** of foreigners to the DHQ, represent problems of **logistic information processing** between the foreign subsidiaries and the DHQ, and concern managers and staff of both parties;

**P #1b:** The above information processing problems encountered and referring to the managers and staff members of both parties are attached essentially to the information processing mechanisms presented by Egelhoff (1991), and refer to the **DHQ's role and tasks**, for example, in strategy planning and implementation, social information, and company acculturation, as presented by e.g. Porter (1986), Doz and Prahalad (1987), Chakravarthy and Lorange (1991) and Egelhoff (1991, 1993).

### **3.2.2 The connection and reciprocity between the logistic and the cognitive information processes**

As mentioned above with reference to Egelhoff (1991), the logistic information process perspective and the cognitive information process perspective "should be viewed as complementary and not contradictory explanations of organizational information processing". The logistic information process perspective focuses on the "organization's information-processing capacities against the information-processing requirements inherent in its strategy and environment." The cognitive information process perspective "views organizations as systems that learn and interpret their environments" and focuses on "how information

processing is influenced by the psychological and social-psychological characteristics of organizational members". Also, "the cognitive perspective largely addresses how strategic decisions are made.....that much of the input or influence is cognitive." Besides, "the unit of analysis tends to be the strategic decision or strategic issue". Doz and Prahalad (1987) likewise note that "strategic redirection follows cognitive redirection."

Thus the logistic and the cognitive information processing approaches deal with the same topics of for example DHQ strategy and strategic issues, though they focus on momentarily or temporally different phases of the topic, and therefore represent different, though, as Egelhoff (1991) says, complementary aspects. Together, these aspects form the information process of a substantive whole.

In this research information, information processing, and knowledge are in themselves the topic of the research in the physical context of the DHQ. Knowledge and information and its processing are assumed to be a strategic matter for the management of a company. This general and basic aspect is clearly demonstrated in the thinking of Egelhoff (1991), Camillus (1992), Kogut and Zander (1992, 1994) and Zander and Kogut (1995).

Here it is important to define more closely the concepts of information and knowledge used in this work. 'Information' means "the communication or reception of knowledge or intelligence", and "something received or obtained through informing", where informing means "to communicate knowledge to; make acquainted". 'Knowledge' means "the fact or condition of knowing something with a considerable degree of familiarity gained through experience of or contact or association with the individual or thing so known", and "acquaintance with or theoretical or practical understanding of some branch of science, art, learning, or other area involving study, research, or practice and the acquisition of skills" (Webster's Dictionary, 1986). Thus 'information' is a processual concept, and 'knowledge' a state concept, and in this research they are used accordingly. This usage is comparable to that presented by Nonaka and Takeuchi (1995) who, according to Kulkki (1996), "suggest that information is a flow of messages, while knowledge is created by that very flow of information".

Referring to for example Egelhoff (1991) and Doz and Prahalad (1987) above it may be suggested that the logistic and cognitive information processing aspects are basically inseparable from each other. They cannot in fact be successfully dealt with separately. The

question of the reciprocity of these aspects is discussed further below. As it can also be understood from the concepts 'motives' and 'reasons' from the title of this research, these aspects make up an holistic informational dimension and space in the study. These concepts may be regarded as equally unseparable as these aspects are in the human cognition and perception, which is also dealt with below.

### **3.3 The cognitive information process**

#### **3.3.1 General aspects about the constructed paradigm of the cognitive process, and its conceptual components**

In Egelhoff's (1991) terms, "the focus of the cognitive view is primarily on how information processing is influenced by the psychological and social psychological characteristics of organizational members".

The psychological term 'cognition' used in this research "relates to the processes by which human beings obtain, store, use and operate upon information. It includes knowing, sensing, perceiving, remembering, imagining, reasoning, judging, deciding etc. A cognition process denotes the complex way in which perceptions and stimuli are translated by the human brain into some recognizable structure" (Goodall, 1987). In addition to this it may be noted that within the science of cognitive psychology research centers on man as a being dealing with knowledge and processing symbols. Likewise, the rather new field of 'cognitive science' combines various disciplines, besides cognitive psychology, for example linguistics, philosophy, neural sciences, and computer science in research on the general laws of processing symbols (Saariluoma, 1988a). As Weick (1990) puts it further in dealing with cognitive processes in organizations, and the psychological concept of schema, "the individual uses the past as a point of departure and then reassembles those prior experiences together with new inputs and develops all of this in an active ongoing fashion.....Thus a schema is an abridged, generalized, corrigible organization of experience that serves as an initial frame of reference for action and perception."

Weick illustrates this idea further by the perceptual cycle described by Neisser, 1976, and presented in Figure 13 below. In presenting the perceptual cycle, Weick (1990) quotes Neisser, who described "schemata as active, information-seeking structures that accept information and

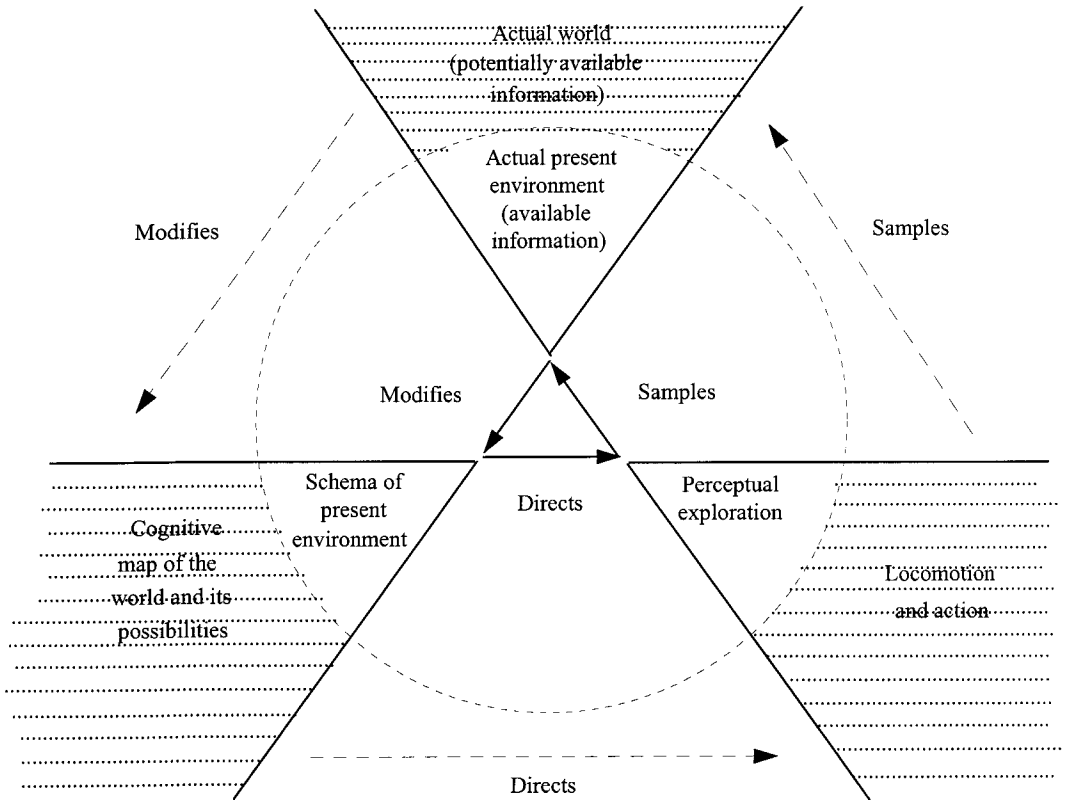


direct action", and cites Neisser's presentation: "The schema accepts information as it becomes available at sensory surfaces and is changed by that information; it directs movements and exploratory activities that make more information available, by which it is further modified."

As Weick continues, "the perceptual cycle is continuous. A schema directs the exploration of objects, this exploration samples portions of an object, and these samples may modify the schema, which then directs further exploration and sampling, which then further modifies the schema, and this goes on continuously." However, the perceptual cycle should not be considered too volatile a process, for as Weick says above, "a schema is an abridged, generalized, corrigible organization of experience that serves as an initial frame of reference for action and perception. A schema is the belief in the phrase, I'll see it when I believe it. Schemata constrain seeing and one way in which they may do this has been described by Neisser". Weick adds that "organization theory can be coupled to schema theory by simply asking the question, given an organization, where in the perceptual cycle does that organization have an effect and how does that effect occur."

It may be noted here that the perceptual cycle is basically similar in character to the perceptual learning and thinking model of Forgas and Melamed (1976) presented below in Figure 15 of the next chapter.

Figure 13. Neisser's perceptual cycle. Source: Weick, 1990



It is proposed here that the contents and question of the cognitive-logistic information process paradigm presented in Figure 8 in this research can also be applied to the 'perceptual cycle' presented above. It is suggested that within the schema of the 'perceptual cycle' there exists the implicit 'strategic intent' (Hamel and Prahalad, 1989) and 'forward momentum commitment' (Luostarinen and Welch, 1990) of the Finnish MNC, keeping the 'cycle' in 'locomotion and action'. In the cognitive paradigm of this research work, of management's subsequent image changes and as a function of the MNC's consequently strong international growth process, the psychological, social psychological and spatio-temporal characteristics are presented along the lines of the general ideas of for example Forgas and Melamed (1976), Shaffer (1977), Weick and Bougon (1986), Wood and Bandura (1989), Weick (1990) and Tversky (1992).

The cognitive-logistic information process paradigm proposed in Figure 8 above may also be related to the real world relocation explanations of managers and in relation to these explanations as they were problematized and dealt with in the Extended Problem Analysis in Chapter 2.2. above. Then, in terms of this problematizing a question of aspects akin to those of transaction cost economics concerning management's social cognition may also logically emerge. This would follow the argument presented by Dunning (1988), as he notes on the question of the locus of MNC decision making in respect to foreign subsidiaries that "decision-taking will be more centralized.....the greater the likelihood of a conflict of interest between the parent company and the subsidiary, with respect especially to (a) risk perception and (b) externalities.....". The potential aspects in this study for the application and justification of a transaction cost economics approach are presented below, but it is assumed here that this theoretical aspect can be connected to the above problematizing of managers' explanations.

With the assumption of an existing 'strategic intent' and 'forward momentum commitment' in the managements of the Finnish MNCs of this study, it would be logical and justified to include the opportunities and growth seeking aspects in managements' cognition, besides transaction cost economics, as brought forth by Johanson and Vahlne (1977) and Luostarinen and Welch (1990). These aspects are represented below by the strategic reference point theory in the company's social cognition.

This latter aspect is the first one dealt with when analyzing the social cognition part. This is justified by the above assumption that these companies have a basic growth-seeking identity. This opportunity and growth-seeking identity is assumed historically to precede any other elements and aspects dealt with in the proposed paradigm. The basic precedence is brought forth above in connection with both the Research Problems and the Extended Problem Analysis. This logical order, then, justifies the cognitive information process sequence and structure of the paradigm presented in this study. This idea of order is supported by the phenomenological notion of Alvesson (1990) that 'the self' is seen as prior to 'the other' in his study on the ideational dimensions of organizations and corporate image. Likewise, it is supported by the organizational knowledge creation system presented by Nonaka (1994) and Nonaka and Konno (1998). The fundamental condition for the evolutionary process lies within the individual and his or her commitment and action-oriented intentionality in the knowledge creating activities of

the organization. Their thinking is described in more detail in Figure 17 and the text thereby, and Appendix 3.4.

Hence, the main components of the cognitive information and change process consist of, firstly, the psychological characteristics of the company identity as a multinational organization, such as it has evolved in the course of the company's latest foreign growth process up to the current moment. This is the formal starting point of the paradigmatic process. Secondly, the logically consequent social psychological aspect is represented by the company's new social cognition on the basis of its newly changed identity. These are the main aspects which lend their interpretation and influence to cognitive information processing by organizational members, i.e. the top management and staff of the DHQ.

Thirdly, this cognitive information process transforms into the spatio-temporal cognition. This is assumed to come into being in two primary modes. One of them is the notion already presented that a social relationship, as seen by the individual actor-subject of the company management, is also a relationship with the outside of the physical subject and dealing conceptually with the environment, as it is conceived and explicated by March and Simon (1958). As an environment, or the "external conditions affecting.....human behavior" (Webster's Dictionary, 1956) it is also, by definition, a spatial relationship. That a social relationship in human perception is also implicitly a spatial relationship could be called a phenomenological interpretation in scientific terms. It may be placed in a relationship with the Husserlian interpretation of 'otherness', where the perception of 'the other' is characterized by corporeality, worldliness and human reciprocity (Heinämaa, 1996). Consequently, in connection with any social event in the environment, the time dimension is simultaneously included. In for example a Husserlian phenomenological interpretation, the time dimension can be seen, by way of the noematic retention and protention, in any event taking place (Routila, 1970).

The other assumed mode of spatio-temporal perception springs from information which is conceptually proposed to be an event of processual character. The information process is generated through management's perceived need for new knowledge of the social environment, the knowledge-need being created by a change in social cognition. This originates in growth-induced change in the company identity.

The cognitive information process with its three main cognitive components in the paradigm of Figure 8, in the lowest section of the figure, is also shown to be a reciprocal internal feed-back

system in itself. The mutual influences and relationships between the components are further dealt with below in the various pertinent chapters.

Altogether, the cognitive view implies the existence of information influencing the cognition: new data, information and in memory stored knowledge work as 'glue' in this cognitive process, as it was above presented by Weick (1990), and is elaborated below by Forgas and Melamed (1976). This 'glue' is here implied to be supplied by the company's logistic information process, while the cognitive information process is assumed to be in continuous reciprocal interaction with the logistic information process, as is also proposed by Egelhoff (1991).

Thus, the logistic information process has a double role in this research; on the one hand it supplies information to the cognitive information process, starting with the initial identity creation in an international context. On the other hand, as a concrete process it is a strategy and operations serving, and in itself an explicitly strategic object in management's perception, being in a complex reciprocal relationship with the spatio-temporal cognition.

The focus of this research is on the described cognitive process, immediately preceding the management's spatio-temporal perception leading to the DHQ relocation decision. It is assumed that the total logistic-cognitive process of the research paradigm is a dynamic one, with its cognitive roots in the first phases of the internationalization of the company.

The proposed paradigmatic concepts company identity, and social cognition, or the company's image of the self-environment relationship, are defined in their respective chapters. Their consequential relationship, from identity to social cognition, can be based on intuitive psychological logic, but could also be found in the ideas of Weick and Bougon (1986) concerning the 'epistemological primitives' in Figure 18 or Piagetian ideas of Shaffer (1977) on the human 'intellectual functions' of 'organization' and 'adaptation'. This process is described in more detail in the chapter on the social cognition. The further transition from social cognition to spatio-temporal cognition is presented in the respective chapters.

Cognitive approaches have been applied within management research on different questions. According to Ginsberg (1990), "cognitive approaches to the study of strategic decision making have focused on two types of cognitive phenomena: cognitive **processes** and cognitive **structures**. Studies investigating cognitive processes have focused on the ways in which strategic decisions are influenced by judgmental heuristics, inference making and sense

making; studies examining cognitive structures have focused on beliefs, schemas and cognitive maps". Both aim at clarifying ways in which cognitive phenomena condition decision-making behavior. Thus there have been studies on for example how cognitive heuristics or frames of reference shape specific decisions, as on risk-taking or entering a new business, according to Ginsberg (1990).

For their part Weick and Bougon (1986), in dealing with epistemological structures in organizations, note that "a cognitive map approach to organizations begins with the recognition that participants edit their own organizational experience into patterns of personal knowledge. A representation of that knowledge is called a **cognitive map**. A cognitive map consists of the concepts and relations a participant uses to understand organizational situations. When we consider all possible types of relations among concepts, such as contiguity, proximity, continuity, resemblance and implication, then an exhaustive mapping of these relations can be called a cognitive map."

When putting the paradigmatic cognitive information process of this research in relation to the above notions it can be seen that, due to the assumed international growth and change processes of the Finnish MNCs, the information process contains both the **process** aspect and the **structure** aspect, as noted comparably by Ginsberg when presenting a cognitive model concerning strategic diversification, the 'repertory grid'. This can be considered a practical research aspect despite the fact that cognition as a concept may be seen in general as a processual one, according to the definition by Goodall (1987) above. However, this conceptual theme is further dealt with below by Forgas and Melamed (1976).

From the point of view of this study, the comment by Ginsberg (1990), adding to the presentation above by Weick and Bougon of the cognitive map, may be fittingly referred to as he says that "cognitive-based studies of strategy making have tended to ignore the link between top managers' belief system and the specific business environments in which firms are situated".

Based on the above notion it also could be added that besides the cognitive information process itself, as presented within this research paradigm, the entire paradigm in Figure 8 in this research could also be called a cognition pertaining information process. This would then also include the logistic information process, based on the point of view of the above notion by Ginsberg on "strategic decision making". The strategic decision, i.e. the relocation decision in

this work, concerns the explicit strategic question of information processing in the company capable of securing company survival. This capability exists then, as seen from the point of view of the DHQ, when it performs its information processing tasks and role effectively.

This aspect of company strategy in relation to the research paradigm is advanced further below, concerning the reciprocity between the logistic and cognitive information processes.

### **3.3.2 Introduction to the general psychological background of the cognitive information process: a cognitive-stage approach to environmental perception**

In constructing the cognitive information process model used in this research work, the basic background of the work's reasoning about human cognitive processes can be found in the application of some general results of experimental psychology concerning information processing.

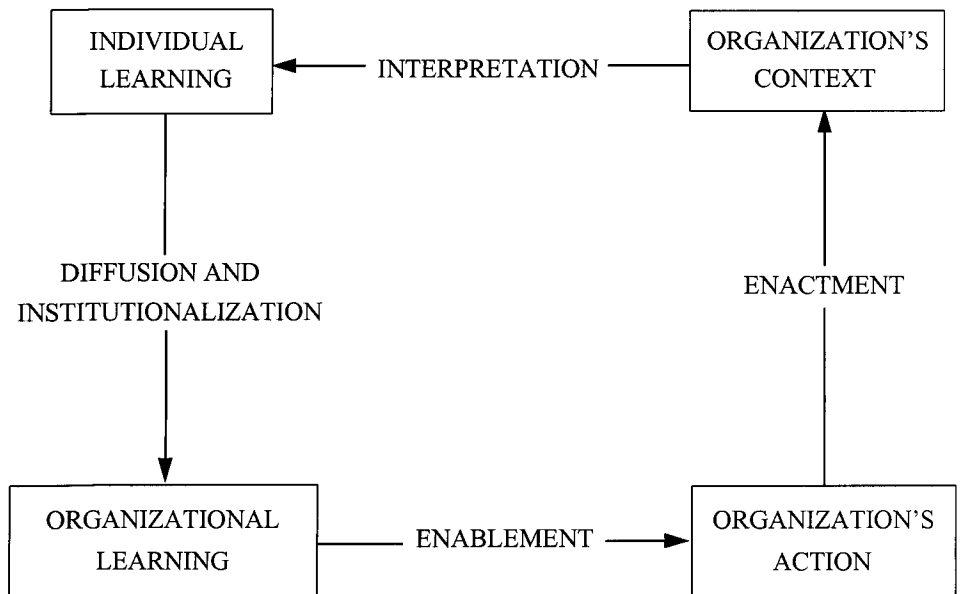
This psychological application concerns all four presented elements of the cognitive-logistical information process in the proposed paradigm, namely: **1.** the company's self-image or identity formation; **2.** the social relationship-image or social cognition logically inferrable from the self-image; **3.** the transformation process from social cognition to spatio-temporal cognition, and; **4.** the role of the empirical experiential logistic information process during the course of the previous three phases.

Particularly useful are the presented psychological information processing models on the individual level by Neisser (1976, in Weick, 1990) and Forgus and Melamed (1976) for understanding the paradigmatic phases of transition from one to another of the three elements of the cognitive process, and the entire cognitive-logistic paradigm, in Figure 8.

Referring to the above psychological individual level information processing models in understanding the transition aspect, presentation of the research paradigm of this work also resembles the presentation of the linkages of a process model of organizational learning, put forward by Glynn, Lant and Milliken (1994). This process model is depicted in Figure 14. The authors focus on, and discuss in detail, different factors that affect each of the linking mechanisms of the process model. The background of their model is the 'learning cycle' model of March and Olsen (1976). In this focusing, the approach of the authors is somewhat comparable to the approach and interests in this research, where the crucial questions and the

tentative contributions besides the holistic paradigm itself, are seen to be attached to the transition phases, or linkages, of the four model elements presented below in Figure 14.

Figure 14. A process model of organizational learning: cross-level effects  
Source: Glynn, Lant and Milliken, 1994



The comparable linking of 'individual learning' and 'organizational learning', as seen in Figures 16 and 17, is presented in the next chapter on company identity, concerning the paradigm of this work.

The following short presentation of some of the basic elements and principles of the cognitive information process is based essentially on the work on cognitive psychology by Forgas and Melamed (1976). The presentation concerns the cognitive process as an individual-level event.



As a basic psychological phenomenon and starting point for their work, Forgus and Melamed present the concept of perception. As a background to it, they maintain that "only those stimuli which have cue value, i.e., which trigger some kind of reactive or adaptive action from the individual, should logically be called information. For our purposes perception will be defined as the process of information extraction." They also point out that perception is not restricted to visual perception but that it can be understood conceptually as constructed images based on stimulus of any of the human senses.

As a primary focus in information extraction, they have a description of the cognitive structures involved when people accomplish perceptual tasks. As cognitive structures, they signify mechanisms that direct the way cues are processed. In man's adaptive behavior, the process of information extraction, i.e. perception, is universally involved. In order to understand the nature of reception, acquisition, assimilation, and utilization of knowledge, perception must be related to the general problem of cognitive or knowledge development.

Hence, Forgus and Melamed (1976) indicate that "perception becomes the core process in the acquisition of cognition or knowledge. We thus conceive of perception as the superset, with learning, memory, and thinking as subsets subsumed under the perceptual process." The process of perception thus described is illustrated in Figure 15.

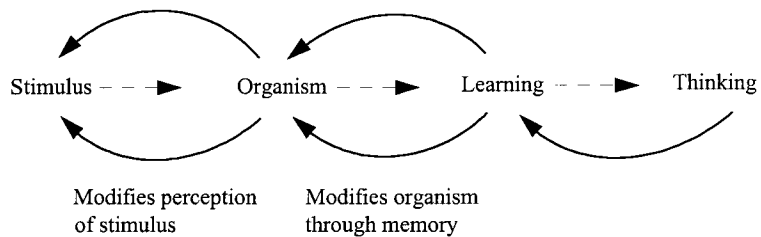
Whereas perception is defined as the process of receiving or extracting certain information about the environment, "learning is defined as the process by which this information is acquired through experience and becomes part of the organism's storage of facts in memory. Thus, the results of learning facilitate the further extraction of information since the stored facts become models against which cues are judged."

According to Forgus and Melamed, the most complex of cognitive processes is thinking, an activity going on when an organism is engaged in solving problems; also, thinking involves the use of models, and thus the above definition of perception links all three processes.

A central problem in the extraction of information, when it becomes more abstract, 'hidden', and less available, is to learn to use concepts: the greater the conceptual abilities, the better the general problem-solving abilities. Thus, "as the perceptual set is broadened and becomes more complex and richly patterned with experience, the individual becomes capable of extracting more information from the environment", as Forgus and Melamed note.

In practice, perception, learning, memory, and thinking, as elements in the perceptual process in Figure 15, are closely interrelated and difficult to separate.

Figure 15. The relationship of learning and thinking in the complex process of perception. Source: Forgas and Melamed, 1976.



Stimuli possess potential which is extracted by the organism as learning. This learning is stored as memory and modifies the organism so that later perception of the same stimuli will be different. The process of thinking (resulting from previous learning) also modifies the organism because new learning occurs; thus the perception of stimuli is modified.

Forgas' and Melamed's "aim is specifically to emphasize the continuity of the cognitive process." Thus, learning and thinking as events or processes aid in the extraction of information. Perception, or information extraction, is then the parent construct, for "adaptive behaviour originates in perception."

It also is put forward that these cognitive processes do not work only in one direction, as it is likewise shown in Figure 15. Thus, some perception must precede learning and previous percepts and learning affect thinking, but further on the result of thinking modifies future learning and learning in turn can influence the way the world is perceived.

This above presentation is comparable to that referred to above by Ginsberg (1990) concerning the topic of strategic decision making in management research. He presents a theoretical approach, the 'personal construct theory', which combines the two main approaches noted above in literature concerning strategic decision making and cognitive phenomena, namely that of cognitive processes and that of cognitive structures. In his presentation 'personal construct theory' is used to understand how individuals, i.e. decision making managers, use belief systems to interpret their environments, understanding in the said theory "experience as the **cycle** of framing personal interpretations of the world and reassessing them in light of ensuing events [Neimeyer & Neimeyer, 1982]" (Ginsberg, 1990). This interrelationship is very evident when dealing with the different elements of the cognitive-logistic information process of the research paradigm in this work. These cognitive aspects and interrelationships are set forth in the more detailed presentation below. The presentation above of the different processes implies, then, that perception can be "broken down into an ordered set of stages, from simple to complex", according to Forgas and Melamed.

They also point out that there exist emotional components in the cognitive set, "that cognition is important not only in the direction of motivation, but also in providing a frame of reference for interpreting emotional behavior."

The role of emotions is also put forward by Ginsberg (1990) in his socio-cognitive study of diversification and performance; the study is carried out within the realm of the personal construct theory. As Ginsberg notes, "construing a business as a strategic growth area may represent more than the cognitive recognition of a top manager; it may reflect an impassioned vision that has profound implications for the emotional and behavioral aspects of strategy."

Also, within organization research on the workplace, the affective component or the emotions, feelings, or sentiments a person has toward something have been studied in connection with attitude theory and structures of attitudes (Griffin, 1995). Likewise, in studies on attitudinal or organizational commitment, which is considered to influence job performance, the concept of affective commitment has been proposed (Guest, 1995). Also, the social cognitive theory model presented by Wood and Bandura (1989) in Figure 16 includes components referring to personal emotions within its causal elements.

These notions could be considered relevant in respect to the development of the Finnish MNC identity presented below, its assumed historical formation of 'strategic intent' and 'forward momentum commitment' as a result of, for example, repeated successful strategic foreign acquisitions or any instance of successful international company performance, applying the thinking of Hamel and Prahalad (1989) and Luostarinen and Welch (1990).

Hence, according to Forgas and Melamed, "cognitive intervention can be used to direct or alter an emotional or feeling state.....fear or anxiety reaction to stress can be reduced by the introduction of effective cognitive controls or interventions. It is as if the subject were talking to himself." However, it is noted by Goleman (1996) and Damasio (1996, 2000) that emotional stimuli also provide cognitive information; thus cognition provides a frame of reference for the interpretation of these stimuli.

In dealing with this mutual relationship between cognition and emotions, it is further noted by Forgas and Melamed that the search for meaning is a central problem to human motivation. "Certain cognitive functions - such as perception, judgement, imagination - are as much a part of being human as the need for contact and physiological nourishment.....the core personality is much the same for all human beings since it is based on these psychophysiological needs and cognitive foundations."

Forgas and Melamed (1976) continue by noting that an implication of this "approach is that experience should produce the kind of cognitive skill which permits the individual to satisfy the basic demands of being human without undue concerns with security and anxiety (we may also add conflict)."

Concerning, for instance, experience the long-term memory contains not only stored facts but meaningful schemata which have emotional components. An individual attempts "to integrate current conflicts, anxieties, threats, and other problems into the existing schemata about the world and his relation to it.....any slight changes in the structure must be incorporated within the dominant themes and salient beliefs of the existing cognitive structure. In this way the individual continues to get meaning out of his experiences, attempts to cope with new uncertainties or threats, and grows and expands his consciousness."

Just as perception is defined as a superset, with learning and thinking as subsets, "cognition as a superset also interacts within (sub?)sets of motivation and emotion", according to Forgas and Melamed (1976).

In this connection it is important to note, with respect to the entire cognitive-logistic information process paradigm and its various components in this work, that the process of perception and cognition can be also originated in imagination besides a physical senses based stimulus. This takes place in the form of representations in the form of images as presented by Damasio (1996) in his presentation of the role of emotions in the process of thinking and reasoning. He notes that thought consists of images but that "both words and arbitrary symbols are based on topographically organized representations and can become images. Most of the words we use in our inner speech, before speaking or writing a sentence, exist as auditory or visual images in our consciousness. If they did not become images, however fleetingly, they would not be anything we could know".

The notion of emotional components can be regarded as essential, even crucial, from the point of view of the paradigm presented here. In particular, it is proposed to concern the transformation or linkage between its elements of social cognition and spatio-temporal cognition, more elaborated in the respective chapters below. In that particular event of transformation, both an emotionally and a rationally perceived **need for new knowledge** about the DHQ management's environment, both the company internal and the company external environment, is proposed. The new knowledge need is a result of a company's growth, of a gradual process or a discrete event, induced change in company identity or self-image. This perceived need for new knowledge, "these psychophysiological needs and cognitive foundations", attached to the subsequent change of social cognition, is the essential basis for the subsequent and experiential perception of a cumulative and intentionally more efficient logistic information process. These knowledge-need aspects with reference to i.a. Shaffer (1977) are presented further in Chapter 3.3.5.2 below.

This conception, then, is assumed to be comparable to the emotional components in the above, to the cognitive set depicted in Figure 15 pertaining to the phenomenological and existential notion of "what we may consider to be the inherent nature of the human being", as expressed by Forgas and Melamed. In other words, the emotional component in this study is also assumed to apply to the human compulsion for survival-securing knowledge, the above "perception, judgement, imagination", about one's social environment, and one's relationship to that

environment, equally concerning the organizational survival of a business company. This notion is in line with that set forth above by Ginsberg (1990), as he connects "emotional and behavioral aspects of strategy" with business growth in his study on the diversification of a business. The role of emotions in organizational behavior is also put forward by March and Simon (1958) as they note that "humans, whether inside or outside administrative organizations, behave rationally, if at all, only relative to some set of "given" characteristics of the situation.....The steps that lead, for an actor, to his defining the situation in a particular way involve a complex interweaving of affective and cognitive processes. What a person wants and likes influences what he sees; what he sees influences what he wants and likes."

Further light on the basis of emotions, conscious and subconscious, in decision making is given by the following passage by Damasio (1996) in his work on the neuropsychological and primordial body states-based and survival-oriented regulation of human consciousness: "Perceiving the environment, then, is not just a matter of having the brain receive direct signals from a given stimulus, let alone receiving direct pictures. The organism actively modifies itself so that the interfacing can take place as well as possible. The body proper is not passive. Perhaps no less important, the reason why most interactions with the environment ever take place is that the organism requires their occurrence in order to maintain homeostasis, the state of functional balance. The organism continuously **acts** on the environment (actions and exploration did come first), so that it can propitiate the interactions necessary for survival. But if it is to succeed in avoiding danger and be efficient in finding food, sex, and shelter, it must **sense** the environment (smell, taste, touch, hear, see), so that appropriate actions can be taken in response to what is sensed. Perceiving is as much about acting on the environment as it is about signals from it.

The idea that mind derives from the entire organism as an ensemble may sound counterintuitive at first. Of late, the concept of mind has moved from the ethereal nowhere place it occupied in the seventeenth century to its current residence in or around the brain - a bit of a demotion, but still a dignified station. To suggest that the mind itself depends on brain-body interactions, in terms of evolutionary biology, ontogeny (individual development), and current operation may seem too much. But stay with me. What I am suggesting is that the mind arises from activity in neural circuits, to be sure, but many of those circuits were shaped in evolution by functional requisites of the organism, and that a normal mind will happen only if those circuits contain

basic representations of the organism, and if they continue monitoring the states of the organism in action. In brief, neural circuits represent the organism continuously, as it is perturbed by stimuli from the physical and sociocultural environments, and as it acts on those environments. If the basic topic of those representations were not an organism anchored in the body, we might have some form of mind, but I doubt that it would be the mind we do have.

I am not saying that the mind is in the body. I am saying that the body contributes more than life support and modulatory effects to the brain. It contributes a **content** that is part and parcel of the working of the normal mind".

Hence, the question of emotions in the form of the idea "what he (a person) sees influences what he wants and likes", as March and Simon (1958) above note, is also clearly discernible in management's explanation concerning a perceived culture-gap induced reluctance to impatriation, given in connection with a particular DHQ relocation event (Stoor, 1993).

Referring to the above presentation, the felt and perceived new knowledge need and the subsequent experiential perception of new information are a matter assumed in cognition to serve rationally and emotionally both "good organizational performance" and "survival", as expressed by Egelhoff (1991).

The above notions and ideas give an understanding of the ever-present role of the rational and emotional need of knowledge and information in the assumed perception of the DHQ management and staff. Consequently, this is also equal to the question of information processing as an explicit strategic question in the context of the various growth and survival strategies of the internationalizing Finnish MNCs. In this study, the need for knowledge of the DHQ environment and matters concerning both logistic information processing and cognitive information processing are assumed by the managements to be an explicitly cognisized strategic question in the Finnish MNCs studied.

This psychology-based notion of the central assumption in this study can be considered comparable to the assumptions pertaining essentially to the knowledge level in the dynamic stages models of internationalization of firms, as they are presented by Luostarinen (1970, 1979) and Johanson and Vahlne (1977).

### **3.3.3 The paradigm component of company identity and its change process**

#### **3.3.3.1 A general description of company identity formation**

As was above put forth, the starting point of the study of the cognitive-logistic paradigm is set in the element of identity of the DHQ managements which have been relocated. As a general concept, 'identity' is defined, i.e., as "sameness of essential character; selfsameness; oneness; unity and persistence of personality; individuality." (Webster's Dictionary, 1956).

In this study, the concept 'company identity' is, applying some of the core ideas of Kaplan (1992), defined as 'those by the DHQ management's individual members as an interacting group shared and held common values, goals, activities, and normative expectations which aim at favorable results of their Finnish MNC division in respect to extragroup systems'. More exactly, it is assumed that individuals of the management show strong attitudinal commitment, i.e. belief in the shared values and goals, willingness to exert effort on behalf and desire to be a member of the company. It is further assumed that they incorporate these dominant attitudes as their own, identifying and involving themselves with the management group and the company (Guest, 1995, Feldman, 1995). In other words, the structure of their attitudes is assumed to contain an affective component, a cognitive component, and a behavioral intention component (Griffin, 1995).

In management research literature there also are other concepts used synonymously with the concept identity, as for instance that of self-image, or image of oneself and one's company, as it is used by Alvesson (1990). As Alvesson sets forward, "a corporate image thus refers to a holistic and vivid impression held by a particular group towards a corporation, partly as a result of information processing (sense making) carried out by the group's members (.....) and partly by the aggregated communication of the corporation in question concerning its nature, i.e. the fabricated and projected picture of itself. Image as a phenomenological fact, in the sense that the image as a specific idea, instrumentally exploited, becomes salient in a particular social context as a non-trivial part of management and organizational functioning is experienced by local actors to capture something meaningful, and thus is not a historical constant, but rather is contingent upon social, cultural and material factors." In his study Alvesson further presents the concept image to refer "to something affected by the intentions of particular actors (a company), for whom the image is singled out as a particular concept and target for instrumental action." In



other words, he potentially also includes emotions in the role of the company image or its identity. The idea of a cognitive information process based on company identity in this study is very much in concord with the above presentation by Alvesson.

In order to further pinpoint the location of the concept company identity in Figure 8 it can be noted following Alvesson above in his referring to phenomenology, that within phenomenology the 'self' is seen as prior to the 'other'. In the fundamental ontology of Heidegger (1927/1993), the human being, within his very being (Dasein) in this world, and in relation to himself in this his being, he has his basic intentionality in the capacity of an act directed to his very existence (Existenz). In the words of Routila (1970), "existing, in respect to which being (a human) always already has related itself (himself) and which it (he) accomplishes in its (his) being, Heidegger calls with the word existence" (translation K.E.). The question of 'otherness', logically and literally comes only after the 'self'. According to the idea of phenomenology, as presented by Husserl, however, the meaning of the 'other' is formed in the non-empirical transcendental 'self'. As Heinämaa (1996) notes, concerning the preliminary description of experiencing the 'other', the idea of Husserl is in two ways me-centered: "firstly, the meaning of the other is formed in 'me', and secondly, it is construed upon the meaning of 'oneself'" (translation K.E.).

Within the cognitive information process in the paradigm of this study it is assumed and consequently justified, to regard the question of company identity as a well-grounded point of departure in respect to the whole proposed cognitive information process. But basically and historically, this also applies to the entire cognitive-logistic information process. In other words, the company's identity is seen in principle to have temporal priority in respect to social cognition and the subsequent spatial cognition when thinking of an assumed change to have taken place in the growth process abroad.

However, as it is presented by Balmer and Wilson (1998) in their study, "corporate identity is multifaceted and complex; the mix of identities with which staff identify forms the corporate personality, and it is this that provides the cornerstone of every organizations's identity. Therefore, management's goal to have an organization's corporate values and attitudes shared by all personnel may be unattainable. From this, we conclude that it may be more appropriate to speak of an organization's corporate **identities**, rather than of a single identity". This differentiation of identities, i.e. differentiation of corporate culture in large organizations as a

whole is also set forth by many other authors as Balmer and Wilson note. Here it is useful to present the definition of organizational culture of Schein (1991) which in contents comes very close to the definition of identity above. According to Schein "culture is: 1. A pattern of shared basic assumptions, 2. Invented, discovered, or developed by a given group, 3. As it learns to cope with its problems of external adaptation and internal integration, 4. That has worked well enough to be considered valid, and, therefore, 5. Is to be taught to new members of the group as the 6. Correct way to perceive, think, and feel in relation to those problems". Hence, identity can be seen as identification with these aspects in an organization by an individual and individuals collectively, in a shared way.

Still, concerning the contents of the company identities of DHQ managements, referring to Alvesson (1990) above, and further elaborated below, it is assumed in this research that the company identities of the Finnish MNCs contain explicitly an historically developed element of the company as an internationally and geographically strongly and successfully growing organization, including for example successful acquisition of subsidiaries in foreign countries. Seeking of strong international growth with 'strategic intent', including acquisitions, greenfield investments and other indicative operations abroad, is assumed to characterize the MNCs, depicting them as organizations explicitly securing their survival in this strategic way of forced growth with the small domestic market as the background. These aspects of identity, which could be termed its operational identity and attitudinal identity, are assumed to prevail already before the beginning of the mounting cognitive-logistic problems of the DHQ, described above in the Reserch Problems and Extended Problem Analysis.

As it was likewise noted above with reference to Reich (1991), it is also assumed that the DHQ management explicitly in the planning process of the relocation event cognized the question of the DHQ historical locational identity. It is consequently to be assumed that this was perceived as part of the company's geographical identity in its entirety. On this ground it is also logical to ground the identity of the company as an historically spatial actor, an actor with a localized identity, in the course of its growth to the status of a multinational corporation.

However, the DHQ relocation furthering elements within an identity also derive from the historical process of the international and foreign growth of an MNC. They are those in the

cognition experiential identity elements which lead, or are implemental, in the course of a spatio-temporal process, ending in the decision and realization of a DHQ relocation.

This identity with the various new geographical elements and elements of operational growth and success, may be seen as part of the new cognitive structure of the management, in the sense set forth above by Alvesson (1990), Hamel and Prahalad (1989), Luostarinen and Welch (1990), as well as that of a cognitive process by Ginsberg (1990). It is the experience in the firms that changes its aspirations or expectations, and the adaptation of the aspiration level is, in the long run, based on the hitherto positive performance and growth experience of the company, as noted by March (1988), and March and Sevón (1988). Hence, as an inference from the present-state status of most of the Finnish MNCs, this can be said more concretely; the experience of the successful international growth of the company and the new material, knowledge and mental resources and creative roles in this growth brought along with the new foreign subsidiaries leads to the adaptation of a new self-perception. This new company-growth induced self-perception is equal to a new company identity, a new image of the company's international position, and an adaptation of changed perspectives, which create the mental foundations of the dynamics of further international growth (Luostarinen and Welch, 1990). But this new identity also creates the basis for a new geographical identity, identity in space, that contributes to the potential for DHQ relocation.

However, the cognitive process of the development of a new multinational, geographically widened spatial identity as a separate cognitive factor enhancing DHQ relocation is not further elaborated on in this research which focuses on problems pertaining to the logistic information process. Attached to this spatiality it is neither attempted at to further study efforts of Finnish MNCs to develop their organizational cultures in multinational contexts along the lines analyzed for example by Schneider (1988, 1989), Alvesson (1990), Meyerson (1991), Kilduff (1993), Kogut (1993), Kunda (1993), Van Maanen and Laurent (1993) and Hofstede (1995).

Judged by the successful results of the company growth and internationalization to this day, and having thus been the experiential identity of one or more of the members of management, even manager generations, within the continuation of the organization, the identity as a belief system, or in the form of cognitive maps as presented by Weick and Bougon (1986), is assumed to have

been transmitted through psychological mechanisms to all the DHQ management as a group, and assumedly the staff and wider surrounding organization.

This mechanism of transferring the components of identity from an individual to the group could be illustrated by means of the social cognitive theory of organizational management, as presented by Wood and Bandura (1989). Their ideas are depicted in the following Figure 16, where the reciprocal structure of relations between cognitive and other personal factors, behavior, and the external environment are shown. Wood and Bandura point out how personal factors can be effective in an interactional causal structure and dynamic transaction in the management of organizations. In particular, they underline that "three aspects of social cognitive theory are especially relevant to the organizational field; the development of people's cognitive, social, and behavioral competencies through mastery modeling, the cultivation of people's beliefs in their capabilities so that they will use their talents effectively, and the enhancement of people's motivation through goal systems". Concerning the role of modeling they comment that "psychological theories traditionally have emphasized learning through the effects of one's actions". They continue by noting that if knowledge and skills would be based only thus, the rate of human development would be very tedious and even hazardous. "Fortunately, people can expand their knowledge and skills on the basis of information conveyed by modeling influences. Indeed, virtually all learning phenomena resulting from direct experience can occur vicariously by observing people's behavior and the consequences of it" (Wood and Bandura, 1989). The model of Wood and Bandura is also holistic in the psychological sense that, with reference to the element (P) in Figure 16, it includes both components of logic analytic thinking and affective components referring to personal emotions and motivation. Concerning the nature of reciprocity in Figure 16, the authors remark that the different sources of influences need not be of equal strength, nor do the influences occur simultaneously. They point out that "because of the bidirectionality of influence, people are both products and producers of their environment".

A somewhat different aspect and processual approach to social, organizational cognition is presented by Nonaka (1994), and Nonaka and Konno (1998) in their studies on organizational knowledge creation involving the Japanese socio-spatial concept of 'ba'. The starting point here is likewise the individual as in the above study. As Nonaka remarks about the ontological level,

“knowledge is created by individuals. An organization cannot create knowledge without individuals”. Thus organizational knowledge creation is considered a process of “amplifying” the knowledge created by individuals and “crystallizing” it as a “part of the knowledge network of organization”. A basic feature in Nonaka’s presentation is the notion that knowledge exists both as tacit knowledge and explicit knowledge. He sees the former as essential to knowledge creation serving an organization’s success. The problem in organizations lies in the conversion of tacit knowledge into explicit knowledge - if possible. But Nonaka remarks that in order for tacit knowledge to exist within an individual, the knowledge subject, he or she must first have a clear commitment as a member of his or her own organization. He suggests the basic components of commitment to be ‘intentionality’ in a phenomenological, action-oriented sense of “consciousness of something”, and ‘autonomy’ as the freedom to absorb knowledge and to act on unexpected opportunities.

The process of organizational knowledge creation presented by Nonaka and Konno (1998), through four modes of knowledge conversion is presented in Figure 17. These four modes deal with the conversion and creation of knowledge: 1. from tacit into tacit between individuals through socialization, for example shared experience, 2. from explicit to explicit by combination of knowledge held by individuals, for example through logistic information processing mechanisms, 3. from explicit into tacit by internalization through for example various means of learning. Nonaka considers these three modes to have analogs in various ways with aspects of organizational theory. However, concerning the 4. mode of knowledge conversion from tacit to explicit through externalization, Nonaka regards this aspect in organizational theory as “not well developed”.

In defining tacit knowledge, he firstly cites Polanyi (1958, 1966), who states “we can know more than we can tell”, and Polanyi’s idea that tacit knowledge is personal, hard to formalize and communicate, “deeply rooted in action, commitment, and involvement in a specific context; it “indwells” in a comprehensive cognizance of the human mind and body”, as Nonaka says. He continues by suggesting that tacit knowledge comprises two elements, a cognitive element and a technical element. The latter includes concrete know-how, crafts, and skills that apply to specific contexts. The cognitive element primarily represents “mental models in which human beings form working models of the world by creating and manipulating analogies in their minds. These working models include schemata, paradigms, beliefs, and viewpoints that

provide “perspectives” that help individuals to perceive and define their world.....It is important to note here that the cognitive element of tacit knowledge refers to individual’s images of reality and visions for the future, that is to say, what is and what ought to be.....Tacit knowledge is a continuous activity of knowing and embodies.....an “analogue” quality.” Nonaka points out that much of what is called tacit knowledge is expressible in the form of a metaphor - if expressible at all.

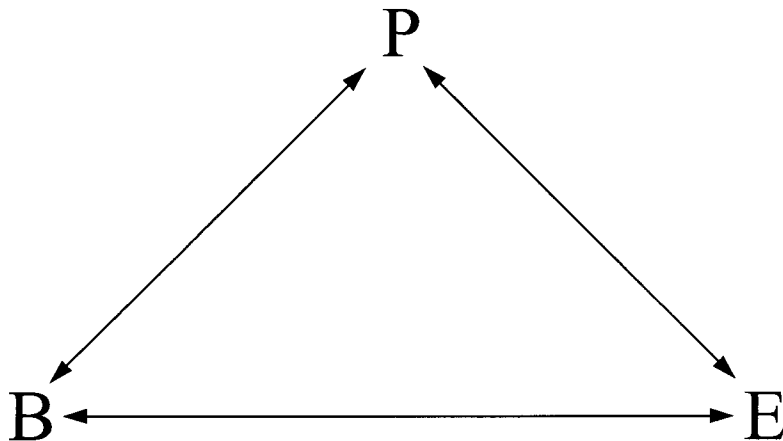
Thus, concerning the 4. knowledge conversion mode, that of externalization above, Nonaka points out that “in this context, communication between individuals may be seen as an analogue process that aims to share tacit knowledge to build mutual understanding. This understanding involves a kind of “parallel processing” of the complexities of current issues, as the different dimensions of a problem are processed simultaneously.....the externalization mode is triggered by successive rounds of meaningful “dialogue”. In this dialogue, the sophisticated use of “metaphors” can be used to enable team members to articulate their own perspectives, and thereby reveal hidden tacit knowledge that is otherwise hard to communicate”.

Altogether, the four modes of knowledge conversion in Figure 17 create a clockwise spiralling process of dynamic interaction, centering “on the building of both tacit and explicit knowledge and, more importantly, on the interchange between these two aspects of knowledge through internalization and externalization”. Moreover, the model of Nonaka can well be considered to apply to the various cognitive elements 1-3 in the part A of Figure 8, the cognitive-logistic information process paradigm, that is the elements of company identity, social cognition and socio-spatial cognition.

On the other hand, the organizational knowledge creation model of Figure 17 has considerable resemblance to the entire cognitive-logistic information processing paradigm of this research work, particularly to its fundamental socio-spatial information processual characteristics. This resemblance is not further elaborated upon in this work. However, due to this many-sided resemblance and because of the thereto attached theoretical information-process interest, notably concerning tacit knowledge, it is referred to briefly in the following chapters about the social cognitive process and the spatio-temporal cognitive process. The knowledge-creation model of Nonaka and Konno (1998) is also presented and discussed in more detail from the point of view of the cognitive-logistic information process paradigm of this research, in Appendix 3.4.

The identity of the company management may also include concrete and explicit factors in appropriating itself particular reference points or benchmarks which serve its 'strategic intent' and company growth. These factors may be the internal capability to use the company's outstanding resources and to reach strategic performance targets in the service of the company's visions and mission. These resources included in the identity comprise the 1. particular proprietary ownership of specific assets, and 2. the relative ability of the MNC, per se, in its spatio-temporal capacity to use these ownership assets transactionally, through the effective governance of its geographical network of assets. This aspect of identity, attached to these concrete resources and presented according to the idea of Dunning (1988), could be called management's concrete competitive advantage identity.

Figure 16. The Triadic Causal Structure. Schematization of the relations among behavior (B), cognitive and other personal factors (P), and the external environment (E). Source: Wood and Bandura, 1989



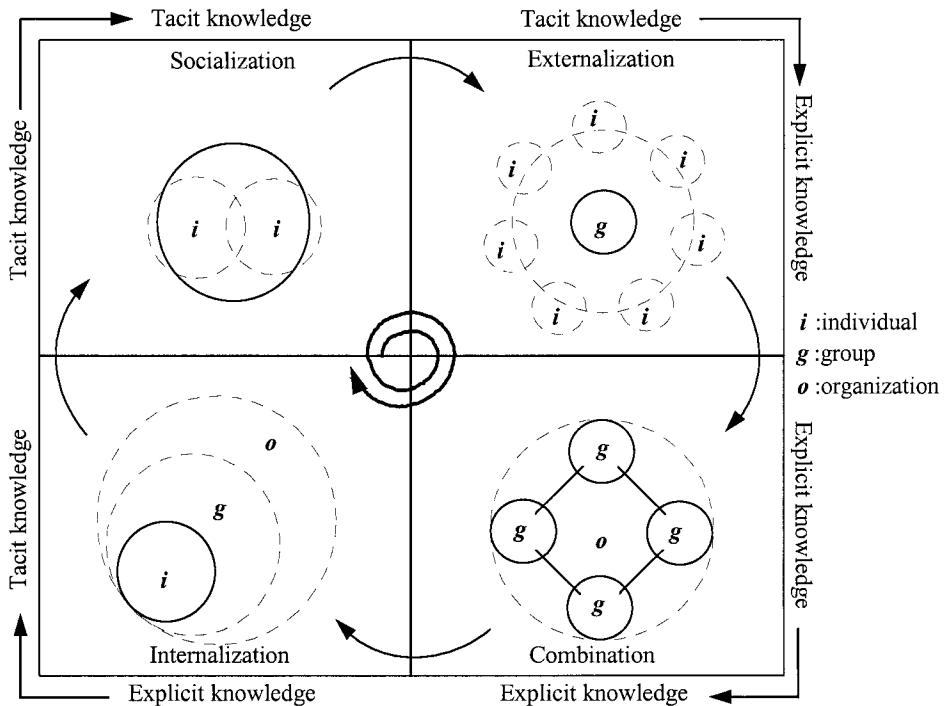
P = self-beliefs of managerial efficacy, personal goal setting, quality of analytic thinking

B = executed managerial choices

E = organizational environment, the level of challenge it prescribes, its responsiveness to managerial interventions

The various aspects of identity suggested above are comparable to the internal reference surface dimension of strategic inputs and outputs and to the time reference surface dimension in the strategic reference point matrix presented by Fiegenbaum, Hart and Schendel (1996); this matrix is depicted in more detail in the following chapter. Having briefly referred to the themes of 'corporate identity' and 'strategic intent' in the literature, the authors state the following about time as a reference dimension: "As the corporate identity and strategic intent perspectives suggest, time is a critical source of reference points for the firm.....either the past (where the firm has been), or the future (where the firm would like to be). Building upon past excellence provides a reference point to spur continued achievement."

Figure 17. Spiral evolution of knowledge conversion  
Source: Nonaka and Konno, 1998





In the context of this research, this could be applied notably well to the Finnish MNCs, where the past excellence has been in the ability to set ambitious and demanding future goals for growth abroad, to achieve those goals, and thus to reach the company's present status. The present excellence lies, in principle, in the ability to more or less in relative terms repeat the past excellence. The above 'company story', a mental map, referring to Luostarinen (1979), Luostarinen and Welch (1990) and Alvesson (1990), has become management's implicit guideline in strategic and operative thinking and behavior.

A very fitting approach for studying commitment in more detail in connection with 'the company story' is that offered by semiotic theory. Within that theory, under the semiotic concept of a narrative, communication in work organizations, for instance features of autocommunication concerning management's strategy building has been studied. Within the narrative, a theoretical model of its universal structure, the so called 'canonic story', and a rather structured illustration of it in the form of, for example, the Greimasian actant model, as presented by Broms and Gahmberg (1987), Gahmberg (1991, 1992), and Åberg (1992), has been created. On that basis there also exists the possibility to apply the actant model concerning the DHQ management of Finnish MNCs (Euro, 1992), but this is not dealt with further here.

The identity of an internationally successful MNC may also be seen as a product of organizational learning from the point of view of the feasibility of the mission, goal, and strategy of the company. The positive, self-assertive identity is thus a logical consequence of the present objective MNC status of the company, a success per se. This characterization is comparable to that presented by Fiol and Lyles (1985) and Luostarinen and Welch (1990) and the aspect of organizational learning is consequently presented in the propositions below. Organizational learning with respect to the entire cognitive-logistic paradigm is further dealt with below in Chapter 3.4.2.

The above characterization of the formation process and essential elements of the company identity are in some respects comparable to the above concept of 'strategic intent' presented by Hamel and Prahalad (1989) and stressed by Chakravarthy and Lorange (1991). According to their ideas, the historically construed cognitive map and guideline of the company, followed in the tough competitive international context, has in this case been a guideline, a 'strategic intent',

used by Finnish challengers, the initial potential underdogs in international competition. The background of the 'strategic intent' of these challengers, as has been pointed out by Luostarinen (1979), has been the Finnish context of open domestic markets and the smallness of these markets. These external conditions originally made international growth the only possibility for survival in open competition. However, this growth could rely on core competence pre-tested on the small, open home market as a resource base for internationalization. This pre-testedness and preparational phase for exports and other outward international activity by way of imports of technical products, components and technology have been studied with results suggesting its importance by Korhonen, Luostarinen and Welch (1996). Hence, the forced-growth guideline has been followed consistently through time in the primarily stage-wise internationalization process pertaining to different operation modes and markets described by Luostarinen (1970, 1979), Johanson and Wiedersheim-Paul (1975), Johanson and Vahlne (1977, 1990), Nordström (1991), and others.

Hamel and Prahalad (1989) note that, "resolution, stamina, and inventiveness.....obsession with winning" are crucial characteristics, and that companies having risen to global leadership "sustained that obsession over the 10- to 20-year quest for global leadership. We term this obsession "strategic intent"". Essentially, this notion characterizes the growth process of perhaps all of the Finnish MNCs. The content of 'strategic intent' applied to Finnish MNCs can be tentatively formulated in very general terms so as 'to get equal in size and in market share with the global leaders in the respective niches or fields of business, in order to survive; or respectively, to become even global leaders'.

The words 'stamina' and 'obsession' in the above characterization of Hamel's and Prahalad's strategic intent also imply an emotional dimension. As 'stamina' is defined as "vigor", i.e. "active force of mind", "effective energy", and "capacity for enduring", and 'obsession', "persistent and inescapable preoccupation with an idea or emotion; also, the emotion or idea" (Webster's Dictionary, 1956), 'strategic intent' can also be said to include an emotional component.

The existence of an emotional component in the concept compares closely to the general nature of the matching strategic, long-sustained international growth process of a company as presented by Luostarinen and Welch (1990). They argue that the process of 'forward

momentum' includes commitment, "need for fulfilment" and a "dynamic driving force" as seen by the key management staff. Seeking justification and "deeper involvement" in further growth is also included.

These two references, which can be said to confirm the existence of an implicit emotional component in some of the aspects of company identity, support the notion presented above, that refers to emotional components in general in the cognitive set as put forward by March and Simon (1958), Forgas and Melamed (1976), Ginsberg (1990), Griffin (1995), Guest (1995) and Damasio (1996).

The practical meaning of the emotional component in the cognitive map of management is also supported by experimental results in psychology as presented by Saariluoma (1988). In dealing with the role and characteristics of the memory in human cognition things that have a decisive and positive turn are dominant and best retained. This quality of events for example, also has the propensity to bring the events temporally closer to the present than they are in reality.

Likewise, as Thompson (1967) puts forward in discussing assessment of an organization and its images, "under norms of rationality, organizations facing relatively stable task environments seek to demonstrate fitness for future by demonstrating historical improvement."

The 'compulsory' international growth of the Finnish MNCs, originating in the small, open market and having started 10 to 20 years back in time, can be seen as a norm of rationality and a stable task environment in respect to a turbulent environment. As Thompson continues, "lacking an absolute or crystallized scale for evaluation, the organization must find a relative one, and the reference group in this case is the organization itself, at an earlier period. In a stable environment, acceptable performance in the past can be taken as evidence of preparedness for future. Demonstrable improvement over the past lays the basis for the claim of even more satisfactory future performance and hence indicates response to the norm of rationality."

Sustained international growth and 'strategic intent' with an obsession for growth, to which Thompson refers above in relation to finding a relative scale for evaluation of the organization, is of crucial importance; in mental perception, relativeness in this respect is, then, equal to geometric rather than to arithmetic growth.

From this point of view of the basic individual level psychology it is pertinent to present the following idea of Damasio (1996): "Finally we have, in recent dispositional memory, a collection of recent events, along with their approximate temporal continuity, and we also have

a collection of plans, a number of imaginary events we intend to make happen, or expect to happen. The plans and imaginary events constitute what I call a "memory of the possible future". It is held in dispositional representations just like any other memory.

In brief, the endless reactivation of updated images about our identity (a combination of memories of the past and of the planned future) constitutes a sizable part of the state of self as I understand it".

In this research context, the above course of thinking of Thompson (1967), Hamel and Prahalad (1989), Luostarinen and Welch (1990), and Fiegenbaum, Hart and Schendel (1996) is regarded as representing the same question, the identity of an organization, and also some of the components of this identity, although in somewhat different terms. However, those ideas seem well suited to the approach of this study concerning Finnish MNCs. As to these companies, it is obviously a question of strategy conceptions and 'strategy culture' based on their particular identity, in respect to which the managements have chosen to set the external strategic reference points of their organizations. Those reference points are introduced in more detail below in the chapter on social cognition.

### **3.3.3.2 Company identity approached and described through cognitive map development**

In some respects the course of thinking within autopoiesis theory, with for example the concepts of self-referentiality, knowledge-connections, relationships and self-description, resembles the thinking of Wood and Bandura (1989) presented above in Figures 16 and 17 in their social cognitive theory of organizational management. Autopoiesis is presented in more detail in Appendix 1.

In the theory of Wood and Bandura, "within the model of triadic reciprocal causation, both personal and organizational factors operate through a bidirectionality of influence". It shows the "psychological mechanisms through which social-structural factors are linked to organizational performance".

However, in management's cognition the perceived successful international growth, 'the company story', might also affect new company identity formation indirectly, according to principles found in experimental spatial psychology but representing basic modes of mental

processes and thinking applicable also to other, for example social contexts, as presented by Franklin (1992), McNamara (1992), Medyckyj-Scott and Blades (1992), and Tversky (1992).

This could take place, for instance, according to the psychological process of rotation. Rotation concerns cognitive organization principles dealing with the relative positions of things with respect to reference points, or frames as presented by Tversky (1992). Originally, this phenomenon was found through research in connection with cognitive map memory.

In rotation, we deal with perceptual processing in which the natural, i.e. in a natural, inborn way seen orientation of a figure and its actual orientation conflict. The natural orientation in the case of Finnish MNCs could be seen as the experientiality-based phenomenological image of the company-self associated with the retained values of dynamism and progressive growth of the company up to now. This image would be comparable to the one presented by Damasio (1996) concerning images pertaining to secondary emotions and which are based on individual experience, on "acquired rather than innate dispositional representations", where, however, "the acquired dispositions are obtained under the influence of dispositions that are innate". This notion on innateness well applies to the 'strategic intent-forward momentum' mindset representing the innate behavior pertaining to rewarding challenges and represented by prospect theory, as set forth by Fiegenbaum, Hart and Schendel (1996). Thus the historical company identity remains. It is the 'company story' that also serves as the frame of reference for the newer company identity, which has grown decisively in physical and geographical terms, and in numerical figure content. And even under the opposite conditions, in conflict, hard times, and otherwise objectively changed conditions, the cognitive self-image retains this strategic intent, which is stressed by Hamel and Prahalad (1989) and Chakravarthy and Lorange (1991), and the commitment to forward momentum stressed by Luostarinen and Welch (1991). The historically inherited identity does not wither away, be the times good or bad for the company.

In other words, it may be assumed that the strategic performance target of growth by any criteria, which is part of the internal reference dimension suggested by Fiegenbaum, Hart and Schendel (1996), is moved forward in the course of company success.

Rotation as a psychological phenomenon is reminiscent of the landmark phenomenon, presented below in the spatio-temporal cognition chapter, and it seems that a similar process underlies both of them with applicability in for instance social cognitive processes as well, as put forward by Tversky (1992).

Hence, a company in its continuous growth-induced change in internal resource development, organizational structure, and external adaptation to the competitive environment can also be seen as a continuous social process, both in respect to its own internal organizational past and the external world.

In dealing with the cognitive-logistic information process paradigm presented in this work, it seems, then, that this paradigm could be regarded as an indiscrete continuum, proposed to start with the company identity and its change, and going through the social cognition and spatio-temporal cognition phases, and the changes in these on each paradigmatic revolution.

A spatial dimension can also be assumed to be embedded when thinking of company identity, to be inspected in the light of cognitive maps as suggested by for example Franklin (1992). Cognitive maps or mental models have some perspective associated with them when dealing with the differential accessibility of locations. The spatial framework requires the subject, that is a manager, to adopt the central figure's perspective. The central figure is in this case the company, or rather the assumed collective perspective of the company management, as presented for example in the social cognitive process of Wood and Bandura (1989). This central figure perspective can be adopted besides by seeing, also by description and imagination, or by textual means the accuracy of the textually acquired cognitive map being equal to the visual one (Franklin, 1992). When dealing with the six egocentrically defined spatial directions of up-down, front-back, and left-right, and mental models of surrounding environments learned through description instead of by seeing, it is found that subjects may adopt the perspective according to which these axes are defined, i.e. the embedded perspective at the origin of the egocentrically defined axes. "Similarly, retrieval times for subjects who read descriptions of objects surrounding a central third person or inanimate figure are consistent with the spatial framework, suggesting that subjects adopt the perspective of the central figure and define space according to their own body axes" (Franklin, 1992).

Further, in dealing with how this reader's perspective affects processing in the reader's mental model, Franklin brings forth the concept of foregrounding, or mental focusing. "Generally what is foregrounded from a survey perspective is whatever is near the current focus of attention or near the main protagonist. Generally what is foregrounded from an embedded perspective is whatever is in the main protagonist's field of view."

Hence, management's collective perspective is assumed to contain those various elements and aspects presented above, as depicting the process of the tentatively assumed mental model of DHQ management's company identity in Finnish MNCs.

In this connection, textuality means reading, but it could be any other non-visual descriptive means of acquiring the information in question, according to Franklin. "Spatial features are represented in and can affect processing of memory representations, whether they are derived from perceptual experience or description", and "memory representation must be capable of including semantic information (e.g. history, function, and visual details) and must be organized so that some certain properties can affect processing.....it is as if the spatial information were organized with respect to boundaries, regional associations, and other semantic information as well as with respect to Euclidean distance and direction.....it appears that the spatial and nonspatial information are indeed strongly enough associated that one can prime the other."

In conclusion, concerning possible explanations to some of the experimental findings of the spatial mental model or cognitive map, Franklin (1992) contends that it concerns "a nonspatial mental model, which represents the described situation rather than the text but whose schematic structure is not directly isomorphic to a spatial structure. A nonspatial mental model can represent spatial relations, even emergent spatial relations not mentioned in the description, but all relations are represented as semantic labels in a propositional structure. Through simple rules of association and inference-derivation, nonspatial mental models seem to be able to account for the findings we have discussed, both continuous and categorical."

Based on the above presentation, it is assumed here that the change of the self-environment relationship-image or the social cognitive process attached to the company's relevant environment, of which for example a new territorial acquisition has been organizationally internalized, works as a self-addressed text for the identity perspective assumed by the subject-management. This would compare to the above notion of Franklin (1992) that regardless of the source of information input, that is how one has learned information about space, there takes place in the human memory a process of organization of spatial information into a coherent integrated model. This is then later ready to be used when needed, without direct referral to the original form of information input mode which decays away by time (Franklin, 1992).

The identity of company could also be put into the place of the protagonist, the leading part taker, in the minds of the management as the text reader, in constructing the representation of

the immediate environment in management's mental map. "Foregrounding of areas within an environment can lead to increased free recall for objects at that location and faster recognition for them" (Franklin, 1992). This means that the perspective of the text reader and what is foregrounded affect the cognitive processing of objects, i.e. those matters and events in the context that seem strategically most important.

Thus, with the Finnish DHQ assumed company identity as the protagonist, the environmental foreground or mental focus of attention of the descriptive text could be thought of as being those psychologically based social process variables presented in the next chapter. These are the strategic reference points suggested by Fiegenbaum, Hart and Schendel (1996) and objects of governance under conditions of bounded rationality, pertaining to the transaction costs, suggested for example by Dunning (1988), Hennart (1991) and Rugman and Verbeke (1992).

The social cognitive process could be thought of as simultaneously including the environment-describing text and as representing the foreground. This text-reader's and protagonist's foreground could, then, be suggested in the paradigm of this study to be equal to the social cognitive process, and the social cognitive process in turn assumed paradigmatically to be equal to a spatio-temporal cognitive process, following the thinking of Franklin (1992). In other words, it is the notion above of the entire cognitive information process paradigm of this research as being a continuum without clear limits between its three distinguished parts, this idea being applicable to the above thinking of Franklin (1992), Tversky (1992), and others.

In the transition to the next chapter there is a twofold transformation from the concept of identity to the concept of social cognition, following the research paradigm.

Firstly, in a competitive economy the company's identity leads by definition to social cognition, or to an environmental relationship-image of some kind, the environment including above all the customers and competitors of the company.

Secondly, in the case of Finnish-originated multinationals it is, following for instance the ideas presented by Luostarinen (1970, 1979), presumed that behind the internationalization process lies the history of a company's forced growth in a small and open economy. The smallness can be seen, in the above mentioned Nordic context, as smallness in both an economic sense and in a nation-social or cultural sense with respect to the economic and national environment.



This historical background in the identity of the DHQ management can be supposed to lead, in connection with the above assumed turbulent and competitive environment, to social cognition which includes, for example, the company's historical 'strategic intent' of progressively meeting external foreign challenges with respect to customers and competitors. In other words, it means that the company still has the cognitive remnants of for example economic and nation-social smallness and peripherality in its social cognition.

### **3.3.3.3 Conclusion on the paradigmatic component of company identity and the propositions drawn from it (P #2a-e)**

Company identity, as presented in the paradigm of this research, is chosen as the initial phase in the cognitive information process. The justification for this choice is that in a phenomenological sense the 'constitution of the self' in consciousness can be regarded as the basic and most essential point of departure philosophically (Routila, 1970). Alvesson (1990) also refers to the phenomenological basis of the concept of identity. However, this starting point can be also regarded to be practically applicable to a collective, social cognition sense, with reference to the ideas of Wood and Bandura (1989).

It is also helpful to locate this starting point in respect to the psychological information process model of Forgas and Melamed (1976) above. In that model, the historically formed company identity could be assumed to be the most stable representation in the long-term memories of management members. However, as the science of cognitive psychology studies man as a being dealing with knowledge and processing symbols, those symbols may, according to Saariluoma (1988a), also be representations of elements of conditions of reality within the system processing information. As he points out, the origin of the symbol is a problem; so it must also be in this paradigm. As a starting point of the paradigm, then, identity in the strictist sense can be regarded in this study as only an assumption.

Concerning, then, the question of cognitive structure and cognitive process, it could be assumed in this work, based on the above elaboration, that identity here as a concept is both processual in nature and also contains an element of a constant, pre-given representation and belief system as a structural factor in the background, resembling the model presented by Ginsberg (1990). The former consists of the MNC's long-sustained growth-success abroad. Behind this process lies the latter as a structure, consisting of the small-market forced-growth-abroad 'strategic intent'

and ‘commitment to forward momentum’, of Finnish MNCs and more generally Nordic MNCs. Evidently this both-and aspect, where processual aspects and structural aspects are not mutually exclusive, represents the actual real world cognitive conditions of the DHQ managements and staffs of Finnish MNCs.

The concept of identity should also include the aspect of an assumed locational identity and ‘sense of place’ that was attached to the problematizing-approach in the Extended Problem Analysis chapter above. An assumed perception of peripherality is also attached to it. Here the historical sense of place, set forth by Shamai (1991) and Reich (1991), of DHQ managers and staff members can be thought of to represent a structural feature in spatial cognition. The problems of logistic information process attached to the perception of peripherality, induced by non-transferable impatriates of foreign subsidiaries and their managers' reluctance to travel to the DHQ, can be thought of to represent a process aspect of spatial cognition.

The DHQ spatial identity of a historical sense of place in this work is assumed, then, to be a structural **threshold** to be overcome before DHQ relocation. It is consequently assumed that the logistic problems-originated perception of peripherality (in nature a cognitive process), which challenges the locational identity of DHQ (in nature a cognitive structure), becomes attached to the DHQ cognitive process-type identity of continuous foreign growth with acquired foreign subsidiaries as new multinational members and accompanying international success. In the theoretical sense, this moment of attachment of the logistic information process to the cognitive information process is a ‘seam’, an area of transition and transformation of basic meaning concerning the proposed paradigm.

It can also be assumed that as a result of the advancing identity of a company as a multinational organization, **confronting** intermittently the sense of place of the traditional location, a need for an alternative location for the DHQ gradually emerges in the perception of DHQ management and staff. This perception calls for a DHQ location spatially and logistically more central in respect to the multinational organization, better serving its sense of place as a ‘head’ of the organization, its functional identity as a center.

This idea would be comparable to that presented by Giddens (1981) in dealing with the time-space constitution of social systems. Within his ‘structuration theory’, Giddens includes the concept ‘social system’, which comprises aspects of for example “territory of occupation”,

“sustaining of legitimated series of prerogatives”, “mechanisms of social/system integration”, and “awareness, discursive and practical, of belonging to an inclusive community with a certain ‘identity’ “. The idea of a gradual emergence of a new central sense of place for the DHQ could be seen as a declaration of a new self, also in a semiotic sense of placeness and temporality with respect to the relevant environment, as an element in “social systems producing their own spaces”, according to the thinking of Lagopoulos (1990, 1993).

The gradual emergence of a new central DHQ sense of place, analogical to its functional identity as a social center, can be thought of to be presented by the arrow ‘competitive strength; peripherality’ in the lower section of Figure 8. There it represents the inner loop of the cognitive information process, with an input from the logistic information process above. However, from the point of view of the cognitive-logistic paradigm as a whole, this idea of an emergence of a new central DHQ sense of place, as such, is secondary in importance.

To conclude the discussion of the identity of the internationally grown and thus well performing company, with new material and immaterial resources, the following four **propositions** are put forward as the first parts of the company management's cognitive information process:

**P #2a:** The historical **forced-growth originated**, long-sustained successful international growth strategy or the company's 'commitment to forward momentum' (Luostarinen and Welch, 1990) and its 'strategic intent' (Hamel and Prahalad, 1989) represent a **learning process** of DHQ management and its components are retained as a **value** in the company culture and carried consistently further on in time by the company's management (Fiol and Lyles, 1985). This historically retained value can be seen in the perception of DHQ management and staff as a representation of the nature of an invariant **cognitive structure** in memory and thinking (Forgus and Melamed, 1976);

**P #2b:** On the basis of this company value, the most recent acquisitions and other material and immaterial dimensions of growth and good international performance characterizing the materialization of the company value, the total identity of the DHQ management has changed, i.e. there also are **cognitive process** elements of change in the identity in the perception of DHQ managers and staff (Ginsberg, 1990);

**P #2c:** The change of the DHQ's total identity acts as a catalyst to further raise the **internal strategic reference points** and aims of the company in a **dynamic** mode, in the cognizance of its new resources and realm of power and influence, spheres and opportunities of activity, and the consequent international growth potential (Fiegenbaum, Hart and Schendel, 1996);

**P #2d:** The DHQ management's and staff's perception of the company's **new objective international position**, new strengths and opportunities, but also new weaknesses and threats, with respect to customers, competitors and other relevant actors of the environment, **changes its perception** of the **relationships** to them;

**P #2e:** The home-country **locational identity** of the managers and staff of DHQ (Shamai 1991, Reich 1991), is assumed to be by nature a **cognitive structure threshold** that must be overcome in the course of the cognitive-logistic information process of DHQ relocation. This locational identity is **confronted** and gradually overcome by perceived **logistic peripherality** and by the DHQ management's increasing identity of an 'international success'. This **developing identity** may also contain an element of the gradual emergence of a perception of a needed new centrality, a **sense of new central place** with respect to the identity of a multinational company in geographical space (Giddens, 1981, Lagopoulos, 1990, 1993).

Hence, the confrontation with the traditional home-country DHQ location is triggered off by **1.** logistic information process problems causing both a phenomenological perception, and a physical and time distance-based inference, of peripherality, **2.** an emotional component of perceived peripherality (Goodall, 1987) caused through assumedly persuaded, but non-willing impatriates opposed to the identity-attached traditional DHQ location, and **3.** a gradually emerging new spatial, potentially sense of place-seeking, identity of the DHQ of the multinational organization.

These five propositions are comparable to those presented in connection with learning processes in organizations; particularly, this concerns the individual's interpretations of an organization's performance context and environmental context after a course of action has been decided, following Glynn, Lant and Milliken (1994). Hence, these five propositions are also the stepping

stone to the consequent relationship-image change between the company-self and its environment or to the following social cognitive information process.

### **3.3.4 The self-environment relationship-image and its change or the social cognitive information process**

#### **3.3.4.1 The background logic and the general frame of reference**

The above presented being the identity part of the cognitive information process, it is on this basis intuitively logical and also implicated by references from the literature, that the relational image concerning the self and the environment has consequently changed.

In dealing with cognitive processes in organizations and the epistemological grounds of organizational thought, Weick (1990) remarks that "epistemology is concerned with mind and environment relationships and both are actively constructed. To argue that the chief problem of organizational theory is to articulate the relationships between organizations and environments is to miss the point that organizations and environments both undergo considerable construction in the eyes and minds of organizational members." Similarly, Weick and Bougon (1986) present the epistemological structures of an organization's cognitive maps, the basic elements of them. These are depicted in Figure 18. As can be seen from the figure, "identity" is defined epistemologically as an event occurring simultaneously with the organization's cognition and in the same place as the organization's cognition. As Weick and Bougon note, "maps help people perceive large-scale environments beyond the range of immediate perception. Since maps focus beyond the range of immediate perception, they deal with phenomena that cannot be observed but rather must be explored. Thus, maps are intimately tied to action." With reference to earlier studies and citing a study by Ittelson (1973), they point out the close ties between action and maps: "most perception research has been carried out in the context of object perception, rather than environment perception. The distinction between object and environment is crucial, because objects require subjects.....In contrast, one cannot be a subject of an environment, one can only be a participant.

Figure 18. Epistemological Primitives

Source: Weick and Bougon, 1986

		Time at which events occur	
		Same	Different
Classification of events	Same	A Identity	B Seriality
	Different	C Correlation	D Causality

The very distinction between self and non-self breaks down cold. The environment surrounds, enfolds, engulfs, and no thing and no one can be isolated and identified as standing outside of, and apart from it....."

In the above thoughts the expressions 'immediate perception' and 'explored', as well as 'participant', with respect to the environment, are crucial. As Weick and Bougon write, the organism explores rather than observes the environment and cognitive maps are intimately tied to action.

The thoughts in the above citations are also parallel to the idea of this study about the immediacy of the inversiveness of identity and social cognition in the perception and mental map of DHQ managers and staff. This inversiveness is also comparable to the notion brought forward by Shaffer (1977), as mentioned above in connection with the research problems, concerning cognitive-developmental theory, in that "social cognition (that is, thought about the self vis-à-vis others) involves reciprocal role-taking".

The nature of this inversiveness, as well as that presented by Weick and Bougon (1986) above, is here assumed to be related to Husserl's (1913/1982) phenomenological presentation of the relationship between 'the self' and 'the other'. Although Husserl's idea refers to the transcendental self, not the empirical self, that intentional noematic act presented by him with respect to 'the other' could also be seen as a basis for an intentional act referring to the empirical self. As Heinämaa (1996) notes on Husserl's idea of 'the other', "firstly, the meaning of the other is formed within 'the self', and secondly, it is construed upon the meaning of 'oneself'.....the other is 'experienced' firstly as a psycho-physical entity, secondly as a being experiencing the same world as me, and thirdly as a being who experiences me in the same way as I experience her."

The idea of change in social cognition induced by identity-change, i.e. change in the perception of the relationship to the company-relevant social environment, could also be assigned to the Gestalt psychology laws of perceptual organization concerning configurational principles, as presented by Forgas and Melamed (1976). These perceptual configurational principles could possibly also be attached to the idea of spatial representation of the environment as described following Forgas and Melamed (1976) and Franklin (1992) to the idea of integrated spatial and nonspatial information in memory following McNamara (1992), and to the idea of social stimuli to be represented and/or processed in human judgment and thinking according to the same principles as spatial stimulus, following Tversky (1992). Tversky likewise refers to the 'Gestalt principle of common fate' in this connection.

The integration of sociality with spatio-temporality, present in the Gestalt laws of perceptual organization as noted by Forgas and Melamed, is further dealt with separately below, especially in the chapter dealing with spatio-temporality.

According to for example the Gestalt law of configurational principles concerning 'similarity' and 'proximity', applying Forgas and Melamed, it could be said that under certain conditions

there exists a balance, a 'good' or 'Prägnanz' form, between the perceived identity of the company and central elements in the relevant environment. This 'good form' comprises the company itself and for example the most important strategic reference point customers and competitors, or in the words of Ohmae (1983) 'the strategic triangle', from the point of view of the DHQ management and staff. With a change in the company's growth-induced identity, there is a need for a new balance with the environment due to the very essence and intention of the company identity itself, which is relational with the environment. This condition in turn causes a change in the environmental 'configuration' or social cognition, so as to be comparable to the changed identity in the perception of the DHQ management. This process of change in social cognition may possibly take place only in one individual member of the management in the DHQ organization, but it is subsequently mediated to the wider company organization, according to the social cognitive process suggested by Wood and Bandura (1989) presented above. In relating this 'configurational' change, which according to Forgas and Melamed (1976) is also a question of spatial segregative grouping, it may be suggested that the individual and organizational mental models of a new social cognition are derived through description and inference, besides visual impulses, as presented by Franklin (1992), and Tversky (1992). Furthermore, as Forgas and Melamed express the same thing with reference to experimental psychology, "**information**.....basically refers to those characteristics of the stimulus that are used by the subject in **processing** that stimulus input. The subject is encoding, modifying, selecting, abstracting, etc., certain characteristics of the stimulus as a natural part of his ongoing activity. This activity may be as mundane as looking at words flashed very briefly on a tachistoscope or as abstract as the visual imagery or verbal associations one gets in listening to a symphony. Certain aspects of the stimulus environment ("information") are being transformed ("processed") into some end result (perhaps an observable response, although not necessarily)." The Gestalt laws also refer to the principle of phenomenal causality, as Forgas and Melamed (1976) state. In studies of psychological causal phenomena, they also note the existence of intentionality, i.e. that in statements given in experiments on cause-effect impressions a certain thing or things occurring "wanted to do something; i.e. they had intentions.....The uniting or repulsing phenomena are like emotions, which can be divided roughly into two classes, depending on whether they present an integrative or a segregative relationship between the individual experiencing them and the thing, person, or event which is their object. Examples of



integrative emotions are sympathy, friendship, and love, whereas antipathy, disgust, anger, hate, and fear are segregative types". Thus emotional elements are attributed to causal phenomena, and also to certain stimulus configurations, as shown by Forgas and Melamed. Emotions from this aspect are, however, further elaborated below.

Forgas and Melamed add the notion of experientiality to phenomenal causality and stimulus configurations, with the emotional aspects attached. According to them, this notion as a human developmental feature reaching to early childhood may possibly parttake in phenomenal causality, as this human impression extends to the perception of other humans. They further note that "the experiential aspects of the perception of personal attributes are of crucial importance since they are conceivably related to the nature of interpersonal relationships", and that these may be included into the above phenomenal events. They continue that "person perception concerns itself with how we perceive and know the psychological characteristics of other persons", and that "we could also refer to this process as **social cognition**."

Thus, from the point of view of this study, with intentionality included within the identity of the DHQ management and staff as presented in the previous chapter, a change in this identity is suggested to be perceived both phenomenologically and experientially as a change in social cognition. This takes place as an event of phenomenal causality and/or stimulus configuration in the context of 'the strategic triangle', comprising the internal company organization and the most important customers and competitors. It is suggested that emotions which are in the social cognition of the DHQ management and staff and are either socially positive, integrative, or socially negative, segregative, are attached to this phenomenological cognitive process. Subsequently, their social cognition in this research work is interpreted from the psychology-based management research aspects of strategic reference point theory and transaction cost theory as suggested below and presented in the chapters in question.

The above is also a matter of everyday logic with respect to basic human behavior as experienced. Having by some objective measures become more influential with respect to some other partners in the social environment, and having cognized this, perhaps mutually, and assumed a new identity in this respect, one is also inclined to feel influential with respect to those others, and a reciprocal cognizance of this changed relationship then prevails. Examples of this are of course seen repeatedly in our social environment.

In the words of Thompson (1967), when assessing organizations as institutions with respect to social reference groups, "under norms of rationality, organizations facing dynamic task environments seek to score favorably in relation to comparable organizations." The concept of reference group "refers to a social category used by the individual as a standard for self-evaluation," according to him.

With respect to their forced-growth internationalization (Luostarinen, 1970, 1979, Luostarinen and Welch, 1990), the task environment of Finnish MNCs is here assumed to have been very dynamic and also very stable in its dynamism from the point of view of a quantitative historical company growth abroad. But at the same time, in a qualitative sense, with reference to the technologically advanced and primarily highly competitive products and markets of these companies, the task environment of these companies has been intensely variable and dynamic.

As Thompson continues, "historical improvement may be relevant for all organizations, for environments are never so unstable as to negate the past completely. But in a dynamic task environment there is considerable uncertainty about what the organization may be called upon to achieve in the future, and improvement on obsolete criteria may be of little consequence. Lacking absolute criteria of fitness, and being unable to assume that improvement over its past capability is a reflection of its future, the complex organization then turns to social references to demonstrate that it is doing as well as or better than others in its league."

Thus the ex-post international growth path of a Finnish MNC at any given moment, after some particular event such as a notable and strategic foreign subsidiary acquisition, induces a change in the identity of DHQ management and staff and consequently a simultaneous change in the perception of the relationship between the self and the socially relevant environment pertinent to self-image. To this change also fits the idea of Luostarinen and Welch (1990) of an adaptation of changed perspectives and the creation of a mental foundation for dynamic international growth.

A comparable finding on the importance of a change in the perspective of the environment and a subsequent shift in the cognitive maps within the organization, strategic change being thus a

learning process through a sequence of changes over time, is also presented by Doz and Prahalad (1987) in connection with a study on several MNCs.

Referring to their process model of organizational learning and the linkages between its elements depicted in Figure 14, Glynn, Lant and Milliken (1994), in connection with an individual's interpretation of an organization's context after the organization's action enactment, state that "an organization's field boundaries can effect information processing.....and perceptions of its environment. Individuals perceive the environment neither as an amorphous entity, nor as a mass of unrelated, atomized organizations. Rather, the environment is perceived as an entity with a decided structure that corresponds to the organizational field, that is, patterns of roles, positions, and relationships that help managers make sense of and predict their environment". The authors refer to research on for example the question of cognitive competitive groups or cognitive communities with respect to the perceived competitive structure of the organizational field.

Glynn, Lant and Milliken (1994) further note that the ways in which individuals learn about their organization's context are quite complex. "The outcomes of interpretation processes - that is, the cause-effect beliefs about an organization's context - become encoded as individual learning, which in turn, renews learning cycle."

On the one hand, this comment on the perceptual complexity fits very well with the above notion of the role of identity and the suggestion of a role of the Gestalt law of configuration and phenomenal causality, applying Forgas and Melamed (1976). On the other hand, the comment on the renewed learning cycle fits the above notion of the assumed Finnish MNC's history of experiential international growth or the assumed experiential 'strategic intent' and 'commitment to forward momentum' to international growth.

The strategic question of a pressing need of environmental knowledge, or 'exploration' is inseparably attached to the international growth process; "maps are intimately tied to action", as expressed for example by Weick and Bougon (1986). As Forgas and Melamed (1976) also stated above, in dealing with the concept of perception in the psychological cognitive process, environmental knowledge can be seen as a basic human need and trait, a matter of necessity. The need of management for knowledge, seen in this light, is also one of the cornerstones of the stages model of internationalization developed by Luostarinen (1970, 1979) and Johanson and

Vahlne (1977) and presented in more detail below. The need for environmental knowledge, particularly by the social reference groups of customers and competitors, consequently leads to the urgency of a comparable logistic information process in order to secure the information requirements for "good organizational performance and survival", or "fit" as illustrated by Egelhoff (1991).

Here it is useful to note that the needed environmental knowledge may be necessary to be procured in the form of very intimate and subtle intelligence or tacit knowledge, in close contact with customers, competitors, consultants and various research institutes through for instance cooperation and various modes of socialisation in the international market context. In the words of Nonaka (1994), "tacit knowledge is deeply rooted in action, commitment, and involvement in a specific context".

In his propositions Thompson (1967) also states that "under norms of rationality, complex organizations are most alert to and emphasize scoring well on those criteria which are most visible to important task-environment elements". Further on he proposes that "when organizations find it difficult to score on intrinsic criteria, they seek extrinsic measures of fitness for the future." In this study it is assumed, however, that the Finnish MNCs concentrate on intrinsic measures of fitness for the future, according to their above presented identity. On this basis it is assumed, following the ideas of Forgas and Melamed (1976), Weick and Bougon (1986) and Glynn, Lant and Milliken (1994) that, in the words by Thompson, the company has a "reference group", an organizationally external reference dimension "as a standard for self-evaluation".

However, as Alvesson (1990) states, there is also the task to take care of the corporate identity and image internally besides externally. In his words, "image as a phenomenological fact, in the sense that the image as a specific idea, instrumentally exploited, becomes salient in a particular social context as a non-trivial part of management and organizational functioning is experienced by local actors to capture something meaningful, and thus is not a historical constant, but rather contingent upon social, cultural and material factors." This notion, concerning both the DHQ management's company identity and the DHQ management's social cognition, is assumed in this study to be applicable to the Finnish MNCs.

To conclude, then, instead of only the company identity, a company could also be thought of as having an immediate 'external identity', a projection of its identity outwards upon others, a

'mirror identity' as it is seen by management with respect to the environment. Or in Heinämaa's (1996) words above on Husserl's phenomenological idea, "the meaning of 'the other' is formed within 'the self' and.....it is construed upon the meaning of 'oneself'." Thus in this study there is assumed to exist a double reference dimension of the company in the perception of the DHQ management in its assessment of itself and of the company organization. This conclusion also very well accords with the basic mode of thinking expressed in the strategic reference point matrix presented by Fiegenbaum, Hart and Schendel (1996), illustrated in more detail below.

Hence, it is assumed that in addition to the historical success and 'strategic intent' identity of the Finnish MNC, the company's reference dimension also comes to include the adoption of external reference groups such as important customers, competitors and possibly other institutions in the environment.

However, in this study it is also assumed that the company's social reference group, logically and consequently evolved through the change of the company identity, is not only a passively appropriated consequence and effect. Instead, due to the qualitative characteristics of the company's identity, its growth obsession character of 'strategic intent' following the words of Bartlett and Ghoshal (1989), the company also assumes itself a consciously and deliberately proactive and appropriative goal- and benchmark-oriented perception of its relationship with the competitive environment.

Referring to Forgas and Melamed (1976), Shaffer (1977), Weick and Bougon (1986), March and Sevón (1988) and Ginsberg (1990) the concept of social cognition in this study is defined as the perception of DHQ management and staff about the relationship between **1.** the company itself and the company-relevant external social environment of customers, competitors, and possibly other important external institutions and **2.** between the DHQ itself and the internal organization consisting of foreign subsidiaries.

This social cognition concept is defined to be causally subordinate to the above defined perception of DHQ management concerning their own company's identity. The transformation of a manager's individual social cognition to an organization's social cognition is assumed to take place according to the mode of the social cognitive theory described by Wood and Bandura (1989) and presented above.

The above assumptions could be seen as well supported by the results of the study of Sutcliffe and Huber (1998), as they researched top management teams in organizations such as the autonomous divisions of larger firms. With reference, among other things, to a historical socialization process background they bring forth their finding that on the firm level significant homogeneity of perception of top management team members exists with respect to the organizational environment concerning the environmental characteristics relevant to strategic management.

In this study the cognitive information process of the DHQ management's social cognition is explicitly expressed and operatively illustrated by way of two from the company managers' and managements' perspective relational approaches, or theories. These are the **strategic reference point theory** as described by Fiegenbaum, Hart and Schendel (1996), and the **transaction cost theory** as presented by i.a. Williamson (1975, 1989, 1993), Anderson and Gatignon (1986), and Hennart (1991, 1993).

Concerning strategic reference point theory, the DHQ managements' social cognitive process is looked at in the context of the three-dimensional strategic reference point matrix presented below by Fiegenbaum, Hart and Schendel.

As to the DHQ managements' social cognitive process in connection with the transaction cost theory, the process is looked at through the concepts of bounded rationality and opportunism, the concept of asset specificity of the theory being assumed as given concerning the above thoroughly described character of Finnish MNCs.

In this connection it may be noted that bounded rationality, through the background concept of uncertainty, is in its social connotations intimately tied to the development of the logistic information process theory, in line with the ideas in the presentation by Egelhoff (1991).

#### **3.3.4.2 Strategic reference point theory**

Approached from the discipline of psychology, the logic of the above suggested idea concerning managements' identity change induced by company growth and the consequent change of social cognition lies, in the psychology of perception, along the processes depicted in Figures 13 to 18 above. In practice, the changes in managerial social cognition concern relative strategic positions with respect to for example customers and competitors, in other words benchmarks or

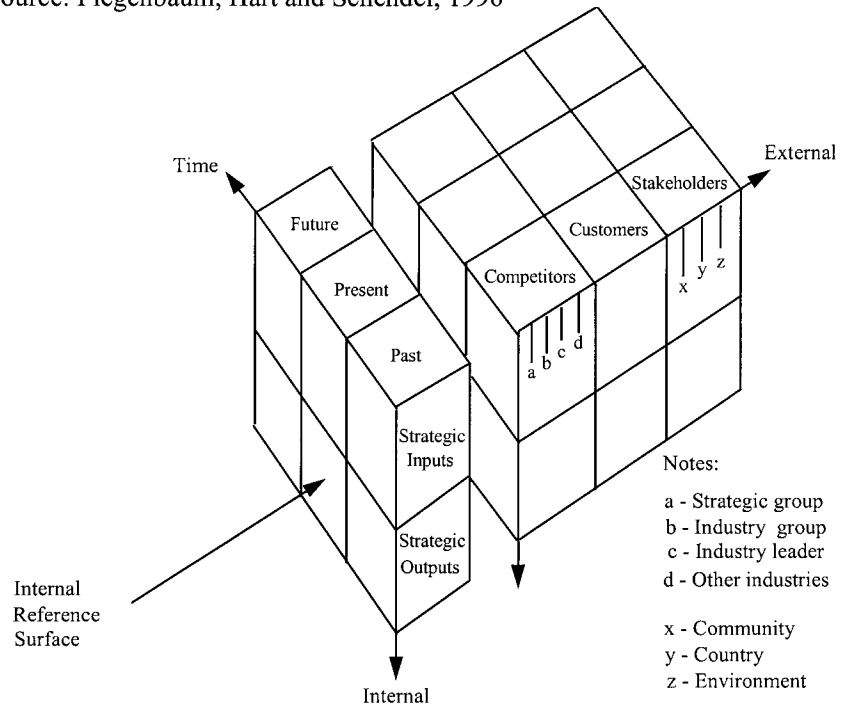
reference points. The logical argument applicable to the Finnish MNCs is that managers' perceptual mechanisms can be assumed to consider changes in strategic **differences** rather than absolute levels when evaluating various strategic alternatives. This notion is very much in concord with the idea of Fiegenbaum, Hart and Schendel (1996) in their presentation of the strategic reference point theory and the psychological basis for it. Perceptual mechanisms concerning differences and the new perspectives brought with these perceived differences are the background of the strategic reference point theory. The theory refers to decision making on the individual but also on the organizational level. The above social cognitive theory of Wood and Bandura (1989) seems applicable for transferring the firm's reference point or benchmark in its growth strategy from the individual level of perception and ideas to the organizational level. Strategic reference point theory is applicable on the firm level as a behavioral approach in strategic choice. Fiegenbaum, Hart and Schendel base their model on prospect theory, which states that organizations behave as risk takers when below their reference point but as risk averters when above. The frame of reference for the concept of risk is naturally the uncertainty of environment.

On the basis of this particular mode of behavior with respect to risk, Fiegenbaum, Hart and Schendel (1996) have developed within their theory a decision frame called the strategic reference point matrix. This three-dimensional matrix is regarded to capture the basic structure of a firm's visions and mission. The three dimensions of the matrix are the internal reference dimension, the external reference dimension, and the time dimension. The matrix is depicted in Figure 19.

As to the internal reference dimension or surface of the matrix, it is stated that self-reflection is the crux of it, but that "the comparison of oneself to external benchmarks" is also very important. This idea of self-reflection can be regarded as comparable to the concept of identity in this study and the "comparison of oneself to external benchmarks" as the identity-consequent social cognition process suggested. Thus the strategic reference point theory of Fiegenbaum, Hart and Schendel is close to the basic idea of the cognitive information process suggested in this research work. Concerning the more detailed contents of the matrix, the internal reference dimension contains within its concept of strategic inputs the internal capabilities, i.e. the firm-pertinent particular strengths and competitive advantages.

Figure 19. The strategic reference point matrix

Source: Fiegenbaum, Hart and Schendel, 1996



Applied to this study and to the Finnish MNCs in their historical growth processes, the concept may for instance include a recently acquired foreign subsidiary's creative capabilities or a network of them, both their physical, knowledge and mental capacities.

The concept of strategic outputs within the internal reference dimension contains the results and aims to be achieved through the firm's operations, its performance target, or level of achievement on any scale chosen by the firm itself.

The concept of the external reference dimension in the matrix mostly includes the company's competitors and customers. This is also the most essential aspect of the strategic reference point theory in terms of the social cognition concept of this work.



According to Fiegenbaum, Hart and Schendel, "the most accepted external reference point in the literature on strategic management has to do with competitors.....and the concept of 'competitive advantage' is premised upon sustaining a favorable position relative to competitors....." The reference point or benchmark in this respect can be on several levels: the industry as a whole, and for instance its average on some particular dimension; a particular strategic group of firms in the industry, or the industry leader, even an arch-rival; or competitors from other industries, according to the authors.

The same idea is presented by Hamel and Prahalad (1989), when they in connection with the concept of strategic intent point out that "to achieve a strategic intent, a company must usually take on larger, better financed competitors."

For many companies, however, the most important reference point is the customer and the customers' needs, which is one of the rationales for the firm's mission and existence.

But also stakeholders may have an important role as an external reference point in the form of the firm's social responsibility, community relations, or wider environmental considerations, according to Fiegenbaum, Hart and Schendel (1993).

Time as a reference dimension is also very important. Time is linked to the above concepts of corporate identity, 'strategic intent' and 'commitment to forward momentum'. This means that the time concept as a strategic reference point includes both the past and the future, or more philosophically expressed, where the company is coming from and where it is heading to, following the thinking of the above authors.

The past of a company, its historical path of growth and development, is often important in establishing reference points. This is concretely indicated by numerous studies on organizational learning which have shown that firms accumulating knowledge over time can use it as a source of competitive advantage. In his study on the organizational learning perspective in connection of foreign direct investments, based on the literature and his own research on Finnish firms, Björkman (1990) notes that "organizational learning is based on a cognitive, interpretative approach to the analysis of organizational action", and that "it is assumed that there is a close linkage between organizational belief systems and action." Reciprocally then, "in order to understand organizational action it thus becomes important to analyze the way in which these beliefs develop and change.....i.e. the learning of organizational

belief systems. When changes in belief systems take place, it is argued that these changes are based more on (interpretations of) past events, concerning both the own and other organizations, than on anticipations of the future."

This is a seemingly contradictory notion with respect to anticipations of the future, in other words the essence of the concepts of 'strategic intent' by Hamel and Prahalad (1989) and 'commitment to forward momentum' by Luostarinen and Welch (1990), with their explicit contents of a strategic reference point set in the future.

Paradoxically, the future has actually been a strategic reference point since, in the form of 'commitment to forward momentum' and thereafter included among the learned actions of the Finnish MNCs. This rests on the basis of the small domestic market's forced international growth process, as presented by Luostarinen (1970, 1979) and also Björkman (1990). Thus the 'strategic intent' future of the past is the successful yesterday and present, and this intent has been proved time and again worthy as a belief system, forming a qualitative temporal continuum in the minds of DHQ managers and staff. In other words, the concept 'strategic intent' could be said to have existed in the Finnish MNCs and also wider in Nordic MNCs as suggested by for example Johanson and Wiedersheim-Paul (1975) decades before the concept was introduced. The future as a strategic reference point is thus actually deeply rooted in the belief systems of these companies through action and organizational learning, as stated by Björkman (1990).

Also according to Fiegenbaum, Hart and Schendel (1996), building upon past excellence provides a strategic reference point to spur continued achievement. As was presented above with the concept of identity, this reference point can be assumed to form an essential element in a company management's perception. The identity-full successful present, which is the looked-at future of yesteryear, carries within itself this temporal experience of the future into the present future, in a very phenomenological way, as presented by Routila (1970) in his study on Heidegger's (1993/1927) Husserl-based ideas of 'being and time'. Hence, this reference point is analogous to the reciprocal relationship-logic between the dimensions of the internal reference point and the external reference point. Or, expressed phenomenologically, within the concept of 'being', those above presented concepts of 'the self' and 'the other', and 'the past' and 'the future', together form an embracing and indivisible entity. Fiegenbaum, Hart and Schendel (1996) thus point out that the future also serves as a source of decision frames and reference points. Firms

with a strong sense for strategic intent may think of the future ten or twenty years out when making strategic choices. It has been noted that companies that have risen to global leadership "invariably began with ambitions that were out of all proportion to their resources and capabilities".

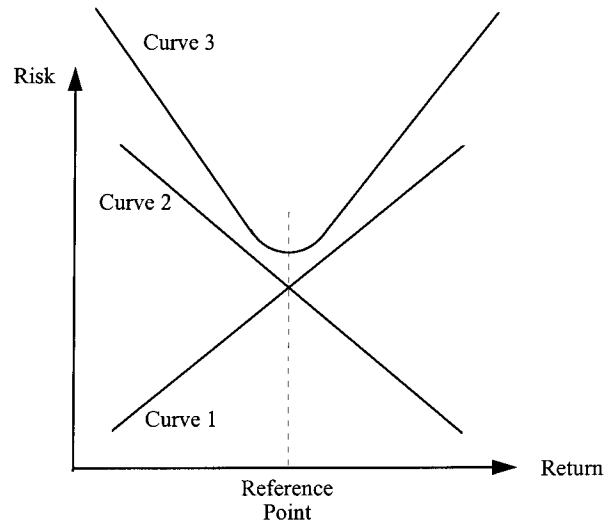
They also explicitly set forth in the presentation of their theoretical model that the concept of a reference point has its roots in the **psychology of perception**. As noted above, the basic fact is that human perceptual mechanisms appear to consider **differences**, rather than absolute levels, when evaluating alternatives. In this connection they refer particularly to prospect theory and the research done by Kahneman and Tversky (1974, 1979) and Tversky and Kahneman (1981, 1986). According to this theory, "the major prediction is that organizations are both risk-averse and risk-seeking, depending upon whether decision-makers perceive themselves to be in the domain of gains and losses, respectively." This mode of behavior is depicted by curve 3 in Figure 20, while curves 1 and 2 refer to decision-making behavior with respect to risk and return without a reference point in connection with strategic alternatives, according to empirical research results in the literature.

In a study referred to, testing the predictions of prospect theory, it was confirmed that "organizations behaved as risk-takers when below their reference point, but as risk-averse when above", and in another empirical study on 85 industries it was found that "the risk-return relationship for firms below the reference point was three times steeper than for the above-reference point firms", as presented by Fiegenbaum, Hart and Schendel. Particularly, these latter empirical findings are depicted in Figure 21. The difference in the steepness of the curves in Figure 21 is illustrative of the basic predictive idea of prospect theory. The strategic reference point theory, then, is a further developed application of prospect theory for formulating, objectively and subjectively operationalizing, measuring and scoring the simultaneously three-dimensional strategic reference points, as shown on the matrix in Figure 19.

From the above presentation of the strategic reference point theory it becomes evident that it combines, within its strategic reference point matrix, to an essential extent the contents of the constructs developed in the cognitive paradigm of this study. The strategic reference point theory in particular seems to fit the Finnish MNCs concerning their assumed positive forces, the opportunities and strengths of these companies.

Figure 20. Three models of strategic choice behavior

Source: Fiegenbaum, Hart and Schendel, 1996



Notes:

Curve 1: risk averse behavior

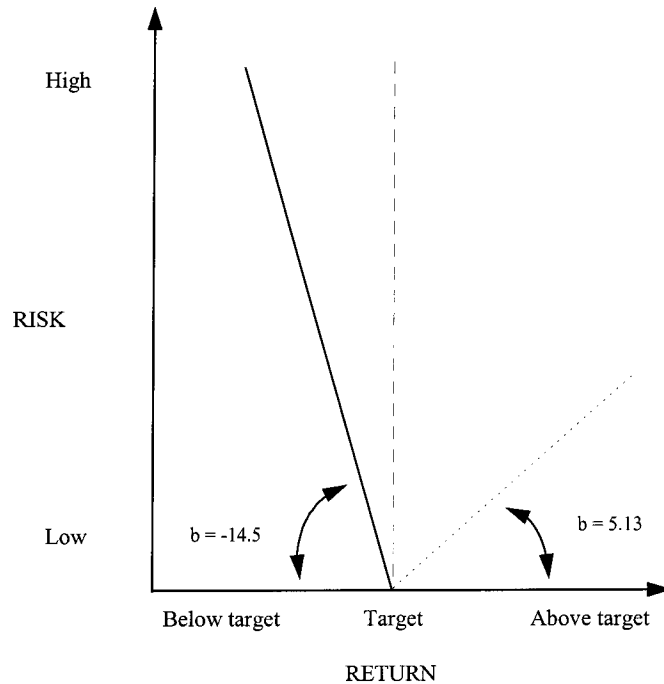
Curve 2: risk seeking behavior and/or good managers can increase return and reduce risk simultaneous

Curve 3: risk seeking and risk averse behavior in the domain of losses and gains respectively

The constructs identity and social cognition of the paradigm are assumed and argued to be in a logical connection. In this study, the logical connection is assumed in its endogenic characteristic to also include a **dynamic** element. This dynamic element is realized, for instance, in the form of DHQ relocation. The relocation event may be seen as a proposed indication of a managements' logistic information processing problem and a solution that provides better information. But simultaneously it may be seen as a deliberate spatial mode of risk-taking in respect to spatially perceived external reference points. However, the relocation decision could theoretically also be seen as an instance within a wider reference point dimension. In other words it could be suggested here that the strategic reference point matrix vector **time** is enlarged to include **space** in a similar general nature as time, without reference to any particularly

perceived social contingency of the firm, but with reference to a **strategic intent** of general **territorial** or spatial, for example regional or global, competitive dominance nature, following the ideas of Rajewski (1977) and Agnew (1994) and presented closer in Appendix 3.2. In other words, with reference also to the notion of psychology of perception and prospect theory as presented by Fiegenbaum, Hart and Schendel (1986) it may be considered that **territoriality** as an emotions including (Damasio, 1996, 2000) **spatio-temporal** dimension of **phenomenological** nature would be included in the strategic reference point theory. This thought could tentatively also be suggested to apply to the external reference point or, indirectly by way of for example experientiality, the entire prospect theory based strategic reference point matrix in a phenomenological sense.

Figure 21. Risk, return and target. Source: Fiegenbaum, 1990



As Fiegenbaum, Hart and Schendel similarly note, "internal dimensions interact with external dimensions and the issue of time to create reference points on what might be called a 'reference surface'.....Thus, for any firm, the dimensions of the SRP matrix interact to form multiple targets and points of comparison."

A course of reasoning somewhat similar to that of the strategic reference point theory is presented by March and Shapira (1992) in their study on variable risk preferences and the focus of attention in individual or organizational decision making. The authors have studied risk takers' history and found out that risk takers are responsive to changing fortune. They note that "insofar as relative position with respect to resources matters to survival, a focus on an adaptive aspiration level is strongly favored over a focus on survival.....The only partial exception is when aspirations are other-referential, rather than self-referential.....When aspirations are self-

referential, slow adaptation of aspirations to a risk taker's own experience generally leads to greater risk being taken than does fast adaptation. On the other hand, when aspirations are tied to the performance of superior others, fast adaptation tends to lead to greater risk taking than does slow adaptation."

Adding the findings of the above study by March and Shapira to those by Fiegenbaum, Hart and Schendel (1996), it could be tentatively proposed that identities of the DHQ-relocating Finnish MNCs have been predominantly other-referential. However, this other-referentiality is naturally included in the self-referentiality performed by the company managements. Hence, the Finnish MNCs are reciprocally and dynamically both other-referential and self-referential; other-referentiality becomes collective self-referentiality within the company history. This is contingent to the particular history of the small domestic market originated, forced-growth internationalization of the Finnish MNCs in this study. This combining conclusion is then in harmony with the ideas presented above and brought forward by Luostarinen and Welch (1990), in their notion of "commitment to forward momentum." This notion, however, is also equivalent to the seemingly paradoxical notion expressed above, in connection with the presentation of Björkman (1990) on belief-systems, action, and organizational learning.

In their conclusion Fiegenbaum, Hart and Schendel propose with reference to the strategic reference point matrix that firms which in the course of time change their strategic reference points, sustain their performance. Likewise, they propose that performance is enhanced by consensus among top management and organizational members about these strategic reference points. These propositions are assumed to apply closely to the historical growth and organizational development processes of the Finnish MNCs.

### **3.3.4.3 Transaction cost theory**

#### **3.3.4.3.1 A general background of transaction cost economics with respect to the DHQ relocation question**

In brief, transaction cost theory deals with material or immaterial transactions and economizing on the governance of transactions through the governance structures of prices, hierarchies or a hybrid of them. Transactions usually take place within the institutions of firms, i.e. primarily by hierarchies, and markets, i.e. primarily by prices. The concepts of bounded rationality, asset

specificity, and opportunistic behavior are considered in the theory to be contingent backgrounds to the transaction (Williamson, 1993, Hennart, 1993). These three concepts of the theory are defined by Williamson (1993) followingly: "Bounded rationality: refers to behaviour that is intendedly rational but only limitedly so; a condition of limited cognitive competence to receive, store, retrieve, and process information....."; "asset specificity: a specialized investment that cannot be redeployed of alternative uses or by alternative users except at a loss of productive value. Asset specificity can take several forms, of which human, physical, site, and dedicated assets are the most common....."; "opportunism: self-interest seeking with guile, to include calculated efforts to mislead, deceive, obfuscate, and otherwise confuse. Opportunism is to be distinguished from simple self-interest seeking, according to which individuals play game with fixed rules which they reliably obey". These different aspects of the theory have been presented and more closely elaborated below within the contexts and contingencies of DHQ in the turbulent world of global, high technology MNCs.

The DHQ is a part of the MNC and with respect to its own divisional organization and hierarchy. Hierarchy by general definition is a concept denoting 'organic rank and order of a body of rulers, each subordinate to the one above it' (Webster's Dictionary, 1956). According to the theory of the firm, it is also a method of organizing economic activity. In its capacity as a concept and with respect to the basic transaction cost theory concepts, hierarchy also has the role of governance of integrity, in respect to for example opportunism. This concerns any kind of transactions in the prevailing conditions of uncertainty and bounded rationality. With the Finnish MNCs of this study in mind, it also concerns their international interests with respect to their ownership advantages and asset specificities. In terms of the internationalization of Finnish MNCs, with the problematics attached to their DHQ relocation, Robins (1987) states that organizational culture can be treated as a set of solidarity norms. "Due to the nature of exchange processes, some organizational settings make more severe demands on these norms than others and thus require stronger forms of organizational culture."

Here, then, the contingency of the information process affecting space-time dimension on the one hand, and the contingency of the nation-culture differences of the firm on the other hand, could be regarded as an organizational setting that makes severe demands on the solidarity norms and require strong forms of organizational culture. Thus, the act of DHQ relocation could



consequently be seen as a deliberate, indirect spatio-structural and spatio-hierarchical strong means with respect to normativeness, when taking into account the clear implications of this relocation act on communication and the subsequent information culture in the international firm. This is an aspect explicitly pointed out by Palmer et al. (1987), and further researched by Forsgren and Holm (1991), and Forsgren, Holm and Johanson (1995). The influential nature of the setting of nation cultures has been treated, for example by Horng (1993) in her study over cultural differences, trust and their relationships to business strategy and control, and Schneider (1989) on the question of strategy formulation as affected by national culture.

As concluded above in connection with the DHQ role, DHQ relocation is an essential event and element pertaining to the space-time dimension with respect to the information process or informational transactions both internal and external to the firm. In this setting, then, a relocation event also introduces transactional cost economics into the theoretical discussion of this study. It has been treated with respect to international business or MNCs by for example Teece (1986), Hennart (1991, 1993), Rugman and Verbeke (1992), Williamson (1993, 1999), and Reuer (2001).

Robins (1987) notes that "organization is one competitive factor among many, and its relative importance in business strategy will be determined by the relationship between environmental conditions and the existing structure of the firm. Much of the power of transaction-cost analysis stems from the fact that it can help to clarify the specific conditions that lend strategic importance to organizational design."

On account of this notion of "specific conditions" and "organizational design", it may be said that information processing, also by way of its numerous practical mechanisms that are geared closely to organizational design and are unseparable from the space-time dimension of this study, can with great justification be called a strategic question, as it is an issue of "organizational performance and survival" in the expression of Egelhoff (1991).

Concerning Robins' notion, information processing also identified in this way is subject to a keen approach by transaction cost theory, concerning both the logistic information process and the cognitive information process of a DHQ management.

According to Robins, transaction cost theory, giving "a rigorous form to one of the critical issues of organization: internal governance.....provides a common framework for analysis of both the problems that environmental uncertainty may pose for internal coordination and the implications of different solutions to those problems for the competitive position of the organization."

This comment, then, fits particularly well the DHQ spatial logistic information processing problematics presented in the beginning of this study.

Robins continues further by noting that as the above "approach to governance involves an explicitly strategic formulation of the organization-environment relationship.....the restructuring or redesign of organizations to suit changing environmental conditions is one of several areas in which competitive strategies can be formulated and implemented.....Transaction-cost theory can play an important part in strategy formulation by providing an analytical framework for discussion of the relative cost advantages offered by different forms of organization under specified environmental conditions."

In the case of this study, the environmental conditions in this respect could be seen as specified according to the ideas presented, primarily, in the chapters above dealing with the logistic information process as well as company identity and below in dealing with the space-time dimension.

However, the transaction cost theory of the MNC has not considered the issue of fit between strategic behavior and organizational capabilities, except with regard to the development of the multidivisional structure of the MNC to overcome problems of bounded rationality and opportunism. Hence, with respect to the coordination and control of firm-specific assets it is one of several elements of penetration ability on foreign markets, according to Rugman and Verbeke (1992). Also according to their view, in general terms the multidivisional structure as a system to "reduce" transaction costs is "intimately related to the system of managerial capitalism in the United States and its associated agency problems".

Palmer et al. (1987) comment on the same topic by discussing the idea that this statement refers particularly to the previously predominant functional structure in large MNCs within which "functional managers have a natural tendency to behave opportunistically, or to pursue their self-interest with guile, at the expense of the firm." Referring to Williamson (1975) they continue that "the increasing number and complexity of organizational decisions makes it

difficult for the core of top management to monitor and control such behavior." They conclude by noting that "as a result, functional managers who are part of the top-management team often miss or purposely mishandle many strategic decisions."

In some respects the situation between functional structure MNCs and the spatial structure of MNC divisions could be regarded as analogous within the need for a unified strategy as an aim, and concerning the need for governance mechanisms in relation to opportunism. This analogy could be implicitly confirmed by the notion of resource-power-based politics by dominant foreign subsidiaries, as presented by Forsgren, Holm and Johanson (1995), in their study of the reasons behind DHQ relocation events from Sweden abroad.

As Robins (1987) notes, "governance mechanisms serve to coordinate the economic activities of individuals in a manner that is compatible with the requirements of the competitive environment. It is important to recognize that the conditions under which competition takes place are likely to be idiosyncratic, and the insights provided by transaction-cost analysis may be specific to a firm or industry."

With this in mind it might, then, be argued that idiosyncrasy, from the point of view of this study, concerns those MNC divisions which take care of their DHQ tasks and roles under particular spatio-temporal conditions that demand relocation. In other words, DHQ relocation could be regarded as an idiosyncratic way of redesigning the organization spatio-temporally.

As Robins continues, "transaction-cost economics is useful in organization studies not as a basis for general laws of organization, but as a means of integrating research on the behavioral aspects of organization into an economic and strategic analysis of the firm."

It could accordingly be supposed that in the cross-cultural and multinational context of an MNC the problems of coordination and control to reduce transaction costs, under conditions of managerial capitalism, are not necessarily eliminated by the application of the divisional structure, or M-form, instead of the functional structure, or U-form, as presented above by Palmer et al. (1987) in their simultaneous reference to Williamson (1975). This is actually implicit in the above notion of a "political perspective" within a divisional organization developed by Forsgren, Holm and Johanson (1995).

In a wider sense than purely nation-cultural differences, a reference to the spatio-temporal context aggravating the perceived situation of bounded rationality by management lies in the thought of Forsgren, Holm and Johanson that "what counts from division HQ's point of view

may be the limited knowledge about the subsidiary's specific business conditions rather than about country-specific factors such as language, culture, social conditions, etc. Or expressed otherwise, the concept of psychic distance covers only partially the control problems connected to having operations at a distance from division HQ."

The above presented ideas and notions by various authors, connected with the idiosyncratic, geographically peripheral spatio-temporal conditions under which the Finnish MNCs and their DHQ conduct their activities, serve, then, as one of the grounds for justification to adopt transaction cost theory as one aspect within the cognitive information process approach in this study.

#### **3.3.4.3.2 Application of the transaction cost economic approach to the Finnish DHQ relocation context**

In an MNC division with an additional successful event or phase of international growth, for instance one or several newly acquired foreign subsidiaries, a characteristic of the DHQ management can be supposed to be, *ex post*, a strong commitment to continued meeting of the subsequently grown challenges from the internal organization, the market, and the competitors. Thus, after assumed strong internationalization and growth, those interests of the company vested abroad, both material and immaterial, are considerably larger than before.

Consequently, with a larger than earlier organization and its possibly wider international geographical coverage, the organization's requirements for data and information processing, "inherent in its strategy and environment", have probably become more voluminous and more complicated than before. This also requires considerably better information processing capacity than before, putting the criteria for "fit", i.e. "good organizational performance and survival", on an essentially higher level, according to those notions presented above by Egelhoff (1991). It can be further assumed, in connection with the predominantly high-technology nature of these Finnish MNCs, that with growth in the amount of information, the asset specific transactions attached to this reciprocal information processing also grow in quantity and intensity. The integrity requirements of the transactions can also be assumed to have become more complicated and demanding. This may, for instance, be due to the presumable fact that through

international growth the number of different cultures, languages, and varying national business practices has grown.

Folta (1998) has studied the governance modes of transactions in the face of great technological uncertainty, and heavy investments in pure learning of growth opportunities, i.e. biotechnology, and on costs of commitment in minority direct investments and joint ventures as compared with benefits of hierarchical governance. In that connection he notes, as a background for his own study, and in wide reference to the literature that “it has been argued that greater degrees of R&D investment represent increasing levels of human and dedicated capital specific to a transaction.....since R&D transactions in emerging technical industries simultaneously involve a high degree of asset specificity and uncertainty, it is expected that greater degrees of ownership are required to eliminate small-numbers conditions and minimize the threat of opportunism”. He continues that “in the international literature there has been some support for the preference of multinational firms to acquire vs. partly acquire foreign subsidiaries in the presence of asset specificity (measured as high R&D expense)”.

Altogether, then, a Finnish MNC can be assumed to have acquired a new, elevated strategic international position. This position may be characterized by a chosen new and more challenging strategic reference point, or points, which consequently set essentially new requirements on the number and quality of transactions with respect to customers, competitors, scientific institutions, and public authorities.

These mounting transactions also take place in the form of informational transactions within the hierarchical governance structure of the company. This means high-technology core competence knowledge between the DHQ and the subsidiaries' managers, between various subsidiaries and functions, and leading members of the subsidiaries, including the newcomer subsidiaries' management and staff.

But informational transactions also take place between the subsidiaries' representatives and customers in the form of services within the company's governance structure of a market. The number of informational transactions may also be considerable between the subsidiaries' managers or staff representatives and the rest of the environment, for example social and political institutions, and even competitors.

Asset-specific knowledge transactions and any transactions as well may take place within any governance mode. As Williamson (1993) states, “a transaction occurs when a good or service is

transferred across a technologically separable interface. Transactions are mediated by governance structures (markets, hybrids, hierarchies)". Besides the governance structures of hierarchy and market there exists, then, the governance structure of a hybrid, that is, according to Williamson (1993), "long-term contractual relations that preserve autonomy but provide added transaction-specific safeguards as compared with the market". As Hennart (1993) points out, the hybrid as a mix of the organizing methods of hierarchy and price is actually a rather common governance structure: "markets and firms are institutions which use one or both of these methods. Although markets predominantly use prices and firms rely principally on hierarchy, there is not a one-to-one correspondence between prices and markets or between hierarchy and firms."

Thus, within the contingencies of asset specificity and bounded rationality, all of these three governance structures can be regarded as applicable when thinking about the possible interface areas of appearance of opportunism in transactions, seen from the point of view of the DHQ management in a company undergoing rapid international growth with a multitude of foreign subsidiaries. Contextually it can, for instance, be assumed that the new, stronger international position of Finnish MNCs on foreign markets has evoked both intensified competition, and in some cases even created an openly offensive competitive situation. Initially small or medium-sized Finnish MNCs, as seen on the global scale, can be thought of as having drawn more attention than before from still more powerful competitors as a result of continued acquisitions and their entering into locational high-technology knowledge contexts, into Porterian 'diamonds' of national advantages and national industry clusters. It is herewith assumed that Finnish MNCs, practically all of them representing fields of high technology, fall into the category of MNCs dealt with in the research done by Frost (2001). He sets forth that "our results both support and extend a widely debated (but largely untested) conjecture in the multinational literature, namely that foreign direct investment may be driven, at least in part, by the desire to gain knowledge from the diverse institutional contexts in which multinational firms operate. The results of this study support this conjecture by linking distinctive technical capabilities of foreign subsidiaries to local sources of knowledge and locational technological advantage." In this way the interfaces in respect to the environment of the grown MNC organization, and concerning areas of firms' asset-specificity, have become manifold. On the whole, the competition for the Finnish MNCs can be assumed to have become tougher, leading to the

perceiving of the possibility of for example subversive activities on the part of strong competitors. Within their own expanded organizations, with recently acquired strategic foreign subsidiaries, there may consequently be perceived increased bounded rationality and the possibility of opportunism by the Finnish DHQ management.

A growing number of transactions of various kinds at the interfaces between for example the managers and staff of foreign subsidiaries, and some cooperative competitors' representatives may have occurred. Fast technological development and the consequent need for quick product introduction increase the need to develop cooperative networks in technology and production, also between present or potential competitors. This may take place in the form of for example strategic alliances, and thereby under types of alliances termed 'competitive' or 'precompetitive' with an explicit stress on simultaneously **defending** a firm's core competence and flexibility, as underlined by Yoshino and Srinivasa Rangan (1995). Technology transfer in any governance form is becoming increasingly common.

Hence, cooperative networks may also result indirectly in unintended and even clandestine conveyance of competitors' interests into and within the social context and internal organization of the MNC's foreign subsidiary as implied by Yoshino and Srinivasan Rangan. This condition introduces the possibility of risking internal integrity with respect to asset specificity, with opportunism as a result. Facing this reality with the institution of an MNC firm (in contrast to the institution of a market) there is good reason here to refer to the conclusion of Hennart (1993) in his comparison of these institutions with respect to the organizing methods of hierarchy and the price system and their hybrid that "the use of hierarchy is a sine qua non condition for the existence of firms.....because they (i.e. firms) replace price constraints with behavior constraints.....behavior constraints (i.e. hierarchy) will still be the firm's primary organizing method". The DHQ are, of course, an element in the MNC's hierarchical, behavior constraining structure.

This may be a relevant point in foreign cultures with different value settings and incomplete communicational understanding with the DHQ management, with subsidiaries simultaneously having possibly strong local and external and alien networks to the MNC. The influential role of national culture in respect to the transaction cost theoretical perspective is brought forth by Makino and Neupert (2000) concerning their study of choice between joint ventures or wholly owned subsidiaries as the foreign entry mode. They stress that "R&D intensity was positively

and significantly associated with the choice of WOS (wholly owned subsidiary) over JV (joint venture)". To these conditions may be added various difficulties encountered in the logistic information process mechanisms, concerning both hierarchical and reciprocal communication and socialization with the foreign subsidiaries. These latter conditions are brought out by Stenberg (1992) concerning Finnish MNCs.

The appearing of "opportunism" or going one's own way and maximizing one's own goals in relation to the corporate interests and management, resulting from a lack of sufficient internal corporate cohesion and taking place in connection with international, various nation- and organization-cultural differences attached to acquisitions and mergers, is explicitly brought forth by Olie (1994) in his study; however, he does not use "opportunism" in the strict sense it is used in transaction cost theory and defined by Williamson (1993).

Under the general propositions of transaction cost economics, as suggested by Williamson (1986), those propositions can fit with the organizations and conditions of this research work, too. In this study, then, it means that they fit the characteristics of the Finnish MNC divisions discussed, which are assumed to have had in their foreign network of subsidiaries particular asset-specific human investments and idiosyncratic labour services, employed within the governance of hierarchy, market and hybrid.

With respect to one of the basic concepts in transaction cost theory, namely bounded rationality, it is obvious that those difficulties expressed in practice by the Finnish DHQ managements in matters of logistic information processing requirements represent a strong push perceptually in the direction of a state of bounded rationality, as a condition of limited cognitive competence. This is confirmed by Stenberg (1992) in his notion that "the external (operational environment pertaining) information system was perceived to lag behind of what the managers evaluated to be adequate". This is connected with the rapidly developed structural systems of the internationalizing Finnish MNC organizations researched by him. The condition of bounded rationality is imminent in this kind of situations as likewise described by Olie (1995) in his research concerning culture and integration problems in Dutch international mergers and acquisitions and the resulting 'postmerger syndrome'. As he says, "on an individual level managers and employees show simultaneous fight-flight responses, a resistance to change, resentment of the acquired company's managers and a focus on personal security rather than



organizational goals. Furthermore, people go through a culture shock, and cultural differences are often cited as a source of hostility. At the organizational level, the syndrome is visible through a tendency **to not pass information** or problems up or down, a tendency among top management on both sides **to not communicate** with their respective organization, and conflicts between the acquired organization often (get) quite intense" (emphasis added).

To this contingency it should be added that hierarchy does not provide a watertight solution in respect to opportunism. This is well put forth by Granovetter (1985) in his notion and criticism of Williamson on some of his ideas of transaction cost theory; "the oversocialized view that orders within hierarchy elicit easy obedience and that employees internalize the interests of the firm, suppressing any conflict with their own, cannot stand scrutiny against.....empirical studies....."

Thus, it could be suggested here with reason that by the definitions of the various components of transaction cost theory and following the thinking in the paradigm of this study, the logistic information process and transaction cost economics belong organically together, the latter being an inseparable part of the paradigmatic cognitive information process. The connection between these two paradigmatic elements rests in the social dimension of the transaction cost theory, and further, in science history. For concerning the concepts of bounded rationality and opportunism in relation to governance by hierarchy in particular, those above two paradigmatic elements rest on what March and Simon (1958) have set forward as concerning an interest to "explain human behavior.....in what influences impinge upon the individual human being from his environment and how he responds to these influences. For most people formal organizations represent a major part of the environment". In addition March and Simon set forward, "the steps that lead, for an actor, to his defining the situation in a particular way involve a complex interweaving of affective and cognitive processes. What a person wants and likes influences what he sees; what he sees influences what he wants and likes".

As presented in this study concerning the psychology of perception and cognition, behind the entire scientific analysis of the behavior of modern organizations lie psychological assumptions about the human organism and its central nervous system. March and Simon point out that these assumptions are compatible to the theory of cognition and perception and that the human organism can be regarded as a complex information-processing system.

This means, then, that as seen from the individual DHQ manager's perspective, the MNC's divisional organization itself can be perceived as a part of the social environment. This is particularly true of the organization abroad, consisting of the foreign subsidiaries and their managers. It also means, with reference to the conclusions of March and Simon (1958), that a company as an organization in its behavior, with the deluge of information, is "intendedly rational" but with many "limiting factors" "of human intellectual capacities in comparison with the complexities of problems that individuals and organizations face".

It is reasonable, then, to assume that these features would have a definite influence on the "interweaving affective and cognitive processes" of management. This is tenable within an MNC with its far-flung international network of foreign subsidiaries and differences in national cultures and values, with tentatively mutual center-periphery attitudes, as set forward in the Extended Problem Analysis and noted by Goodall (1987). In particular, this can be thought of to exist in conditions of the logistic information process difficulties that are due to the spatio-temporal peripherality of the location of the DHQ. This peripherality in space and time is assumed to be explicit for the point of departure in this study.

In terms of transaction cost theory, then, these aspects influence the perception of DHQ managements both through logical inference and by way of emotions. In other words, concerning transaction cost theory and the contingencies of Finnish DHQ managements we can think that a holistic mental process has taken place, "a complex interweaving of affective and cognitive processes" as noted above by March and Simon (1958), or as Forgas and Melamed (1976) discuss "emotional components of cognitive set" concerning the segregative or integrative relationship in social cognition in connection with an imaginary situation, or as Damasio (1996) puts it in connection with business decision-making in human fiction "the partnership between so-called cognitive processes and processes usually called "emotional" should be apparent".

On the basis of the above references and empirical material attached for example to a manager's notion that "it is almost impossible to get foreigners to (settle in) Finland" (Stoor, 1993) which material is above presented in connection of the research problem, it is in this study accordingly assumed that under conditions of a spatio-temporal peripherality there exists a mutual perceptual center-periphery attitude within an MNC between the managements of the foreign subsidiaries and the DHQ. In other words, this could also be called, as a matter of pure logic of

reciprocity under reversely identical conditions, a mutual and perceptual 'psychic distance' within an MNC's organization. The concept 'psychic distance' is "defined as factors preventing or disturbing the flows of information between firm and market", applying the term presented by Wiedersheim-Paul (1972, in Johanson and Wiedersheim-Paul, 1975) in the context of the process of internationalization of the firm. Those factors disturbing information flows are for example "differences in language, culture, political systems, level of education, level of industrial development, etc. For obvious reasons, psychic distance is correlated with geographic distance", as the above authors explain. This mutual center-periphery attitude or psychic distance is assumed, then, in the course of company's growth process to increase the perceived bounded rationality of the DHQ management, in the sense of "a condition of limited cognitive competence to receive, store, retrieve, and process information", following Williamson (1993). The increase in bounded rationality gives rise in turn to the DHQ management's perception of the possibility of opportunism on the part of management of foreign subsidiary.

Thus the above assumption of the implicit mutual center-periphery attitude in the DHQ relocations of Finnish MNCs, based on empirical material but also on the literature relevant to the kind of companies studied, can be seen as justified and relevant with respect to a transaction cost economics approach from the point of view of a DHQ management.

The topic of spatio-temporality in perception and cognition is further elaborated in the next chapter.

It is of interest to note that on the macro-social level the spatio-temporal theme is dealt with by for example Giddens (1985), within the discipline of sociology. He thinks that "distinctions between centre and periphery tend frequently to be associated with endurance over time. Those who occupy centres 'establish' themselves as having control over resources which allow them to maintain differentiations between themselves and those in peripheral regions. The established may employ a variety of forms of social closure to sustain distance from others who are effectively treated as inferiors or outsiders." Hence, the contents and essence of this thought by Giddens are suggested also to apply to DHQ managements in peripheral Finland.

This course of perception is actually, though implicitly, comparable to the idea of political resource power influence under bounded rationality in the study by Forsgren, Holm and Johanson (1995) dealing with Swedish DHQ in MNCs; Sweden may be seen in practice

perceptually and reciprocally as peripheral as Finland. Thus the affective and cognitive processes of those DHQ managements can be seen as subject to the micro-social level contingencies concerning the network of the MNC's foreign subsidiaries. They show that many of these subsidiaries possess a dominant and strategic position in the organization in certain knowledge, R&D, and product areas, also attempting at wielding political power on strategies in the divisional organization. Concerning the events of DHQ relocation from Sweden abroad they suggest that "MNC international expansion is, rather than being the outcome of corporate (management) strategic decisions, driven by actors outside the control of corporate executives." However, they do not present any explicit transaction cost economic aspect in their study over the relocation events.

Introducing the concepts of the center-periphery metaphor and of psychic distance in connection with transaction cost theory underlines the introduction and presence of the space-time dimension in connection with the concept of social cognition, before dealing with the actual space-time element of the paradigm in this study. It can also be noted that bounded rationality, as defined by Williamson (1993), also implicitly includes the space-time dimension within his notion of "a condition of limited cognitive competence to **receive**.....and process information" (emphasis added), the term 'cognitive' also referring itself in this connection to the aspect of "the process of knowing" of the concept (Webster's Dictionary, 1956).

Transaction cost theory may thus be seen from both the aspect of social cognition and spatio-temporal cognition, and then also be regarded as a spatial theory. Despite this presentation, transaction cost theory is, however, taken here essentially as an aspect of social cognition, in the sense of 'cognition' as "knowledge or the capacity for it" (Webster's Dictionary, 1956). In other words, the idea of transaction cost theory in this study as a management research concept representing social cognition refers to change in the social relationships and social contingencies. In a phenomenological sense, this perception refers back to the growth-induced changed company identity, with a changed perception and interest in otherness.

Just as bounded rationality may be interpreted as a spatial concept, this can also be thought of to apply to the transaction cost theory concept of opportunism. While bounded rationality as for example a state-concept refers implicitly to the basic cognizance of 'otherness', i.e. the managements' identity-change induced 'new otherness', opportunism can be seen to represent a

particular qualitative aspect of this cognized 'otherness'. Referring to the new changed identity of the management and the idea of 'otherness' by Husserl as presented above by Heinämaa (1996), it may be suggested that opportunism in connection with the 'new otherness' is perceived to include an element of territoriality with respect to a company's specific assets. Opportunism as "self interest seeking with guile" (Williamson, 1993) and which refers to secretiveness with respect to information, may be seen in the DHQ's perception to implicitly include an element touching the territoriality of a newly expanded company with its new identity including recently acquired foreign subsidiaries and their specific assets. Territoriality or "the spatial organization of persons and social groups through the demarcation of boundaries" and "the need for territory", may also be seen in social cognition "as a universal drive or instinct", according to Agnew (1994).

In order to be relevant territoriality in its contents and substance could also be seen within the spatiality of the MNC organization to be symbolical with respect to the firm-specific assets as perceived by DHQ management. The demarcation of boundary takes place, then, in the form of exploiting the exclusive privileged ownership, or as Dunning (1988) puts it, "the.....condition for international production is that it must be in the best interests of enterprises that possess ownership-specific advantages to transfer them across national boundaries **within** their own organizations rather than sell them, or their right of use to foreign-based enterprises." Demarcation also may take the form of safeguards against chances of opportunism, safeguards being "the added security features, if any, that are introduced into a contract, thereby to reduce hazards (due mainly to asset specificity) and infuse confidence. Safeguards.....deal with contingencies" (Williamson, 1993). When taken as a universal 'drive or instinct' within an organizational social context with respect to the organization's particular interests, territoriality could tentatively be seen as a valid concept, even without managements' particular experiential or concrete reference to spatiality. Consequently transaction cost theory, supplemented symbolically and implicitly with territoriality in relation to the concepts of bounded rationality and opportunism, may be seen as a relevant approach in the paradigmatic social cognition element of this study with respect to phenomenological 'otherness', without any concrete reference to spatiality despite its basic character as an environmental, or socio-spatial, concept, as in March and Simon (1958).

Governance of transactional activities over a wide range of interfaces may become a central concern for the DHQ management in a situation characterized by recent acquisitions or other sizable investments abroad. Cognition of the possibility of opportunism may become an ever more present condition if the achievement of fit in the capacities of the logistical information processing mechanisms is lagging behind, as noted by Stenberg (1992) and Santala (1996) to be a reality with Finnish MNCs of their studies.

In this situation, the divisional management may regard it necessary, in terms of transaction costs, to economize on bounded rationality through ex-ante safeguarding costs by relocation of the DHQ. With such a solution, the governance structures of hierarchy, market, and/or hybrid to sustain the integrity of the transactions are perceived to be better secured. Hence, following the thoughts of Williamson (1993), the possibility of opportunism, "self-interest seeking with guile, to include calculated efforts to mislead, deceive, obfuscate, and otherwise confuse", may be countered. In other words, relocation provides added value by organizing the firm so as, following Williamson (1986, 1991), to economize on bounded rationality and to safeguard transactions against the hazards of opportunism.

As was noted above by Forsgren and Holm (1991) in their study of DHQ relocation events from Sweden abroad, relocation as a spatial solution can also be seen as a structural organizational arrangement and solution. Without changing the basic organizational structure and hierarchy as such, it serves, in a sense then, as a spatio-temporal 'coefficient' to the structural dimension, a structure-attached channel in the information process.

In Granovetter's (1985) expression, "opportunism is mitigated and constrained by authority relations and by the greater identification with transaction partners that one allegedly has when both are contained within one corporate entity than when they face one another across the chasm of a market boundary."

Relocating the DHQ, and changing management's perception with respect to their spatio-temporal, peripherality and territoriality influenced interwoven affective and cognitive structures concerning opportunism, can be seen as a solution of transaction cost economics. As a spatio-structural, distinctive solution it is here suggested that DHQ relocation in practise may also be comparable to the control modes of price and hierarchy; formally, it is a dimension in the governance structure of hierarchy. Relocation in its cognitive-logistic meaning is also parallel to the control mode of socialization suggested by Hennart (1991); it is itself also

conceivable as a dimension within hierarchy, on the assumption that relocation improves the possibilities to for example attract foreign impatriates to the relocated DHQ and generally enhances rotation and personal communication.

In terms of economic thinking, these notions represent an addition to the ideas by Chandler (1962) and Williamson (1975). According to them, the divisional structure, through hierarchy and the assignment of strategic decisions to corporate HQ, served as a transactional solution in reducing opportunism in mishandling strategic decisions. This was constantly envisaged during the functional structure used primarily previously, according to the presentation by Palmer et. al (1987). However, along with the development and growing importance of the role of divisions in MNCs, including the assumption by DHQ of responsibilities for strategic decisions in their own business areas, the transactional control mode of a profit-centre approach, that is price, has been added to the division, as Rugman and Verbeke (1992) note.

Later on the contingency approach, in terms of transaction cost theory, has been widened by presenting the possibility of a mix between hierarchy and internal market, i.e. price, in the form of a hybrid as, as a widely used application, presented by Hennart (1993).

Altogether, it is reasonable to consider the analytical approach represented by the transaction cost theory to be very relevant for this study. It may be characterized as a powerful aspect from the point of view of the cognitive information process of the study paradigm in this work, as a part of the perceived self-environment relationship or social cognition. Transaction cost theory and strategic reference point theory, being initially based on cognitive principles, both represent in their capacity as management research approaches powerful lenses into the socio-spatial phenomenon of the international production of the MNC. These approaches represent perceptual and cognitive principles, "interweaving affective and cognitive processes", as expressed above by March and Simon (1958), while simultaneously incorporating the rational elements of multinational strategic management.

This cognitive dimension and its central role can also be discerned in the implicit importance of transaction cost theory in the widely referred to eclectic paradigm of international production, or, "the MNE as 'internalising exogenous spatial imperfections'", according to Rugman (1981, in Dunning, 1988).

Transaction cost theory also relates the paradigm of this study further to the multinational strategic management of a firm, to the type of 'transnational solution' presented by Bartlett and

Ghoshal (1989). This particular topic area is dealt with in some thoughts by Rugman and Verbeke (1992). They also point out the contingency approach of transaction cost theory with respect to the managerial needs of differentiation and mix of coordination and control modes, as suggested in the 'transnational solution'. In this mix, they also bring forth besides hierarchy, price and their hybrid, as a possibility the transaction cost economics control solution of socialization. As noted above, this was also suggested by Hennart (1991) in the form of for example the MNC investing resources in socialization.

The important question of the nature of socialization and autonomy to create commitment and a co-opting shared vision in an MNC is also illustrated by Marschan (1996) indirectly by empirical material. In her study of a Finnish MNC, she notes how the well-meant formal decentralization, with high level of delegation, differentiation and dispersal, realized through the ideas of relevant research literature on less-hierarchical MNCs, did not enhance inter-unit communication. The layering and flattening of the structure was simultaneously accompanied with standardized procedures and guidelines in inter-unit communication: "The genuine intention of top management was to enhance inter-unit communication by providing direct channels between operating units. However, at organizational levels below top management this was considered a move toward increased formalization and bureaucratization", disclosing particularly at the lower levels the "difficulty of creating and maintaining personal relationships across units and organizational levels", as Marschan says. Thus, the study shows the actual fragility of the international, both vertical and horizontal, human network of informal personal relationships. These relationships are used for both work and personal purposes, their fragility being revealed and turned into reality by the quasi-heterarchical structural change.

From a more general point of view, the application of the findings of the above study with respect to the relationship between the transnational solution and the transaction cost theory concerning multinational strategic management shows the generally precarious balance between the governance modes of formal hierarchy and informal socialization. This insecure balance is also brought forth by Hennart (1991) in the contradiction between autonomous initiative and incentives and hierarchical constraints. It brings out how an evident imbalance in this respect in an MNC with extensive interdependencies may actually constrain, endanger, and undermine personal communication networks in an organization, in which, explicitly, "smooth inter-unit communication is considered one of the key devices in enhancing the transfer and sharing of



knowledge", as Marschan (1996) points out. In their extensive study on value creation in MNCs through subsidiary differentiation in exploiting localized resources and through applying informal control mechanisms, Nohria and Ghoshal (1997) show the role of socialization and the shared values and beliefs thereby instilled. They underline them to be more essential than formal mechanisms of governance in achieving efficiency and reducing transaction costs. In terms of enhancing a wide array of both formal and informal logistic information processing mechanisms and modes of governance, for example serving integrative socialization through rotation, the relocation of the DHQ can be seen as a many-sided means from the point of view of transaction cost economics and theory.

#### **3.3.4.3.3 Aspects of the relationship between the transaction cost economic and the political approaches**

As Palmer et al. (1987) comment on the political approach with reference to the historical background and development of the divisional structure in large corporations, "organizations are composed of coalitions possessing different and often conflicting interests. Coalitions are engaged in an ongoing struggle for dominance, and the balance of power between them affects the organization's goals and structure." As above presented, this political aspect has been extended and applied to the spatio-structural dimension concerning of DHQ relocation in research work by Forsgren, Holm and Johanson (1995) in the context of subsidiary structures of existing divisions. Particularly, then, the political approach concerns the role of subsidiaries which due to their strong resources, for example knowledge-assets, have a strategically central or even dominating role in a division. These subsidiaries may within a continuous, own interests seeking strive - in coalitions or individually - and with other actors of the division influence the strategies and structures of the division, as Forsgren, Holm and Johanson suggest. For instance, an object of this kind of activity may be the DHQ relocation to the country of a particular advocate, or its vicinity, closer to the sphere of influence of a subsidiary or at a coalition of them. The natural question is, then, to what extent is it feasible to assume that the political perspective also includes qualities which are congruent with those present within transaction cost theory's concept of opportunism, or, how much do these two aspects overlap in practice?

Concerning power politics, Palmer et al. (1987) argue that politics concern power structures within firms and are thus a social phenomenon, as also presented above by Forsgren, Holm and

Johanson. As a social phenomenon in firms, power politics is also unavoidably tied to economic behavior and solutions, consequently including divisional structure solutions in MNCs. This, then, represents the perspective of 'embeddedness' and its partial role, or power politics is "not.....a complete explanation why firms use the MDF" in structural decisions, as noted by Palmer et al. (1987).

Logically, this would mean that a multidivisional structure offsetting a functional structure is not a completely 'pure' non-economic solution without undercurrents of economic interests and behavior. If the point of departure for divisionalization has been contingent on the fact that "functional managers have a natural tendency to behave opportunistically, or to pursue their self interest with guile, at the expense of the firm," referring to Palmer et al. (1987), then it is also reasonable to assume that divisional and other structural solutions based on political explanations may carry over opportunistic tendencies from one structural solution to another.

This course of thinking could be considered feasible by noting, following Granovetter (1985), that hierarchy does not provide any secure solution with respect to opportunism, even if it mitigates and constrains opportunism. Granovetter continues: "Note further that.....resistance to the encroachment of organizational interests on personal or divisional ones requires an extensive network of coalitions. From the viewpoint of management, these coalitions represent malfeasance generated by teams; it could not be managed at all by atomized individuals." In other words, this idea would confirm on a general level the above suggestion of the overlapping and entanglement of the socio-political aspect, and the aspect of economic interests or embeddedness in structural studies. Obviously Granovetter's above comment is, in an inverse sense, also applicable to the subsidiary level, as a level of sought-for organizational interests encroaching upon wished-for interests concerning a division. This is factually implied by Forsgren, Holm and Johanson (1995) in their suggestion that power politics is a background reason for DHQ relocation. It is realized in the form of power politics by dominant resource-power subsidiaries as resistance to DHQ centered strategic direction and decisions on behalf of their own interests. This argument could be concluded by the suggestion that the political aspect can also be seen to potentially include strains of opportunism that are embedded in the social structure of politics, as presented above by Granovetter (1985). By that token, the above political explanation, applied and suggested by Forsgren, Holm and Johanson to the DHQ relocation context, means that it also may

simultaneously be seen in their Swedish relocation context as a decision in line with the aspects of transaction cost theory. As a transaction cost economics solution, DHQ relocation could hence be seen as a necessary strengthening of a political power-lacking hierarchy by enhancing spatio-temporally the hierarchical structure through the mode of organizational information processing.

#### **3.3.4.3.4 Concluding remarks on the transaction cost economic approach**

The perception of the self-environment relationship within the social cognition aspect in the suggested paradigm of this study can also be illuminated through the concept of psychic distance. This concept has direct contact, in the literature, with the logistic information process aspect. The concept has been used in research on the internationalization process of the firm as one of the explaining variables affecting the accessibility and amount of knowledge, which is the crucial factor in explaining the stage-wise character of this process.

Psychic distance is defined as the "factors preventing or disturbing the flows of information between firm and market. Examples of such factors are differences in language, culture, political system, level of education, level of industrial development, etc. For obvious reasons, psychic distance is correlated with geographical distance. But exceptions are easy to find", as it is put forth by Johanson and Wiedersheim-Paul (1975).

In research on the internationalization process and the developed stages-model the concept of business distance has also been used synonymously by Luostarinen (1979). Excluding physical distance from it, the concept basically includes the same cultural, economic and other factors as psychic distance. These distance factors have been collectively defined by Luostarinen according to "the principle: the more different the target (market) country is from the home country, the more distant it is from it", and "distance is assumed to have an impact on the level of knowledge. Generally, the greater the distance, that is, the greater the differences between the home and target country, the less the amount of knowledge of the firm about the target country".

Thus both psychic distance and business distance can be assumed to affect perceptually the DHQ management in the social cognition change process, as a result of identity change induced by company growth. Psychic distance and business distance also refer to the same question of acquiring a sufficient amount of knowledge in the face of uncertainty and risk, with respect to

investment decisions in a foreign country, or countries, in the course of stage-wise internationalization.

Further, the concept of psychic distance has also been used, in the sense above, in connection with the political power perspective and self-interest by the dominant subsidiary having resource power within a division. Forsgren, Holm and Johanson (1995) contend in their study that the influence on DHQ location of the dominant subsidiary may be enhanced, as a factor in controlling problems, by the psychic distance between the home country and the dominant subsidiary country. In the study by Forsgren and Holm (1993), based on the use of the concepts 'psychic distance' and 'dominance', the latter denoting a subsidiary with 'critical resources' for the division, the authors explicitly suggest that the division management "will experience a greater need to gain access to the unit's local, critical resources, for example information, to be able to influence its activities". Thus, in the Swedish DHQ conditions of 'dominance' and 'psychic distance' together with 'long distance' in a physical sense, these implying in a very holistic sense the peripherality of Sweden, the crucial factor for DHQ control becomes the ability to acquire knowledge and information, according to Forsgren and Holm. As they note in their theoretical conclusion, the DHQ relocation process represents a change in the governance structure of the MNC division. But it may also be a factual **ex ante transaction-cost solution** in the sense of transaction cost economics, with regard to implicit opportunism within the embeddedness of the political power aspect, and the explicit boundedness of rationality in both of the meanings of the concept: "behavior that is intendedly rational but only limitedly so", and "a condition of limited cognitive competence to receive, store, retrieve, and process information" (Williamson, 1993). Thus the concepts of psychic distance and business distance refer to country differences and their negative effects on the information flows and the resulting level of knowledge. Hence, the use of these concepts strengthens the viability of the transaction cost analysis in connection with DHQ relocation and thus the approach to the research question within the chosen paradigm of this study. Due to geographically and socio-culturally very similar conditions, the Swedish MNC contingencies can also be assumed to apply to the contingencies of the Finnish MNCs, and thus the above research on psychic distance is assumed to be applicable for this theoretical research.

However, as Forsgren, Holm and Johanson (1995) comment, "this lack of knowledge about specific business conditions may be as serious a problem" and thus "the concept of psychic

distance covers only partially the control problems connected to having operations at a distance from division HQ." This comment is based on their research outcome, according to which there is also a specific attraction force emanating from the most dominating divisional subsidiary; that aspect comes closer to the aspect of the strategic reference point theory dealt with above.

It should also be noted in terms of coordination and control in an MNC, also one of the transnational type, that DHQ relocation could be seen both as a step in enhancing the "visible hand of managed integration", and the process of socialization with the same aim. This notion follows the line of thinking by Rugman and Verbeke (1992) and Hennart (1991). This enhancement supposedly takes place through improved logistic information processes as a result of DHQ relocation. Relocation can thus be seen as an *ex ante* transaction cost economic investment in improving the DHQ knowledge and control of subsidiary operations, according to the ideas of the above authors.

However, this link between the DHQ-encountered problems in the logistic information process and the transaction cost economics would mean, in principle, a direct reciprocity and recursiveness between them on the rational level in the minds of management. In other words, in terms of transaction cost theory, it would represent a direct reciprocity between the logistic information process and the social cognition change process without an explicit role for the cognitive spatio-temporal change process. In this research both these processes, however, belong to the context of the holistic cognitive information process put forward as an interpretative or explaining paradigmatic variable in this work. The plausibility of the above direct link idea will be considered in more detail below, in the chapter on cognitive spatio-temporal process.

Concerning the holistic socio-spatial information processing question there is an additional aspect attached to transaction cost economics. This is the question of "the unexplained in managements' explanations", referred to in the chapters 'Introduction' and 'Research Problems', and concerning the background for difficulties in getting foreign subsidiary personnel to be impatriated temporarily to Finland.

It is reasonable to assume that management's social cognition also includes the negative attitudes of members of the managements and staffs of the foreign subsidiaries concerning for example impatriation and recurrent travel to Finland. These attitudes of foreigners, as they are

perceived, experienced, and thought of to exist explicitly on a practical level as brought forth in this work, become a part of the social relationship-image, the DHQ management's social cognition; the cognitive psychology approach of this work is implied in these logistic information process problems. Especially, these attitudes are assumed to influence the DHQ management's perception of its own 'limited cognitive competence' concerning hierarchical governance over information, and thus leading to a stronger sense of the boundedness of rationality.

This may be summed up as equal to management's perception of a general peripherality, as that concept was defined above in human geography by Goodall (1987). This secondary perception of peripherality, generative to the management's perception of opportunism, has presumably been created experientially in the course of the recent historical growth process, recursively with management's cognitive structures of peripherality, according to the processual ideas of Forgas and Melamed (1976), in reciprocity with experiences of problems within the company's logistic information processing.

Based on this intertwined process of managements' social cognition, bounded rationality and opportunism are assumed to go hand-in-hand in the mounting to a DHQ relocation leading process, as a function of changing conditions of logistic information processing, and psychic distance. This coupling resembles the idea of an "organizational failures framework" illustrated by Williamson (1975).

As noted above, Hennart (1991) has demonstrated that socialization is an alternative to the conventional modes for governance of the integrity of transactions. Particularly under certain conditions of the lower level of knowledge of the DHQ compared with that of the subsidiary, and which impedes assessment of the performance of the subsidiary, investing resources in socialization would act in the best interests of the MNC, with external constraints unneeded, as set forth by Rugman and Verbeke (1992). On the basis of the above notions, combined with the social cognitive map causes presented as fictional theoretical examples below in the propositions P #4k13 and P #4k14 in Appendix 2, it could be proposed that the relocation of the DHQ as a spatio-temporal vehicle of socialization might be the kind of resource investment implied by transaction cost economics. This suggestion could, naturally, be significant without any particular conditions as to the level of subsidiary-pertaining knowledge as seen on the part of the DHQ management. On the practical level, then, socialization enhanced through DHQ

relocation could be thought of as an integral part of some of the categories of the mechanisms of the logistic information process, presented and analyzed by Egelhoff (1991, 1993).

In terms of transaction cost economics, socialization comes to the very heart of the basic postulates of the theory itself, the psychology and behavior of the human being as a knowledge- and know-how-bearing factor of production and social actor. The concepts of asset specificity and opportunism are integrally linked to this factor. There is cause to raise the inherently contradictory question of how to create and bring forth in an organization new knowledge of asset specific nature for the good of the organization, with a simultaneous assumption of opportunism suggestive of bad for the organization by the same people. This dilemma has been discussed thoroughly by for example Ghoshal and Moran (1996) concerning management of knowledge-creating organizations and the role of established management practices based on transaction cost theory.

Socialization as a means of governance of the integrity of transactions, implicitly represents the other side of the coin with respect to the basic psychological characteristics of the human being. Opportunism represents the self-interest seeking features in a socially negative mode, defined in detail by Williamson (1993, 1996), and recurrently encountered. The other side is represented by the trust and cooperation between the individual and his immediate social environment, together with the creative organization and the very source of the specific assets sought implied by socialization. If hierarchical control would be called external control with respect to the individual, then the transaction-cost of socialization as trust-based and trust-developing could be called internal control, or self-control with respect to the individual, following Hennart (1991). Trust naturally does not eliminate opportunism and the basic postulates of transaction cost economics. But internal self-control would be, however, psychologically and humanely a logical and, hence, an inevitable extension of the modes of governance of integrity of transactions, moreover, following the thoughts of Ghoshal and Moran (1996), in fact a logical source of specific assets, too, within transaction cost theory.

But the double-minted coin is still there as a recurrently materialized human factor. The captivating question is, at what level in human emotional and experiential cognition is this threat to idiosyncratic competitive assets processed, what kind of phenomenological representations of opportunistic behavior does it induce in managers' minds, forming the apparent cognitive-psychological basis of argumentation of transaction cost theory. Hence, if

this is an innate feature, to which human features equally inborn are these representations of managers a mirror reaction to. This question can be suggested with reference to the ideas of Rajecki (1977) on ethological elements and territoriality in social psychology, Forgas and Melamed (1976) on emotional elements in cognition in general and Damasio (1996) on evolutionary somatic markers of primary and secondary emotions while reasoning and deciding in a personal and social space pertaining to for example human survival or future strategies. Perhaps the latter part of the question, the rise of opportunism, is not directly dominant as such. Rather, opportunism may be an indirect effect and phenomenon of defense against perceived individual or collective threats, aggressive competitive contest and kinship or group protection, applying ideas of Nicholson (2000) of evolutionary psychology in business organizations; in an MNC of great national and cultural differentiation there are naturally extensive possibilities for these phenomena.

Besides being included in the logistic information process as brought forth above, socialization as a mode of governance for transaction cost economics could be included, on the practical level, in some particular features of international human resource management (HRM). This could take place, for instance, in host-country nationals (HCN) and third-country nationals (TCN) rotation and staff transfers to DHQ, their cultural acclimatization and informal networks or programs for developing personal contacts aiming at reciprocally enhancing a corporate perspective, according to Bartlett and Ghoshal (1991), Hennart (1991), and Nohria and Ghoshal (1997). These programs help on the other hand in creating global management teams which play, as indicated, an important role in the logistic information process (Dowling, Schuler and Welch, 1994). The amount invested in this governance mode turns out, implicitly, to be a question of geographical location, psychic distance and peripheral location and thus ultimately part of DHQ relocation. For as Bartlett and Ghoshal (1991) note, applicably for this study, "maintaining an expatriate manager costs two to ten times as much as hiring a local manager for the same position". Hence, DHQ relocation can be seen on this basis, too, an *ex ante* solution of transaction cost economics.

Altogether, it is evident that with regard to the DHQ relocation phenomenon, the problem of the social and socio-spatial cognition of DHQ managers offers a relevant opportunity to be tackled by the paradigmatic aspect of transaction cost theory in this study. Within the organization-environment context, it seems a convincing approach to one of "the ways in which organization



structure is shaped by the exigencies of survival in competitive environments", as argued by Robins (1987) on the capacity of transaction cost theory in organization studies. Robins continues, "transaction-cost theory bridges the gap between strategic analysis and the study of organizational behavior by providing a framework for understanding the economic implications of behavioral research. By reinterpreting problems of organizational behavior in terms of the governance of economic activity.....provides tools for identifying the organization-environment linkages that lie at the root of the competitive advantages associated with different organizational strategies.....Governance mechanisms serve to coordinate the economic activities of individuals in a manner that is compatible with the requirements of the competitive environment.....It is important to recognize that the conditions under which competition takes place are likely to be idiosyncratic, and the insights provided by transaction-cost analysis may be specific to a firm or industry.....Transaction-cost economics is useful in organization studies not as a basis for general laws of organization, but as a means of integrating research on the behavioral aspects of organization into an economic and strategic analysis of the firm."

These ideas of Robins (1987) are highly applicable to the strategic problem of DHQ relocation, which is a complex idiosyncratic phenomenon attached to the conditions with which a Finnish, or in general a Nordic MNC and its DHQ has to cope daily, in a social and spatial periphery.

#### **3.3.4.4 Conclusion of the paradigmatic component of the social cognitive map and information process and the propositions drawn from it (P #3a-d)**

The paradigmatic social cognition element was presented above as a cognitive structure and a cognitive process, referring to the perception of DHQ management. The point of view has been managements' perception with respect to the foreign environment including the divisional organization itself, following the change in the DHQ managements' identity of Finnish MNCs as a result of the most recent growth event or chain of events of the company abroad. Studying the perceptual change in these managements with respect to the social environment underlines the obvious applicability and instrumental use of the strategic reference point theory and the transaction cost theory as relevant approaches to managements' cognitive development, which precedes the DHQ relocation decision.

Transaction cost theory can also be seen to have direct mutual contact with the strategic reference point theory for this study. Applying the presentation by Fiegenbaum, Hart and

Schendel (1996), it is assumed that a Finnish MNC has as its reference point time, in the sense of past excellence. This includes the company's earlier assumed strategic intent to become an international strategic leader, as a basis for the later achieved excellence. But this reference point can also be enlarged, as suggested above, to include space as a historically developed perceptual reference point to form a globalizing MNC's combined strategic reference point of time and geographic space. When this perceptual benchmark-condition in the capacity of an acquisition's integration is being risk-seekingly realized as a **time-consuming process**, and this contingency is applied to the situation of a newly acquired foreign subsidiary with its firm-specific advantages, a strong **interactive connection** in managers' perception can be perceived between the above risk-seeking strategic intent, and transactional cost economics aspects, in the form of perceived bounded rationality and opportunism, in respect to for example the new foreign subsidiary's firm specific assets. In other words, the **transactional governance** of a subsidiary's **integration process** becomes for management an additional here-and-now external **reference point**. A comparable perceptual interactive connection may naturally also refer to a strategic reference point of an external or combinatorial nature. Apart from concerning a matter of rationally based perceptions this suggestion is also compatible with the presentation of Forgas and Melamed (1976) and Damasio (1996) concerning the idea of the role of emotional components in the cognitive set and with perception. From the point of view of transaction cost theory this same notion is implicitly, but in a very essential way, set forth by Rugman and Verbeke (2001) in their study on the various categories of subsidiary-specific advantages in MNCs, thereby presenting the bounded rationality-conditioned practical implications and challenges brought about by notable subsidiary-specific advantages and competencies. As it is assumed and brought forth above, the Finnish MNCs perceptually renew their strategic reference points, for as Fiegenbaum, Hart and Schendel say, "we predict that firms that periodically change their SRP will sustain performance over time". In practice this means that the risk-seeking and subsequent risk-taking process may in for example larger acquisition cases efficaciously cover a time span of years. For the DHQ management this presumably creates a contingency of perceptual and behavioral reciprocity with reference to the basic ideas of both of these theories of social cognition.

Transaction cost theory and strategic reference point theory, representing social cognitive structures and processes, simultaneously embed and implicitly include in themselves the

dimension of spatiality as a cognitive structure and process. As theories, they are also spatial, as was brought forth in the introduction to the chapter 'The cognitive information process'. The next chapter explains how aspects of both theories connected with the pressing need for new knowledge, for example in a newly acquired foreign subsidiary situation described above, further tie these theories to spatiality; also conceptually through a need for space-bound tacit knowledge according to the thinking of Polanyi (1966). March and Simon (1958), writing on the theme of the "significance of organizations as social institutions", note that in our society the life of most of us takes place within some organization, and they continue: "As social scientists we are interested in explaining human behavior. Taking the viewpoint of the social psychologist, we are interested in what influences impinge upon the individual human being from his environment and how he responds to these influences. For most people formal organizations represent a major part of the environment."

Thus, it can be argued that, as seen by a DHQ manager as an individual, the organization as a social institution is an essential part of his or her environment. But at the same moment, as seen from the physically sensing, perceiving and experiencing self, this environment is also simultaneously external and spatial, physically outside the subject. Thus, what is external and social, is at the same time spatial. In other words, the concept of environment used by March and Simon (1958) compares essentially with the one used by Tversky (1992), in dealing with distortions of cognitive maps, and where she notes "cognitive maps to refer to mental representations of maps or environments, as revealed in a variety of tasks." However, she also makes a note of the varying interpretation of the concept 'environment' among researchers on cognition.

Thus spatiality, self-evident as it may seem to be, becomes through the above two intertwined management research theories an explicit part of strategic management in terms of the assumptions made about Finnish MNCs in this research. The spatial cognitive process in connection with these theories will be, however, discussed more below. It concerns the transition from social cognition to spatial cognition as an explicit process implying DHQ management's spatial cognizance. Besides the social environment and its changes being phenomenologically perceived as a spatial environment, the inversely perceived spatial relationships of social objects and entities also have social effects as a result of their spatial or spatio-temporal changes. Thus there seems to exist a social and spatial reciprocity, both by

phenomenological conceptual definition, and as for example Tversky (1992) above and further below presents, through the general mode of human cognitive organization of different types of topics, besides the spatial ones. The finalizing notion could be, then, that there is evidently not any decisive distinction in human perception and cognition between social cognition and spatial cognition, and in the cognitive information processes in these respects.

As a conclusion of the social cognitive information process based on change in company identity, the following three **propositions** are set forward concerning the DHQ management and staff:

**P #3a:** The DHQ management's perception of the company's new **changed identity** induced by foreign growth, i.e. its new international resources, capabilities, power, influence, and opportunities, phenomenologically including experiential and emotional components **change the perception** of the company's **relationship** with customers, competitors, and other elements of **environment**, and the future outlook of the company in general (Forgus and Melamed, 1976, Shaffer, 1977, Weick and Bougon, 1986, Damasio, 1996);

**P #3b:** This cognitive process causes DHQ management and staff to phenomenologically **change** the previous or choose new, internal, external, and temporal **strategic reference points** (Fiegenbaum, Hart and Schendel, 1996). The new identity combined with the new strategic reference points subsequently changed or chosen sum up to DHQ management's simultaneous perception of uncertainties and potential threats of a comparable new magnitude, under **asymmetric** logistic information and **bounded rationality**. This contingency causes the management to perceive existing possibilities for **opportunism**, which perception may be phenomenological in character with experiential and emotional components (Forgus and Melamed, 1976, Rajecki, 1977, Damasio, 1996). This subsequently leads to the cognizance of potentially needed ex ante transactional costs to safeguard the **integrity of transactions** (Williamson, 1975, 1993, Anderson and Gatignon, 1986, Hennart, 1991) connected with the firm-specific advantages of both mother company and subsidiaries;

**P #3c:** Within an assumed **phenomenological** and conceptual **inseparability of sociality and spatiality** in human perception and cognition (March and Simon, 1958, Forgus and Melamed,

1976, Pred, 1985, Heinämaa, 1996, Damasio, 1996) the social cognitive information process occurring in the DHQ management and staff is simultaneously also an **initial spatial** cognitive information process. This socio-spatial process is in management research theoretical terms **explicable in the contexts** of the strategic reference point theory and the transaction cost theory.

**P #3d:** The phenomenological socio-spatial cognitive information process is an initial phase, but only a partial one, with respect to spatiality. Spatiality in DHQ managers' and staff's perception is proposed to be additionally induced by a perceived **need of new social knowledge**, both **explicit** and **tacit** knowledge.

The aspect of the further environmental knowledge-need is elaborated below, following Forgas and Melamed (1976), and Shaffer (1977), and the socio-spatial cognitive information process in its entirety and the basis of the subsequent spatial DHQ relocation decision are dealt with in detail in the following chapter.

### **3.3.5 The space-time cognition and its change, or the spatio-temporal cognitive process**

#### **3.3.5.1 A general background**

In attempting to elaborate on the spatio-temporal cognitive information process of an MNC DHQ management, this study rests largely on the work of experimental psychology, particularly on research since the 1980s and in the last few years. However, the basic conceptualized ideas concerning the human perception of and behavioral decision-making in space were already developed in the 1960s, according to Medyckyj-Scott and Blades (1992).

Activities of multinationals deal with and multinational business management daily makes decisions on matters that are to the greatest extent either directly or indirectly spatial or geographical in nature. The geographical dimension could be said to perhaps be the most overwhelming feature within the existence and everyday life of management in modern MNCs, the solid background reality to 'global coordination and local differentiation' presented by Porter (1986).

Within the discipline of geography and more closely in the branch of human geography, various concepts in connection with studies and research on spatial decision making have been developed. This theoretical development has benefited from work on, for instance, ideas and modes of thinking analogous to that represented within the concept of 'bounded rationality'. This has led to research on questions such as behavioral location theory presented by Pred (1967) and Smith (1981). In other words, this development is essentially close to and partly also the result of the many works of for example March and Simon (1958) in the field of economics and management research and which has actually had a strong influence on human geography in general, according to Mäki (1989), and Smith (1994).

To the extent that the present research work and the ideas in the paradigm therein on the behavior of multinational management touches the theoretical advances of human geography, within for instance behavioral location theory, it then closes the circle between these two strands of research and science. This is because the explaining or interpretative variables within the research paradigm in this work are essentially grounded historically in the same common ideas of the psychology of perception concerning the social environment of management, and the subsequent need of knowledge, as presented by Pred (1967), Williamson (1975), Smith (1981) and Fiegenbaum, Hart and Schendel (1996).

Phenomenology, a philosophy seeking to clarify the social preconceptions that are an essential condition of social existence and the ways in which the world is made available for intellectual inquiry has also had a strong influence on many disciplines which represent human sciences, among them psychology, sociology, linguistics, and human geography. Phenomenology claims that 'observation' and 'objectification' are never the simple exercise which conventional forms of science assume them to be. Instead, all cognitive experiences possess an intentional structure through which objects are made to mean something to us (Föllesdal, 1970, Gregory, 1994). In psychology phenomenology is represented in several approaches of research according to Tesch (1990). These approaches are for example the reflective phenomenology, the imaginal phenomenology, the experiential phenomenology and the empirical phenomenology. The perspective of phenomenology also comes close to the models and results of experimental psychology, for instance perception as a process within the acquisition of cognition or knowledge. The nearness of this approach is explicitly brought forth by Forgas and Melamed

(1976) in their presentation of research results on the perception of social events, with aspects concerning intentionality, motives and causality. Extended to more general terms, it concerns person perception or social cognition and the question of "sources of information and the possible cues used to determine knowledge about people's intentions and inner feelings", "how we perceive and know the psychological characteristics of other persons", as they say.

This study proposes that for its paradigmatic understanding the phenomenological approach which reciprocally links together company identity with social cognition and social cognition with spatio-temporal cognition into a **phenomenological continuum**, in all of the change and transformation processes will be of great importance for interpreting and understanding a company's international growth and development process. However, Forgas and Melamed (1976) note that much research has still to be done to gain substantial knowledge about the psychological principles of the social cognizing process, including our intuitive, 'commonsense' environmental impressions.

Forgas' and Melamed's above notion of "people's intentions and inner feelings" and their notions of emotional cognitive components may be supplemented by the notion of Damasio (1996, 2000) of the very basic role of emotions in the entire structure of human cognition. Also Goleman (1996) has stressed the role of feelings in business management. In an era of globalization and new information technology, in his words "a new competitive reality is putting emotional intelligence at a premium in the workplace and in the marketplace." These notions may well be related to the cognitive-logistic paradigm and each of its components.

The logical concluding phase in the cognitive information process is the proposed development of the space-time cognition of DHQ management, as it precedes the DHQ relocation decision. The background and antecedent to this concluding phase is established to be the social cognitive process that has taken place according to the characterization above. Expressing it further and somewhat differently than above, this influence is based on the assumption that social environment, as perceived from the point of view of the DHQ management, can be seen as a spatial environment or, the social relationships exist only in space, and this spatiality is consequently cognized by the management. Or, by the simple logic of the man-in-the-street, what is outside the self, is spatial, and what is social also consists of elements outside oneself, whence what is social is by that token also spatial in character.

This mode of thinking is also comparable to the relational interpretation of space in philosophy, "in which space is contained in objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects", according to Gregory (1994). However, this interpretation is said to include "two ontologies which need to be distinguished: objective space and social space". The attempt "to explore the social production of space and spatiality needs to be grounded not in 'objects in space' ('objective space') but in the opening and occupation of sites for human existence within which social practice can take place ('social space')". In many respects, concerning the analysis of social space, "spatial analysis has indeed become social analysis, and vice versa", following Gregory (1994).

The above notion also could be related to established management research literature. As expressed by March and Simon (1958) at the outset of their research work on organizations, "we are interested in explaining human behavior.....in what influences impinge upon the individual human being from his environment and how he responds to these influences. For most people formal organizations represent a major part of the environment.....If we wished to sum up in a single quality the distinctive characteristics of influence processes in organizations, as contrasted with many other influence processes of our society, we would point to the **specificity** of the former as contrasted with the **diffuseness** of the latter." The above idea means that the social cognitive process of DHQ management, concerning its own company organization and the external organizations and the rest of the world outside it, refers to a simultaneous spatio-temporal cognitive process in respect to the same elements of environment.

In addition to this approach, it can be assumed that the space-time cognition is also affected by the experiential inference taking place by the DHQ management and staff. This is a result of the practical problems encountered in the logistic information process mechanisms that have previously occurred in the geographical space. As Damasio (2000) notes in connection of a situation of "something-to-be-known", "when we recall an object we recall sensory, motor and emotional data attached to the object and stored in memory". This, then, represents an experiential dimension in the information process from social cognition to spatial cognition.



Thus, the DHQ managers' space-time cognition is assumed to have been changed as a result of the perceptual social changes according to the above strategic reference point and the transactional cost aspects in a phenomenological sense, and the spatio-temporal changes rationally inferred and emotionally cognized through the **experience** of logistic information processing **problems**. More practically expressed, the cognition of space-time is translated to the cognition of distances through real-life occurrences and problems, i.e. spatial events. In turn, the cognition of time is logically and inseparably attached through human experience to the perception of distance.

Based on the above presentation, it could be assumed in general that any kind of relationships which concern a group of objects, in this study above all the company itself, the customers, and the competitors, will be changed in human cognition if information on one of the relational dimensions changes.

### **3.3.5.2 Some recent research results of experimental psychology on environmental and spatial cognition and their implications**

According to Medyckyj-Scott and Blades (1992), spatial cognition refers to those mental structures and processes that deal with the way an individual thinks, imagines, interacts with and communicates about space. Of these, the process concerns how spatial knowledge is acquired, stored and recalled.

Further on, according to Medyckyj-Scott and Blades, one major field of spatial cognition research concerns the structure of individuals' cognitive representations of space. Representations of space include two related topics, cognitive maps and spatial structures.

Cognitive map as a term refers to how individuals store knowledge about space which has been directly or indirectly experienced and how that knowledge is accessed from different cognitive representations; an individual's cognitive map will include multiple representations of knowledge about spatial and geographical information.

Spatial structures as a term in spatial cognition research refer to two different things. Firstly, how the limitations of language impose a framework, or structure, on the way that it is possible to think and describe space. Secondly, it refers to how known physical spatial frameworks and relationships can be used as metaphors to express other non-spatial relationships, as Medyckyj-Scott and Blades note.

In the formation of the cognitive map of an individual, the most frequent source of knowledge is direct experience from the environment. But also indirect sources are important, for example the media as maps, books and newspapers, as well as personal communication. But "an individual can never have a complete appreciation of all places and spatial relationships within a geographic environment"; as experience and familiarity of an environment vary between individuals, it is always necessary to consider subjective representations of space, rather than a single objective reality, according to Medyckyj-Scott and Blades.

Concerning the DHQ managements of this study as collectives, this means that the above presented social cognitive theory of Wood and Bandura (1989) is also to be applied with respect to environmental events and decision making in connection with spatial cognition, through for example the above mentioned personal communication referring to managers' own personal spatial experience and knowledge.

As to an individual's environmental representation, concerning her environmental knowledge with increasing experience, the content and structure can be thought to consist of four main stages, according to Medyckyj-Scott and Blades (1992).

These stages consist firstly of landmarks or places. Secondly, with increasing experience, the knowledge of these can be linked together to form a route. Thirdly, familiarity with interconnections between routes in specific localities allows the formation of fairly accurate neighbourhood 'minimaps'. These eventually become integrated in the final stage of environmental cognition into a complete and accurate spatial representation of an area.

From this description which comprises the essentials of environmental representation and which are influential as a basis for research into the representation of large-scale space, greater emphasis has therefore been placed on psychological research concerning the processes which underlie the stage-like progression described.

Research on the structure of cognitive maps has revealed that they are not a direct one-to-one mapping with physical space, but include errors and distortions that can only be described with non-Euclidean metrics. So, for example, road junctions may always be thought of as right-angle intersections, or distance estimates between two places influenced by the amount of known detail between those points, as Medyckyj-Scott and Blades (1992) put forth.

It is further proposed by them that, as a procedural spatial representation, a route could be characterized as a set of 'view-action' pairs, where a view is the total of all sensory experience at

a point and oriented in a specific direction, and an 'action' refers to the motor sequence necessary to move. Knowledge of a route would thus consist of a series of 'view-action' pairs creating a procedure for wayfinding. It could be considered logical and obvious in a phenomenological and/or experiential sense that the experience of the passing of time, along the distance experienced through one's motion, is simultaneously intertwined into this 'view-action' experience.

The perceptual dimension of time is brought forth in connection with the presentation by Forgus and Melamed (1976) of the perception of interpersonal relationships or social events, their causality, intentionality, and motives, or variables that they term phenomenological. Particularly, they thereby refer to Michotte's (1963) experimental research on the topic of phenomenal causality by means of his 'kinetic structures'. In this connection, they present the space-time dimension in the words, "notice that in these perceptions (gestalt principle of common fate) of phenomenal causality, the speed of approach and separation, the length of contact, and the effect following contact are the important space-time or kinetic relationships which determine what is perceived".

Forgus and Melamed also contend that the dimension of time is present when dealing with the human perception of movement and events in general. They maintain that time has been found experimentally to be inseparable in the relationship between the human perception of space and apparent movement. Here apparent movement phenomenologically represents the interrelationship of spatial distance and time in events perceived, the time interval affecting the spatial distance perceived in successive events. Or as Forgus and Melamed note, there is a certain **"relationship which is necessary between the spatial distance and the time interval for the perception of optimal motion"**, and with reference to research experiments, that **"optimal motion depends on the interval between the responses to the two stimuli."**

The above clearly indicates that the phenomenological perception of time in the human being effects the perception of movement and the causality of perceived phenomena by means of space, spatial distance. This spatiality was perceived in connection with the configurational principles brought forth above in connection with social cognition. Thus the time dimension exists in a phenomenological sense in the human, being along with the dimension of space, both together and separate.

That time as a dimension also exists in human perception in an inverse relationship to space is evident through human experience of events. An event always occurs and has a place in space, and an event may in itself entail movement in space, and supposedly most events do, either physically or mentally and experientially in the imagination. The phenomenological perception of time is described by Routila (1970), following Husserl (1988/1950), in connection with listening to music.

This phenomenological kind of perception of time may also be thought to apply to the process of one's thinking and processing of existing knowledge. But in the process of thinking and the processing of new stimulus and information, with reference to Figure 15 by Forgas and Melamed (1976) on the complex process of perception of learning and thinking, it is plausible to think that an phenomenologically experiential component is added to the perception of time in connection with this processing event. The sense of time may thus be experientially a function of the amount of information acquired and later to be recalled from memory. This is a function of the distance perceived on integrated spatial and nonspatial, but non-linguistic, information, according to McNamara (1992).

This same phenomenon is noted in cases where a task requires mental scanning over distances rather than comparing; processing time tends to increase with distance. These distance effects have also been shown for environments which have only been described, but not experienced. "It is as if subjects are mentally traversing or mentally drawing a path, and it takes longer to do so when a far rather than a near relationship is described.....it appears that both distance effects and inverse distance effects similar to those for perceptually available stimuli also occur for representations derived from text" as Franklin (1992) notes.

Thus temporality could be seen as a perceptual function of realized distance, and distance as a spatial dimension is perceived through an event, or that something did happen in space, either physically or only mentally. In this case an event is also the processing of information pertaining to a particular distance. The more information is processed, either through physical sensing, description, or recalling from memory, the more time is consumed.

Based on Piaget (1950), the above perceptual phenomenon of temporality is characterized by Uspenskij (1991, 1995) in the words "time is seen in spatial categories, not vice versa. Space is seen by perception, time by cognition; it is extrapolated from moving in space".

The explicit introduction of time into the socio-spatial cognitive information process is, from the point of view of this study, naturally essential. Philosophically it is evident and logical that without time nothing exists. Space opens up to existing the moment time is introduced, according to the phenomenological thinking of Heidegger (1993/1927).

Even though this notion may seem contradictory to the one of Uspenskij above, the difference here could be seen as a matter of the level of approach in a phenomenological sense, referring to the presentation of Heidegger's fundamental ontology by Routila (1970). What is essential from the point of view of this research work is the clear inevitableness of inversion or **mutuality of time and space** as attached to **any event** of any kind.

In dealing further with the philosophical aspects of the relationship between time and space, it is as a general idea considered to be represented by the space-time concept, "the structure specified by treating space and time together as a four-dimensional manifold. Points in space-time are called events" (The Oxford Dictionary of Philosophy, 1994). It is by means of any event that the human perception of time is realized. This thought is comparable to the above notions of McNamara (1992), Franklin (1992), and Uspenskij (1995) based on experimental psychology, and also Heidegger (1993/1927) within Husserlian phenomenology concerning the human perception of time. The human reciprocal spatio-temporal experientiality seems to be very deeply ingrained, even in one's own personal account. Heading for a physical goal, be it a hilltop or a sight in a foreign city, and bringing it into focus from a distance around a forest rim or street corner, cause an immediate perception of the time needed to reach the goal. This perception seems to depend on the cognition of previous experience of comparable events in general. But it also depends on the immediate experience of the quality of one's current motion in space and the simultaneous transferral of the motion into the immediate future, which is the phenomenological 'retention' and 'protention' as set forth by Routila (1970) with reference to listening to music. Thus the perception of the goal being 'far' simultaneously contains the perception and cognition of space and time, just as the words 'far', or 'remote(ly)' indicate both of these dimensions (Webster's Dictionary, 1956).

The dimension of time is also dealt with by Johnson-Laird (1983) in connection with consciousness and in his representation of a functionalist nervous system computations-approach with respect to it. He argues that "computational speed is important, because

conscious decisions occur in real time. Indeed, consciousness is a temporal phenomenon: it exists in time and through it we become aware of the phenomenal 'present'.....a slow apprehension of events might lead to a cumulative divergence between the world and the mind with the contents of consciousness lagging further and further behind reality.....A retarded or intermittent consciousness would be unlikely to serve any adaptive purpose."

In a wider and very general form, the basic and prevalent role of spatial knowledge, how it also structures other aspects of cognition, is apparent in language, the storehouse of human perception. Much thinking and reasoning is in the form of metaphors with concepts of directions, as for instance in expressions 'markets fell' and 'prices rose'. "Many sayings and clichés used to describe aspects of a marriage are structured in terms of a journey: for example 'we can't turn back now', 'we are at a crossroads' or 'we have to go our separate ways'. Here the metaphor underlying a human relationship is drawn from experience of physical movement through the environment", according to Medyckyj-Scott and Blades (1992). The temporal dimension is inseparably included in the metaphor of a journey.

In this study, the phenomenon of distortions in cognitive maps is proposed to have a central and clarifying role in approaching the transformation of social cognition to the spatio-temporal cognition. According to Tversky (1992), a phenomenon of this kind refers to a distortion in the mental representations of maps or environments.

Thus this study proposes that the distortions help in additionally illustrating and clarifying the paradigmatic transformation of the social cognition into the spatio-temporal cognition. Their role in this respect is based on the analogical mode of "judgment and thinking about other topics as well" in addition to spatial cognition, in the human mind, as Tversky (1992) describes the analogy.

This idea would well fit the convergence of the concepts of social environment and spatial environment as implicitly presented according to the thinking above by March and Simon (1958). This convergence must logically be considered valid in reciprocity as well, otherwise the crucially important evolutionary human phenomena described above by Forgas and Melamed (1976) would be meaningless to the survival of the human species. This aspect is clearly presented by Shaffer (1977) within Piagetian cognitive-developmental theory, in dealing with intellectual functions, as he notes "the most important biological endowment related to

intelligence is not the organism's inborn structural capabilities (for example, reflexes) but rather, a set of two inherited functional invariants: organization and adaptation.....Organization refers to the tendency of all species to systematize their structures, be they physical, physiological, or psychological, into an integrated framework.....the organism is always in the process of organizing whatever psychological structures are available into higher-order systems or structures.....Adaptation refers to organism's innate tendency to adapt to or cope with the demands of its environment. It is said to occur 'whenever a given organism-environment interchange has the effect of modifying the organism in such a way that further interchanges, favorable to its preservation, are enhanced' (Piaget, 1963). Adaptation is divisible into two complementary processes: assimilation and accommodation. Assimilation refers to the process of changing or reconstructing environmental elements in such a way that they can be incorporated into the structures of the organism.....In the process of assimilating environmental stimuli or events, the organism also accommodates i.e., adjusts its structures to meet the demands or structures of environmental elements.....Cognitive development is said to occur because the organism is continually extending its existing cognitive structures to novel aspects of its milieu. During the process of assimilating new environmental stimuli, the organism must modify its structures, or accommodate, in order to achieve a state of equilibrium between those structures and the environment. But equilibrium is, at best, only momentarily achieved since the organism's extension of its structures to novel environmental stimuli occurs continually. Even in the absence of novel environmental stimulation, the organism is engaged in reorganizing its available cognitive structures into higher-order structural systems. Thus, Piaget contends that two kinds of changes - internal reorganization of structures and structural change induced by attempts to deal with novel environmental events - make possible a progressively greater understanding of the nature of one's world." In other words, then, the above adaptation-attached concepts of assimilation and accommodation indicate that what is, as an environmental change, perceived spatio-temporally, also applies to the perception of change in social relationship, for example the relationship to the environment in an assimilative and accommodative way.

The same notion concerning analogy and interchange as expressed above is also set forth by Golledge and Timmermans (1990): "like much of the work in cognitive mapping.....preferences are located in a multidimensional psychological space, which may or

may not have attributes of physical space. It is as important to determine the dimensions of psychological spaces as it is to determine the significant dimensions of physical space.....Even when one could identify precise location of a phenomenon in objective space, (e.g., by standard co-ordinate systems) the critical dimensions of cognitive space in which the phenomenon is located could be a combination of subjective and objective dimensions." Golledge and Timmermans continue by noting that "....while reasonable interpretations of many subjective configurations could be made in terms of objective (euclidean) counterparts, for some individuals the critical dimensions of cognitive space were noneuclidean and perhaps nonspatial in the sense of not existing in a definable objective reality. These nonspatial dimensions could be dominated by affective components such as emotional attachment and aesthetic value, or by informational dimensions such as historical, cultural or religious significance, or simply by the degree of familiarity."

A reciprocity between social cognition and spatio-temporal cognition is proposed, then, as a background for using the distortions, presented in the Appendix 2 as propositions P #4k1-14, as fictitious illustrative material in this research. The experimental psychology findings of distortions of cognitive maps are, thus, used in this study above all as a medium for clarification and understanding of the whole socio-spatial cognitive process that takes place in connection with the international growth process of the company and with the subsequent perception and cognitive change process within the DHQ management and staff. In other words, as the term 'distortion' indicates, there already exists something to be distorted in the socio-spatial cognitive map.

Distortions in cognitive maps may take several forms. **One** of them is that spatial memory works in organizing the spatial structure hierarchically. Spatial information is grouped into higher-order categories, by for example countries, so that comparisons of points, for instance cities, within a country are different from comparisons of equally spaced points between groups. Thus in our memory, we store the relative locations of countries and then store cities by the country that contains them. In making for example direction judgments between cities, we do not compute the directions directly but infer the relative locations of the cities from the locations of the countries they are in, with the consequence of errors in directions. We also estimate



distances between entities (cities) in the same category (country) as relatively smaller than distances between entities of different categories.

Medyckyj-Scott and Blades (1992) present this in the following way: "Hierarchical knowledge may be represented in a propositional format where any particular place can be considered as a node in a tree-like graph to which are attached links corresponding to the relations between the nodes. The links will include spatial ones (e.g. 'Paris is in France'; 'France is in Europe') and such a hierarchy can be used to draw conclusions (e.g. if a city is in France, it must also be in Europe) and inferences (e.g. the distance between places in the same country are likely to be less than the distances between places in different countries). The spatial and environmental knowledge which is linked to the nodes can be used to define the attributes of a place and hence how it is recognized or characterized.....In addition such knowledge can also include non-spatial information which includes emotional responses.....and episodic memories.....".

Hence, this hierarchical distortion does not apply solely to geographical categories, but also to conceptual categories such as public buildings vs. commercial buildings.

Hierarchical organization is also characteristic of memory for linguistic material, from words to text, suggesting a common basis for spatial and linguistic memory. As Tversky (1992) notes, "we tend to perceive people in the same category to be more similar to each other even on irrelevant qualities than people in different groups, just as we think of cities in the same state as closer [to each other] than cities in different states".

**Another** kind of distortion of the cognitive map is connected with cognitive reference points or landmarks. Spatial information is organized around cognitive landmarks which are implicitly or explicitly used to define neighbourhoods.

Landmarks are typically prominent and familiar structures in an environment, and in the process of acquisition of environments we first learn the relative locations of landmarks. It is the vicinity of these landmarks or places that serve as fixing points in learning routes, as presented previously, and evidently filling in the survey or distance information attached to these.

As Tversky (1992) notes, for some or all of those reasons landmarks apparently distort the space around them. Asymmetries have been found in distance estimates for the same pair of locations, depending on whether a landmark object or an ordinary object was used as a reference point. When for example a landmark building served as a reference, ordinary buildings were estimated to be closer to it than vice versa, according to Tversky.

A **third** kind of distortion of the cognitive map consists of the memory process distortion called rotation. The rotation phenomenon is reminiscent of the previously presented landmark phenomenon; "it does seem that a similar process underlies them both", according to Tversky (1992). Instead of the distance distortion in the case of a landmark, in rotation things are remembered relative to a reference frame according to orientation. That is, figures are remembered with respect to a directional frame of reference. When the orientation of the frame of reference and the natural orientation of the figure conflict, the figure's orientation will be remembered as closer to that of the frame of reference, or in other words, it is rotated in the perceptual processing in referral to memory.

Cognitive frames draw other elements towards them. Notably this phenomenon has been found in connection with map figures which indicates that memories of maps are encoded in a viewer-centered representation with a canonical upright (McNamara, 1992, Tversky, 1992).

A **fourth** kind of distortion is called alignment. Alignment concerns the organizing principle of memory about the location and orientation of figures relative to another figure or figures. "Again, it is the relative locations of objects in scenes that we try to remember, not the absolute locations as viewed from a particular place.....The prediction is that two figures that are perceived as grouped together but are misaligned, that is, offset in one spatial dimension, are remembered as more aligned than they really are", citing Tversky (1992). She continues that "like the effects of hierarchical organization and of cognitive reference points, the effects of alignment and rotation are to draw figures closer to them. In fact it seems that all of these organizing principles reduce to a simpler one. We relate figures to referents, either on the same level of analysis, such as reference points.....or at a superordinate level of analysis, such as reference frames or hierarchical category, and then remember the figures as closer to and/or more aligned with their referents."

A **fifth** kind of distortion factor, presented by Tversky (1992), is cognitive perspective, which also leads to systematic errors in distance judgments. In experiments made by different groups having to imagine themselves located in different geographical locations in judging distances to certain cities, it has been found out that subjects exaggerate the distances between cities closer to their perspective, relative to distances between cities farther from their perspective. In other words, this phenomenon means that "we see more clearly more differences close to where we

are than far from where we are." However, the cognitive perspectives are flexible so that we may adopt new and different perspectives, according to Tversky.

A **sixth** kind of distortion of the cognitive map is the barrier or detour effect in distance estimates. Estimates on geometric distance between two points are greater when a route has barriers, as nodes or turns and detours than when a route is relatively direct or simple without extra information. Especially over distances, people cannot perceive at once; they seem to use a variety of surrogates for distance estimation and these surrogates are not necessarily perfectly correlated with distance.

However, according to Tversky (1992), this category of distance distortion does not seem to fit easily into the framework of the perceptual processing in comprehension as presented above, in connection with the other distortions, but seems to be due to procedures invoked in judgement.

The presentation and elaboration of the above distortions of mental representations of maps or environments, as proposed analogies to the social cognitive information process of the management, and further, as a means of a simultaneous transformation of the social cognitive information process into the spatial cognitive information process of the DHQ management, is brought forth in more detail in Appendix 2 of this study. This presentation and elaboration is presented in the form of 14 theoretical and fictional cases of distortions which are attached - with reference to competitors, customers, markets, and hierarchy - in social perception to aspects of either the strategic reference point theory or the transaction cost theory. A more detailed general presentation of the principles of application, and conclusion of the propositions in Appendix 2 is also presented. This presentation rests on the above advanced social cognition principles set forth by Forgas and Melamed (1976) with reference to Michotte's cause and effect-relationship kinetic structures, by Shaffer (1977) with reference to Piaget's intrinsic human need to cognize, for a cognitive equilibrium in respect to the environment, through organization and adaptational assimilation and accommodation, and the suggestions by Franklin (1992), McNamara (1992) and Tversky (1992) of an analogical social and spatial cognitive information process.

### **3.3.5.3 The psychological link in the change process between the social cognitive map and the spatial cognitive map: concluding remarks**

With respect to a dynamic information-processual continuity within the suggested paradigm of this study, the DHQ managements' cognitive transition, prior to the DHQ relocation decision, from the social cognitive map to the spatio-temporal cognitive map is the most essential phase. It was argued above that there are, in particular, four kinds of cognitive maps or mental map representations indicating systematic errors or distortions: hierarchical organization, cognitive perspective, cognitive landmarks or reference points, and barriers, detours and nodes. These systematic distortions must consequently have some important and essential meaning for man. As Tversky (1992) points out, these processes are useful for the human being in constructing the representation and in retrieving the spatial information. Memory of the environment would not be very useful unless it also would be applicable from other perspectives or directions of approach. This must have been one of the very basic spatial facts in the course of survival of humankind in its primordial wilderness; from the point of view of orientation and wayfinding, instead of getting fatally lost, a more general representation of spatial relations with for instance landmarks is needed. This in-built capacity must evidently be understood as a human evolutionary trait in spatial cognition; the evolutionary aspect is also presented by Shaffer (1977) as he notes that organization and adaptation as intelligence-attached invariants are a biologically inherited endowment.

But as Tversky (1992) notes, this mode of processing information with distortions following as a result, also seems to apply in cognition to judgment and thinking about other topics as well, including social aspects which as shown above, are also spatial in essence. In particular, she refers to similar distortions in social stimuli as there are spatial hierarchies, perspective and landmarks and concludes that "these three principles for organizing information are pervasive in cognition, they have parallels in other domains of thought."

Phenomena of human cognitive processes that closely resemble this kind are also set forth by March and Sevón (1988) in their presentation of behavioral decision theory and its close relationship with the behavioral theory of the firm. Concerning individual judgment and choice in dealing with detecting problems and defining their causes in social cognition and social perception, they put forward empirical findings of several phenomena. Under certain conditions, these include exaggeration of the importance of a factor; overestimation of more powerful and

underestimation of lesser agents; illusory correlation of events occurring together, appearing similar or otherwise linked; illusory causation of events which are conspicuous, caused by others, are attached to another individual's attitudes, or are recent; and exaggeration of automatically scanned cues that are salient and frequent. Of these phenomena it could be said that the concept of 'illusory causation' attached to "another individual's wishes or attitudes rather than to situational factors (Ross, 1977)" could be connected to the central initial approach of this research work, that of problematizing the relocation explanations of DHQ managers. As March and Sevón say, "problem sensing also depends on motivational factors in the uses of information and on the ways in which information is processed".

In other words, this mental trait of distortions is equally important in transferral of the said mode of information processing to the social 'primordial wilderness' in the struggle for existence, and the thereto consequently attached compelling need of interrelational knowledge with the social environment. Or translated to a modern context, the trait can be assumed to be a key factor in and for competitive behavior for the survival of companies; in this study within MNCs and by their strategic and operative DHQ managers and staff.

This is in line with the above presented thinking of the Piagetian cognitive process of assimilation and accommodation with respect to the environment. As Shaffer (1977) notes in connection with the two cognitive changes, that of internal reorganization of structures and that of structural change induced by attempts to deal with novel environmental events, "specifically, Piaget.....argues that human beings have an intrinsic need to cognize. Cognitive structures created by intellectual functioning must perpetuate themselves by additional functioning. Structures are said to have an intrinsic tendency to assimilate environmental "nutriment" for sustenance. Structures also tend toward equilibrium with the environment through accommodatory and/or organizational functions. Thus, the motive for cognitive functioning is indigenous....." This, then, is the background for that in this study suggested compelling managerial knowledge need which logically, too, is socio-spatial in essence.

Based on the above idea concerning socio-spatial mental maps and distortions in them, this reasoning may well apply to the paradigmatic social cognition aspects of this study, set forward under the management theoretical auspices of the strategic reference point theory and the transaction cost theory.

In dealing with the findings of the phenomenon of integrating spatial and nonspatial information in memory, McNamara (1992) suggests that two types of mental representations may be formed when people learn spatial relations. The first is categorical spatial relations which specify the nonmetric properties of containment and relative location. The second is to coordinate spatial relations, which specify the positions of objects in a common metric coordinate space. In the categorical spatial memory is stored a hierarchical structure with relative location information, including the nonspatial information.

McNamara argues that "a dual representation of this kind could account for hierarchical effects, asymmetries, and the integration of spatial and nonspatial information. For example, when people learn facts about objects in a spatial layout, they may integrate the facts with the hierarchical structure. This model, of course, makes strong predictions about laterality effects. Some of these predictions have already been verified in the visual domain; it remains to be seen whether similar results are found for spatial memories."

This notion by McNamara and the comparable ones by Franklin (1992) and Tversky (1992) are attached and applied to the notion above and subsequent propositions below concerning the paradigmatic element of the social cognitive information process in this research work. It is assumed therein that company identity change induces the DHQ management's perception of a new, or of the need for a new strategic reference point, and comparably, of the possibility of new opportunism as a transaction cost economics variable. This basic perception would then include a subsequent and additional distortional social perception. As Fiegenbaum, Hart and Schendel (1996) note concerning the theoretical basis of the strategic reference point theory, "the concept of a reference point has its roots in the psychology of perception. The argument is that human perceptual mechanisms appear to consider differences, rather than absolute levels, when evaluating alternatives." In essence, in the assumed changed social relationships of a company this notion of theirs also could be thought of and is in this study assumed to apply on an equal basis to opportunism, including the distortional cognitive effects in Finnish DHQ managements' perception of a new international position of the grown company. The perception of comparable differences concerning opportunism is assumed to be connected, then, with a social change induced perception of new asymmetries of knowledge in respect to newly acquired foreign subsidiaries, competitors, customers, and other strategic actors of the environment as seen from the social and spatio-temporal point of view of DHQ management.

Cognitive mapping preferences are thus located in a multidimensional psychological space which may or may not have attributes of physical space. Golledge and Timmermans (1990) state that "it is as important to determine the dimensions of psychological spaces as it is to determine the significant dimensions of physical space. In the context of cognitive mapping, for example, Golledge (1977) argued that "spatial and other information is contained in an individual's cognitive map or model of the various realities in which people live and behave." Golledge and Timmermans further note that "for some individuals the critical dimensions of cognitive space were non-euclidean and perhaps nonspatial in the sense of not existing in a definable objective reality. These nonspatial dimensions could be dominated by affective components such as emotional attachment and aesthetic value, or by informational dimensions such as historical, cultural or religious significance, or simply by the degree of familiarity". They add that "such research was paralleled by extensive work in environmental psychology", and that in various studies assessments of the significance of spatial cognition show that subjective distances were not linearly related to objective distances.

This statement by Golledge and Timmermans (1990) can evidently also be particularly well applied to the socio-spatial cognitive information process, notably to the differences-perceiving aspects represented by the strategic reference point theory and the opportunism-perceiving transaction cost theory.

This phenomenon can be complemented by a phenomenon described by Franklin (1992) in connection with studying the spatial representations of described environments. She presents the findings that the mental models of environments with respect to distance and direction, derived through description, can be as accurate as those obtained by studying a map or acquired through sensual perception. In dealing with the organization of human memory, with respect to spatial representations, she notes that irrespective of the way of learning of information about space it is constructed as a mental model on the described situation. The model is based both on textual descriptions and on our sophisticated memory system, which spontaneously and ongoingly performs inferences of spatial relations.

Franklin (1992) further argues that "when memory is organized as a coherent, integrated model, all spatial relations, even those not explicitly described in the text, are represented explicitly. The act of constructing a mental model, then, requires already making many of the simple

inferences about static spatial relations that one would need for subsequent spatial reasoning. Subjects could then retrieve stored relations rather than calculate them when they are needed. In addition, when features of the environment are dynamic or when one's physical or mental position within it changes, spatial relations can be updated simultaneously and easily in a mental model of the situation itself."

This statement by Franklin and the one by Golledge and Timmermans (1990) above can be seen in connection with the others presented above. These encompass, including notions on emotional components, notions of environmental perception by March and Simon (1958) on interweaving of affective and cognitive processes, Forgas and Melamed (1976) on the kinetic structures, Shaffer (1977) on assimilation and adaptation, and comparable notions by others.

Thus it seems, that when thinking about an individual DHQ manager's and staff member's cognitive information process with respect to the environment, that the social cognitive process simultaneously represents his or her spatial cognitive process in a very holistic way. This is comparable with the idea and proposition concerning the suggested paradigm in this study that the social cognitive process is also perceptually in a phenomenological sense a spatial, and more exactly, a spatio-temporal cognitive process.

Thus the changing relationships with all the senses-based material reality of the social environment can also be proposed simultaneously to be spatial relationships, the social environment a spatio-temporal environment.

We have now illustrated the essential elements of the paradigmatic dynamic process, which is the basis of the company's cognitive socio-spatial continuity, which is driven by international growth.

The above cognitive information process idea is in addition supported by Forgas and Melamed (1976), as they present social perception or 'social cognition', as they also refer to it. In social cognition, "perception extracts information related to emotions, motives, values, personal meanings, and social events." They focus on the following phenomena: perception of interpersonal events such as causality, intentionality, and motives, the influence of sociocultural experience on perception, and value, attitudinal, and personality aspects of perception.

As Shaffer (1977) notes in presenting the cognitive-developmental theory, "the Piagetian model of intelligence is a "balance" model which implies that disequilibrium between cognitive structures and environmental demands is a primary determinant of cognitive functioning and



intellectual growth." As was also indicated above, Shaffer presents Piaget's argument that "human beings have an intrinsic need to cognize", a tendency to recognize, perceive and know about the environment, and that "the motive for cognitive functioning is indigenous" to the human being.

On the basis of the phenomenal causality studies presented by Forgas and Melamed (1976), particularly on those by Michotte, and the studies presented by Shaffer (1977), particularly on those by Piaget, this study assumes that if the DHQ management and staff are the perceivers, then there is:

1. a **simultaneous** change in both **social** and **spatial** cognition in a **phenomenological** sense and,
2. there is also a **simultaneous** ensuing and compelling **need** for **new social** information and **knowledge** in a **phenomenological** sense.

Here it is assumed that the perceived need for knowledge and information is both **inherent**, as noted above by Shaffer on Piaget's work, and **experiential** in character, as noted by Forgas and Melamed (1976). As they stated above, perception is also, in connection with the concept of learning, the extracting of environmental information through experience where "the results of learning facilitate the further extraction of information, since the stored facts become models against which cues are judged."

The importance of the DHQ management's changing socio-spatial cognition background in this respect, also considering analogously the above suggested phenomenal causality event presented by Forgas and Melamed (1976), is brought forth by the latter in the following quotation: "while Michotte asserts that the impression of causality arises spontaneously, experience merely serving to define more precisely the conditions under which mechanical causality is perceived, other investigators have found an important **experiential** determiner of phenomenal causality." Referring to the phenomenological notion above they continue that "the question of whether these expressive behaviors operate independently of experience still arises." They further continue that "the experiential aspects of the perception of personal attributes are of crucial importance since they are conceivably related to the nature of interpersonal relationships", and further that "person perception concerns itself with how we perceive and know the psychological characteristics of other persons", and that "we could also refer to this process as **social cognition**." Forgas and Melamed conclude by noting that "the relevant

principles of spatiotemporal and configurational relationships were theorized.....to be influential in the perception of integrative and segregative emotions and intents." As above noted, the integrative relationship represents a subject-individual experiencing a thing, person or event as objects with sympathy, friendship and love, the segregative experiencing these objects with antipathy, disgust, anger and fear, according to them. These above notions on social experientiality are consequently assumed here to be particularly valid with respect to the aspects of the strategic reference point theory and the transaction cost theory.

Thus this study proposes below that the DHQ management's perception of a need for new social knowledge, as a function of the company's identity-change induced change in social cognition, is also experiential. It is proposed to be experiential both in a phenomenological way in the sense of a general human feature and in an explicitly cognized sense of prior company-pertaining logistic information processing problems. The phenomenologically experiential knowledge need is an instant experiential perception of a knowledge need-attached information process of the kind described above by Weick (1990) in his presentation of Neisser's perceptual cycle in Figure 13. He notes a schema, for instance a cognitive map and a standard operating procedure, to be "an abridged, generalized, corrigible organization of experience that serves as an initial frame of reference for action and perception", and that it is an "information-seeking" structure that "accepts information as it becomes available at sensory surfaces and is changed by that information; it directs movements and exploratory activities that make more information available, by which it is further modified". In this capacity it is comparable to the above mentioned Piagetian environmental adaptation process of cognition presented by Shaffer (1977).

On the basis of the above suggestions by i.a. Golledge and Timmermans on cognitive space, by Shaffer in his reference to Piagetian cognitive functioning at a disequilibrium between cognitive structures and environmental demands, by Forgas and Melamed on the aspects of social cognition, as well as by Weick on Neisser's perceptual cycle, this study proposes that the **need for new knowledge** and the consequent **information-seeking process** induced by company growth are both phenomenologically and experientially simultaneously perceived by the DHQ management as an **event**. That is, it is perceived as an immanent and concretely potential event, and as an event, per se, something taking place conceptually in **space** and **time** (Blackburn,

1994, Webster's Dictionary, 1996). With reference to Shaffer's (1977) above notion of the Piagetian "balance model" in cognitive functioning the phenomenologically experiential perception can be thought of to be of the kind described by Husserl as 'protention' or the 'act of waiting for something to take place' as presented by Routila (1970). Particularly this can be thought of in connection with discrete, logistic information process problems creating growth impulses, such as new foreign subsidiary acquisitions. But it can also be attached to gradually accumulated pressures to attain a decisively higher level of knowledge. As Daft and Weick (1984) note in their presentation of organizations as interpretation systems, "four specific assumptions underlie the model presented.....and clarify the logic and rationale on which the interpretation system approach is based. The most basic assumption.....is that organizations are open social systems that process information from the environment. The environment contains some level of uncertainty, so the organization must seek information and then base organizational action on that information." The above presented change in the socio-spatial cognition of the DHQ management and staff can be assumed to cause uncertainty leading to a **need for new knowledge** about the social environment. A basic assumption in this study is also that the DHQ management is an open social system.

As noted above, in terms of this study the above-presented phenomenological and experiential perception of the new knowledge-need and the consequent information-process event concerns both the general human cognitive level and the particular company-pertaining level. The latter represents the company-specific DHQ managements' experiential perception of the logistic information processing problems that are encountered by the particular DHQ in the course of the international growth process of the company, i.e. the problems described by Egelhoff (1991). This mode of experiential perception, which is intimately tied perceptually to a DHQ management's identity of 'strategic intent' and 'commitment to forward momentum' concerning the MNC division, is assumed to be an explicitly cognisized historical experience of logistic information processing problems with concrete dimensions in space and time.

This experiential perception can be assumed to have had an essential finalizing role, prior to the DHQ relocation, in the developmental course of the presented paradigmatic cognitive information process in this study. This aspect of experiential perception of information can be considered similar to that presented in the 'Nordic model' of internationalization developed by Luostarinen

(1970, 1979), Johanson and Wiedersheim-Paul (1975), Johanson and Vahlne (1977), and others. The model assumes that this stage-wise process is basically dependent on perception of risk, amount of knowledge of foreign countries and markets, distance which summarizingly is called psychic distance, and within which knowledge is understood essentially as "experience or experiential knowledge.....learned through personal experience" (Penrose, 1966, in Johanson and Vahlne, 1977).

Here it is appropriate to quote Jelinek and Litterer (1994) in their presentation of commonalities in studies and approaches about cognitive theory. They suggest that "the elements common to many cognitive studies are these: people cognitively construct their reality and act in ways they deem useful to their purposes in face of that reality; interpretation, reality and purposes are all socially based. The last point, the need for social interaction, recognizes individual humans' limited abilities in dealing with chaos, ambiguity, and uncertainty. Human cognitive capabilities are limited or bounded. We need social interaction, groups, and, following March and Simon, organizations to partially compensate for limitations imposed by our bounded rationality (.....)". For this study, then, the last point, the need for social interaction by people when facing their reality, is in fact a need for knowledge and information, and as shown, a matter of spatiality and temporality within the consequent logistic information process. Thus, the need for more intensive **social interaction** in logistic spatiality and spatial logistics may turn into a decision for DHQ relocation, if perceived to be socially necessary under uncertainty and bounded rationality.

Concerning the 'need for social interaction' and thinking of the logistic information process problems of Finnish DHQs it is important to bring out the potential differences in the roles of the concepts **tacit** knowledge and **explicit** knowledge. In other words, does tacit knowledge have a phenomenologically interpretable role of its own as compared to explicit knowledge in the socio-spatial perception of the DHQ management? This possibility was referred to above in the chapter dealing with the tasks of the DHQ and tacit knowledge. Or expressed more directly, could **tacit knowledge** be phenomenologically termed, per se, an human inherent social knowledge-need based **socio-spatial concept**? This question would be in concord with the thinking of Polanyi (1966). Polanyi implicitly presents the role of spatiality in tacit knowing through the event of perception. He says that "our body is the ultimate instrument of all our external knowledge, whether intellectual or practical. In all our waking moments we are **relying**

on our awareness of contacts of our body with things outside for **attending** to these things.” This notion is in ontological content comparable to the neuropsychological notion by Damasio (1996) of the holistic consciousness in our body and mind. With reference to what was stated above about Gestalt psychology concerning spatio-temporal perception in connection with events, it is interesting here to note that Polanyi makes a connection between tacit knowledge and Gestalt psychology. He says “Gestalt psychology has demonstrated that we may know a physiognomy by integrating our awareness of its particulars without being able to identify these particulars, and my analysis of knowledge is closely linked to this discovery of Gestalt psychology. But I shall attend to aspects of Gestalt which have been hitherto neglected. Gestalt psychology has assumed that perception of a physiognomy takes place through the spontaneous equilibration of its particulars impressed on the retina or on the brain. However, I am looking at Gestalt, on the contrary, as the outcome of an active shaping of experience performed in the pursuit of knowledge. This shaping or integrating I hold to be the great and indispensable tacit power by which all knowledge is discovered and once discovered, is held to be true. The structure of Gestalt is then recast into a logic of tacit thought, and this changes the range and perspective of the whole subject.....Perception, on which Gestalt psychology centered its attention, now appears as the most impoverished form of tacit knowing. As such it will be shown to form a bridge between the higher creative powers of man and the bodily processes which are prominent in the operations of perception.” Polanyi (1966) gives, consequently, tacit knowledge an explicitly “ontological aspect”. This thinking of Polanyi on tacit knowing is, then, closely related to the thinking set forth in this research. This particularly concerns the above references made to Forgus and Melamed (1976), Shaffer (1977), Franklin (1992), McNamara (1992) and Tversky (1992) on the inherent human need for knowledge, Gestalt psychology, and/or processes from stimuli in social cognition that are analogous to spatial cognition.

The above question of tacit knowledge as a socio-spatial concept would likewise be in concord with Nonaka and Konno (1998) in their presentation of the Japanese “existentialist.....‘phenomenal’” shared space concept of ‘ba’ and concerning tacit knowledge within knowledge creation. As they say, “if knowledge is separated from **ba**, it turns into information, which can then be communicated independently from **ba**. Information resides in media and networks. It is tangible. In contrast, knowledge resides in **ba**. It is intangible.”

However, if there are no systemic spatio-temporal modes attached to the procurement of tacit knowledge, does the DHQ management, within its location, perceive explicit knowledge within the logistic information process to still include all the necessary quantity and quality of attainable tacit knowledge on the environment and their own organization? This question is connected to the basic idea and thinking in Figure 17 on evolution of knowledge conversion, the conversion of tacit knowledge into explicit knowledge in the conversion mode of 'externalization' (Nonaka and Konno, 1998).

However, this study assumes that the logistic information process also implicitly includes elements of tacit knowledge that can be assumed to be represented for example in the reciprocal and non-routine information processing mechanisms of 'direct contact', 'task forces', 'teams', 'integrating roles' and 'matrix designs' illustrated by Egelhoff (1991) in Figure 12. These mechanisms are taken into account in the logistic information process aspect in this work. This assumption is confirmed by the research done by Athanassiou and Nigh (2000) on the role of tacit knowledge in the work of top management teams of MNCs in the process of internationalization. They bring forth the explicitly socio-spatial nature of tacit knowledge. They also stress the central phase of transferring, or 'externalizing' tacit knowledge accrued individually abroad within the top management team, and the mutual credibility consequently required within that team. They conclude that "the more an MNC internationalizes, the more its TMT (top management team) members gain first-hand experience of the MNC's overseas activities through personal presence and interaction in the company's overseas markets.....More specifically, we demonstrate that the MNCs that have greater international involvement are the ones that develop TMTs with members who spend more time in markets abroad". The tacit knowledge 'externalization' process in the top management teams (TMT) in the study can be closely compared with the social cognitive theory model of Wood and Bandura (1989) depicted in Figure 16. A conclusion similar to the above of Athanassiou and Nigh is presented by Subramaniam and Venkatraman (2001) concerning the work of transnational new product development teams located in the MNC home-country, and how the task of employing tacit knowledge of differences of geographically dispersed cultures, tastes, habits and customs was performed by using cross-national teams with impatriates.

Thus, in evaluating the balance between the capacity and requirements of the logistic information processing of the DHQ in a need for new knowledge and in a situation of

uncertainty and bounded rationality, this evaluation process includes the particular aspect of company-pertaining experiential inference and possibly a general cognizance representing phenomenological and experiential perception within the socio-spatial cognition of DHQ management and staff with respect to attainable tacit knowledge.

As to the question of a perceptual role of tacit knowledge, the question can also be formulated in other terms, that is, does socio-spatial immediacy, as a possible generic human quality, phenomenologically and/or experientially give an implicit perception of sufficiently acquirable information and knowledge needed for rationality? This question could be posed basing on the above suggestion by Forgas and Melamed (1976) concerning the relevant principles of spatio-temporal and configurational relations with respect to perception of integrative and segregative emotions and intents in social cognition. An additional reference to Polanyi (1962) could also be made, as he sets forth that “if an ultimate logical level is to be attained and made explicit, this must be a declaration of my personal beliefs.....beliefs implied in such of my thoughts and practices as I believe to be valid; that I must aim at discovering what I truly believe in and at formulating the convictions which I find myself holding; that I must conquer my self-doubt, so as to retain a firm hold on this programme of self-identification.....We must now recognize belief once more as the source of all knowledge. Tacit assent and intellectual passions, the sharing of an idiom and of a cultural heritage, affiliation to a like-minded community: such are the impulses which shape our vision of the nature of things on which we rely for our mastery of things. No intelligence, however critical or original, can operate outside such a fiduciary framework.....We have seen before that deductive reasoning may be altogether ineffable and that even the most completely formalized logical operations must include an unformalized tacit coefficient. We have seen how the passionate force of this coefficient actuates discovery, inflames controversy, and sustains the student’s efforts to understand what he is being taught.....” Further, this question could be supported by Nonaka and Konno (1998), as they say, based i.a. on Polanyi’s thinking, that “tacit knowledge can only be shared if the self is freed to become a larger self that includes the tacit knowledge of the other.....in practice, socialization involves capturing knowledge through physical proximity.”

Thinking of the above suggested ‘need for new knowledge’ as a perceptual ‘event’ in its realization, and its propositional effect on the socio-spatial and spatio-temporal cognition of DHQ management and staff, the difference between tacit knowledge and explicit knowledge

might be assumed to be perceptually meaningful. This question, however, is not further elaborated in this work. This is justified by the very intricacy of the topic; the evidently diffuse borderline between tacit and explicit knowledge, and the multi-dimensional basic modes of origin of tacit knowledge, i.e. the supposedly varied epistemological foundations of that concept with respect to a human being. Likewise, it is justified by the undoubtedly many-sided and complicated implications of the topic in DHQ management, in order for the question to be included within the context and purpose of this particular study.

Hence, DHQ relocation is a **structural** change of organization **in social space**, with its implications for logistic information processing. In that capacity, DHQ relocation is comparable to any structural change of an organization with similar logistic information processual aims. Further, in terms of logistic information processing theory, DHQ relocation could be interpreted as a particular '**spatial mechanism**' to be 'added' to the lower right-hand corner of Figure 12, shown by Egelhoff (1991).

Ideas close to these above are put forward by Palmer et al. (1987), as they say in their study on the multidivisional form of corporations, "our analysis also underscores the significance of corporate spatial structure, largely ignored by organizational theory in the past. It is arguably the most important economic determinant of the intraorganizational structure investigated here - the MDF (multidivisional form).....Presumably it affects the kinds of internal control problems firms face.....Further, while it is an economic determinant of the MDF, corporate spatial structure itself is determined by political and ecological/life-cycle processes as well as by economic factors." This idea by Palmer et al. has also been applied to some extent by Forsgren, Holm and Johanson (1995) in their research on DHQ relocation events in Sweden.

Somewhat deviating from the identity-change based socio-spatial cognitive information process of the paradigm of this research, three socio-spatial phenomena and approaches of thinking are also presented. Although not further analyzed and elaborated through literature here, these could be said to give in an interesting and suggestive way some important side-support to the theoretical socio-spatial reasoning in this work. The approaches are mimetics, territoriality, and the center-periphery metaphor and model. These aspects can be thought of to belong in their respective ways to the entity of the proposed holistic paradigmatic identity and socio-spatiality



model, too, particularly keeping in mind strategic reference point theory and transaction cost theory. In addition, these aspects, which represent different fields of scientific inquiry, may ultimately, in the course of future research, end up within a common base of cognitive psychology. These three approaches are presented in Appendices 3.1-3.3.

#### **3.3.5.4 Conclusion of the paradigmatic component of the spatio-temporal cognitive map and information process, and the propositions drawn from it (P #4a-k)**

As was presented above following Forgas and Melamed (1976), one of the basic emotion-based human traits is the need for knowledge, "that certain cognitive functions - such as perception, judgment, and imagination - are as much a part of being human as the need for contact and physiological nourishment.....that the core personality is much the same for all human beings since it is based on these psychophysiological needs and cognitive foundations.....An implication of (this) approach is that experience should produce the kind of cognitive skill which permits the individual to satisfy the basic demands of being human without undue concerns with security and anxiety." This same idea was expressed by Shaffer (1977) in his notion that "structures also tend to equilibrium with the environment.....the motive for cognitive functioning is indigenous." Shaffer further points out that "affective (emotional) development parallels cognitive development", thereby extending the basic ideas in the cognitive-developmental theory of the human being.

On this idea of the basic human trait of knowledge-need, it was proposed above that at the instance of perceiving this knowledge need, the spatial and temporal dimensions are perceived phenomenologically and experientially simultaneously and instantly. The perception of these takes place by way of perceiving the **event** of procuring and receiving data and information.

Further on, it was proposed that in the transformation process of the social knowledge need perception into a spatio-temporal data and information need perception, there is attached, inseparably, and according to the perception model of Forgas and Melamed (1976), another memory based experiential factor. This factor concerns the logistic information processes in connection with the explicit practical experience of the company management and staff under circumstances of previous comparable instances of company growth. This experience, particularly when it includes logistic problems which are perceived as menacing in respect to

the required strategic and operational knowledge-level, affects the perception of the later stimulus on growth-attached knowledge need.

These instances were said to be comparable to the knowledge-level based incremental stages-model phases of internationalization, as presented by Luostarinen (1970, 1979) and Johanson and Vahlne (1977) with respect to the history of Finnish and other Nordic MNCs.

As a conclusion to the discussion of the assumed DHQ identity process based socio-spatial cognitive information process as a general principle, and applying it within the proposed social cognitive information process contexts of the strategic reference point theory and the transaction cost theory, the nine **propositions** below are presented. They are in congruence with the above-presented thinking and ideas of March and Simon (1958), Routila (1970), Forgus and Melamed (1976), Shaffer (1977), Weick and Bougon (1986), Golledge and Timmermans (1990), Egelhoff (1991), Tversky (1992), Williamson (1993), Fiegenbaum, Hart and Schendel (1996) and Damasio (1996):

**P #4a:** The identity-change induced social cognitive information process of DHQ management and staff is simultaneously, in a **phenomenological** sense, transformed within the perception of DHQ management and staff into a comparable **socio-spatial** cognitive information process (Forgus and Melamed, 1976), i. e. a change in spatial perception;

**P #4b:** The character and contents of the socio-spatial perception change is also, by way of the **affective** and **emotional components**, in accordance and in reciprocity with the socio-spatial perception and cognition according to the suggested theoretical aspects of managements' **external strategic reference points** and **transaction cost economics** (March and Simon, 1958, Forgus and Melamed, 1976, Ginsberg, 1990, Golledge and Timmermans, 1990, Williamson, 1993, and Fiegenbaum, Hart and Schendel, 1996);

**P #4c:** The perception of a **need for new social knowledge** is attached, in a **phenomenological** sense (Shaffer, 1977), to the perception of the DHQ management and staff of the **transformation** of social cognition to spatial cognition. This phenomenological perception may take place through the emotional-cognitive aspects represented by strategic reference point

theory and transaction cost theory; in the perception of DHQ management and staff these two theoretical aspects may also be **intertwined** and in reciprocal influence;

**P #4d:** The **phenomenological** perception of a need for new social knowledge also **includes** an **experiential** determinant referring to the need for new knowledge (Forgus and Melamed, 1976, Weick, 1990); the experiential determinant is of a **general human nature** and also involves emotions (Damasio, 1996);

**P #4e:** When the DHQ management is forming a **mental image** of satisfying the need for new social knowledge, i.e. realizing in **imagination** and **thought** the **getting of new information**, the process is also perceived as an **event**, and as an event **phenomenologically** and **experientially** in human perception it takes place both in **space and time**, leading within the general human experience to a changed **spatio-temporal** perception of the DHQ managers and staff with respect to the pertinent social environment;

**P #4f:** Within the phenomenological perception of information as a spatio-temporal process and event, the DHQ management and staff in its **experiential** perception cognizes this process-event as an explicitly **logistic** process pertaining to the company, in the sense characterized by Egelhoff (1991);

**P #4g:** The **problems** pertaining to the company's **logistic** information process (Weick, 1990, Egelhoff, 1991) previously encountered by the DHQ management and staff are also attached **experientially** to the DHQ management's **conscious** perception and thinking. These problems have been encountered by the DHQ management and staff in connection with earlier growth phases or particular events of the changes induced by the company's foreign growth; the perception of these information problems as events lead to a **secondary** change in management's perception of space and time **within experientiality** (Forgus and Melamed, 1976);

**P #4h:** The resulting above suggested **holistic picture** of the process of change in the perception by DHQ management and staff of the social environment, new information, space

and time leads to an explicit cognizance by DHQ managers and staff of the **logistic information** processing conditions that must be **compatible** with the opportunities and threats of the environment and the company's competitive survival (Daft and Weick, 1984, Wood and Bandura, 1989, Egelhoff, 1991);

**P #4i:** The **distortions** of spatial cognition are also applicable to social stimuli (Tversky, 1992, Medyckyj-Scott and Blades, 1992, Franklin, 1992) and **affect the entire** socio-spatial and spatio-temporal **cognitive process** described above.

The holistic information process principle of DHQ management and staff introduced in the above propositions P #4a-i is illustrated more closely in Appendix 2, by way of 14 theoretical and **fictional example cases** as propositions P #4k1-14. These propositions utilize the phenomenon of distortions. The cases of socio-spatial distortion are presented as phenomena that affect the principles of socio-spatial perception change presented above in propositions P #4a-f. This means that the distortions are constructed here upon a phenomenon already existing and thus become distorted in the socio-spatial perception change. By this token, the propositions P #4k are, in principle, of no lesser value than the other propositions. Their location in the Appendix is justified technically because of their length; their nature could be seen in this study as analogous to that of empirical case-material. These cases are based on the various above presented distortions of mental maps as presented by Tversky (1992) and Medyckyj-Scott and Blades (1992) and attached to the social cognition represented in perception, through aspects above, in the light of strategic reference point theory and transaction cost theory. It is also proposed in this connection that these various distortional phenomena, being in cognition a pervasive human reality according to Tversky, must therefore also have an important, perhaps even an essential role within the area of strategic and operative management of MNCs, and in the case of this research, of DHQ relocation.

### **3.4 The reciprocal dynamic interaction between the cognitive information process and the logistic information process within the research paradigm**

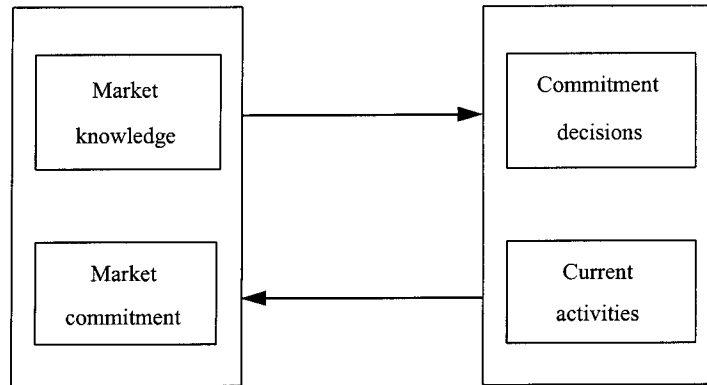
#### **3.4.1 The mutual complementarity of the cognitive information process and the logistic information process; the proposition of their historical reciprocity (P #5a-b)**

As was pointed out above in the words of Egelhoff (1991), the logistic and cognitive information processing perspectives "should be viewed as complementary and not contradictory explanations of organizational information processing." Both of these processing approaches represent the same topic of strategy and strategic issues concerning this work. The contents and nature of the cognitive information process is strategic and is assumedly strategy-attached in the perception of DHQ and staff as well. In practical reality, these two approaches represent, or can be thought of to represent momentarily different phases of DHQ perception but, in the words of Egelhoff, represent as a whole complementary aspects. This makes the two aspects of the information process an holistic entity in substance as it has been in this study set forth.

On these grounds, then, it is consequently proposed in this work that during the entire historical international growth process of the company and prior to the conclusive DHQ relocation decision, the cognitive information process and the logistic information process are dynamically complementary.

It is accordingly suggested that an exemplary illustration of this kind of thinking on reciprocity could be the knowledge-increase-based dynamic state and change model connected with company growth and a company's aim at long-term profit through its internationalization process. This model is presented by Johanson and Vahlne (1977) in Figure 22. It concerns Swedish MNCs under social and spatio-temporal conditions that are here assumed to be very similar to those concerning the Finnish companies in this study. This assumption is strengthened by the research done and results obtained by Luostarinen (1970, 1979) on Finnish companies in similar conditions of internationalization. Further on, with respect to the historical internationalization process of Nordic companies, the information process aspect is touched upon as a background factor in connection with the DHQ relocation phenomenon, and subsequent research on it by Forsgren and Holm (1991, 1993), and Forsgren, Holm and Johanson (1992, 1995).

Figure 22. The basic mechanism of internationalization - state and change aspects. Source: Johanson and Vahlne, 1977



In Figure 22 above the 'market knowledge' aspect together with the 'commitment decisions' aspect can be seen in a wider sense to represent knowledge concerning the entire social cognitive information process, i.e. the changes attached to all the foreign transactional interfaces, opportunities and threats alike. The 'decisions' in this model are assumed to be applicable to decisions made in a DHQ.

In the context of Figure 22 there takes place, as the above propositions P #4a-f set forth, a subsequent experiential change in DHQ management's perception of the social knowledge need into the need of a process of data procuring and information. The experiential managerial perception concerning the problems encountered by the management and staff in the logistic information process is simultaneously added to the basic human perceptual change as it is explained above in proposition P #4e.

Thus the above presented aspects of the Figure 22 model could be considered comparable to the cognitive information process of the paradigm of this study. The empirical, factually materialized logistic information process concerning the rest of the aspects of Johanson and Vahlne's model is then added to this.

A model of a basically comparable reciprocal nature, constructed to a similar Finnish, and Nordic, social and spatio-temporal internationalization context, with company growth presumptions comparable to those attached to the above figure, is presented by Luostarinen (1970, 1979) in Figures 23 and 24. The direct combination of these two figures is done explicitly in this research work.

Figure 23. Components of the behavioral decision-making process of the firm. Source: Luostarinen, 1970, 1979

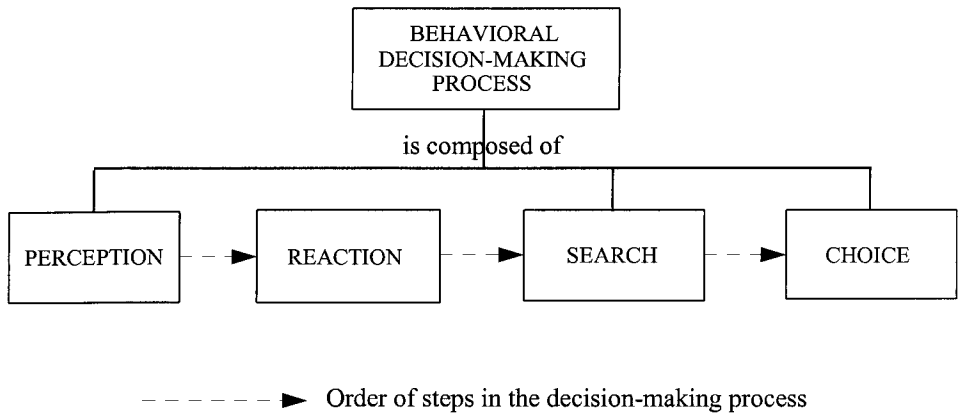


Figure 24 naturally implies logistic information processing, but it is more explicit concerning its cognitive dimensions as applied to the paradigm of this study. Thus the behavioral decision making process of Figure 23 is located in the 'valve' area of Figure 24, where it combines the

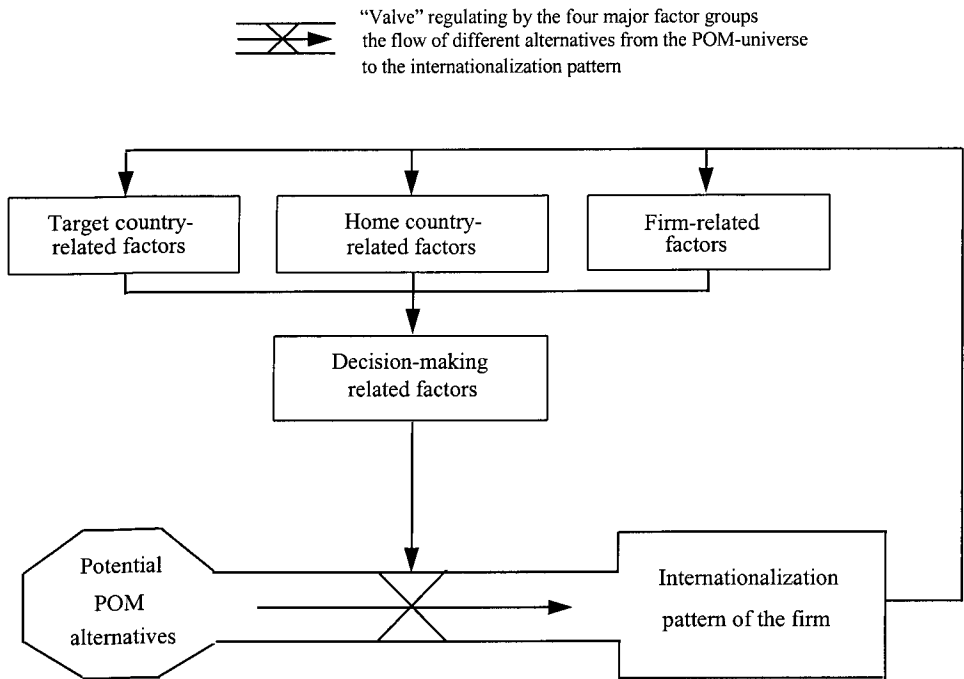
aspects of cognitive information processing with aspects concerning the whole array of strategic and tactical, sequential and reciprocal logistic information processing mechanisms as presented by Egelhoff (1991). Both the cognitive and logistic information processing aspects are combined in the 'valve' with factors related to the target country, home country and the firm.

The two above knowledge-requirement and decision-making models by Johanson and Vahlne (1977) and Luostarinen (1970, 1979) are basic in nature and construed as the 'Nordic model' and an interpretation of the gradual internationalization process of the firm, the now classical stages-model.

However, these models above can also be assumed to be valid for analogous application to the cognitive-logistic information process paradigm of this research work as they concern companies in the very same nation-social and spatio-temporal conditions. This assumption is comparable to the presentation by Cavusgil (1980), as he in reference to the above stages-approach in internationalization and to some of the above literature, notes that "the conceptualisation is in agreement with the behavioural theory of the firm and the empirical investigations of international business decisions.....personal characteristics of the decision makers, lack of information, perception of risk and presence of uncertainty seem to be especially valuable in understanding firms' involvement in international marketing."



Figure 24. Factors having an effect on the internationalization and the product, operation and market (POM) structure on the internationalization pattern of the firm. Source: Luostarinen, 1970, 1979



These models presented above in Figures 22-24 and the conceptual comment on them by Cavusgil are thus assumed to represent and illustrate in a concrete and uncomplicated way the historical, according to Egelhoff (1991) mutually complementary, dynamically reciprocal cognitive-logistic information process as presented in the following **propositions P #5a-b**.

As a result, and referring to the cognitive-stage perception approach model presented by Forgas and Melamed (1976), and the information-seeking perceptual cycle presented by Weick (1990), the following proposition is made:

**P #5a:** It is proposed in terms of the cognitive-logistic information process paradigm of this research, depicted in Figure 8, that the cognitive and logistic information processes are both

sequential and reciprocal and form a **dynamic relationship**. This dynamic process has taken place, and takes place, in the course of the historical **international growth process** of the Finnish MNC and its division;

**P #5b:** As a result of the cognitive-logistic information process in the perception of DHQ management and realizing the **incapability** of the current logistic information process with respect to the information requirements of the DHQ (Egelhoff, 1991), the corporate and divisional managements decide for a **relocation** of the DHQ abroad, in order to **reduce** the **boundedness of rationality** of the DHQ managers and staff.

A concluding question of a very general character that obviously rises here is, then, what role does the very basic human compulsive knowledge-need by itself, attached to opportunities and threats tied to the strategic intent of company survival and growth, have in the spatial growth process of an MNC? And, with reference to the cognitive-logistic information process paradigm of this study, under what internal and external cognitive and logistic contingencies is this strategic intentionality and knowledge-need triggered? In other words, how could the sensitivity and other characteristics of DHQ managers and staff be qualitatively assessed in these respects?

#### **3.4.2 Aspects of organizational learning in the paradigmatic cognitive-logistic information process**

The proposed cognitive-logistic process and the assumed experiential knowledge subsequently acquired associated with it, has presumably come about since the first foreign activities of the Finnish MNCs. This has taken place during the companies' internationalization and foreign growth and their gradual development into fully-fledged MNCs.

It is assumed that the Finnish MNCs-to-be and their DHQ-to-be during their evolution to their present state have, following the propositions of the stages-model, encountered the practical question of sufficient experiential and other knowledge and information in face of uncertainty with regard to the international environment on countless occasions, as has been presented and affirmed by many researchers of the stages-model, for example Luostarinen (1970, 1979), Johanson and Wiedersheim-Paul (1975), Johanson and Vahlne (1977, 1990) and Nordström (1991).

This sufficient level of experiential knowledge and information has concerned the social environment of customers, competitors, public and other institutions but also, particularly during the later course of the growth process, the greatly expanded internal organization itself with its many acquired foreign subsidiaries in the Finnish MNCs. This experiential knowledge has been an important element in the organizational learning process of the MNC and DHQ management and staff.

As was above brought forth in connection with the reciprocity between the cognitive and logistic information processes, the above characterized growth process has, then, in practice meant successive and repeated comparisons by management between the perceived social knowledge need-induced spatio-temporal information requirements and the logistic information processing capacities of the organization. The explicit requirement-capacities comparisons of the logistic information process mechanisms, as explained by Egelhoff (1991), can also be assumed to have led to subsequent gradual improvements in the logistic information processing mechanisms, up to the situation of the DHQ relocation decision as illustrated in Figure 8 of the outline of this holistic information processing system. This experiential cognitive process was above also suggested to be one factor, and the finalizing one in the cognitive process of the spatio-temporal perception of management and staff, prior to the relocation decision.

The question of keeping up and improving a firm's cognitive and logistic information processing capabilities during the course of internationalization has assuredly been one of the most challenging tasks of Finnish MNCs, amply demonstrated by all the post-acquisition problems they have variously encountered, as shown by Stenberg (1992) and Santala (1996).

As to the paradigmatic cognitive information process capability, then, the concept of strategic intent, as presented by Hamel and Prahalad (1989), logically implies a clear and strong company identity as a springboard for strategic intent. Strategic intent, i.e. "ambition" and "obsession with winning" to exist with continuity "stable over time", as expressed by the authors, requires an equally maintained explicit dealing with the question of a company identity by the DHQ management, as strategic intent "sets a target that deserves personal effort and commitment." Identity is in this study the starting point for the cognitive information process. The same point of view is stressed by Bartlett and Ghoshal (1989) as they note in connection with building commitment and a shared vision of managers that lack of continuity is one of the most important factors in undermining a company's international expansion and development.

"Companies must remain committed to a core set of strategic goals and organizational values. Without such continuity, the unifying vision quickly vanishes." A central factor serving this end is the development of individual understanding and acceptance which essentially depends on "training and development activities and career path management practices."

One part of these practices consists of developing broad international perspectives and extensive experience in MNC managers. This is carried through by moving them among geographic units within job rotation systems and international assignments for at least three to five years, or every two to three years, as Bartlett and Ghoshal suggest in presenting successful cases of the development of MNC managers.

Career path management is also part of the mechanisms of the logistic information process as set forth by Egelhoff (1991). At the outset of this study, in the chapter 'Research problems', it was noted that in connection with job rotation, attracting foreign managers and staff specialists to the Finnish DHQ encountered the greatest difficulties.

As Egelhoff also refers to the 'transnationalism' of Bartlett and Ghoshal (1989), he notes that the logistic information-processing framework developed by him "seems uniquely suited to analyze the new transnational designs that are now emerging in firms.....". He further sets forth that "the use of nonroutine-reciprocal information-processing mechanisms will need to be significantly expanded" and that "there will be a much greater need for design rules at all levels of the organization" concerning design of transnational relationships.

Concluding his ideas on information processing, Egelhoff (1991) says that "organizing itself becomes a new technology that almost all managers in a transnational firm must master" and that the above presented, "information-processing model developed.....provides both a design logic and a preliminary set of design rules" serving the ends of 'transnationalism' in an organization.

It is obvious and logical, then, that the logistic information-processual 'organizing itself' likewise in its entirety requires in implementation the 'training and development activities' set forth above by Bartlett and Ghoshal.

The historical cognitive-logistic development process and experience of Finnish MNCs suggested as a paradigm, and the temporally further development needs as presented above, can also be interpreted in terms of organizational learning. As Fiol and Lyles (1985) say in their study on organizational learning, "organizations, unlike individuals, develop and maintain

learning systems that not only influence their immediate members, but are then transmitted to others by way of organization histories and norms", and that, citing Hedberg (1981), "organizations.....have cognitive systems and memories" which "preserve certain behaviors, mental maps, norms, and values over time." This aspect is also to be found from the observed nature of some anticipatory information systems in connection with foreign acquisitions, as brought forth by Stenberg (1992).

Also in their study on East-West differences in strategic thinking, and in developing their subsequent concept of strategic intent, Hamel and Prahalad (1989) bring forth the practical aspect of their concept, that it "emphasizes the need to accelerate organizational learning to outpace competitors in building new advantages."

In his above study on growing business organizations, Stenberg presents the steering systems of six different divisions of six leading Finnish MNCs during their internationalization through foreign acquisitions. As he notes, "the relationship between internationalization and steering system development can be explained as a learning process. Internationalization through acquisitions creates pressures to develop the steering system. Once successful development has been conducted, the company can grow further through new acquisitions. The successful development efforts can concern the whole steering system or some part of it, e.g. the planning system" (or those, also by Stenberg, studied subsystems of organization and information systems). The particular characteristics in the above idea of the development of a certain aspect of the logistic information process, with the consequent implying of a basis for it in the dimension of the cognitive information process, compares, then, very well with the proposed cognitive-logistic paradigm of this research.

The above can also be compared with research results in general. As Stenberg (1992) notes, "the findings of this study as to the internationalization development are consistent with earlier theories and research findings of evolutionary, sequential build-up of foreign commitments."

This essential aspect of incremental organizational learning, which also takes place during the historical process of growth of an MNC, is presented in several studies by for instance Luostarinen (1970, 1979), Johanson and Wiedersheim-Paul (1975), Cavusgil (1980) and Levitt and March (1988), and it is present for example in the stages-model of internationalization presented below in the next Chapter 3.4.3.

The history-dependent target-oriented organizational learning aspect, based on the behavioral theory of the firm as presented by March and Sevón (1988) is assumed to be also present in the reciprocal processes of the cognitive-logistic information process paradigm of this study, depicted in Figure 8.

The organizational learning conclusion in Stenberg's research and in those of the others mentioned above fits the behaviorally grounded interpretation of organizational learning. This means that the above findings also represent routine-based behavior matching actions and procedures to new situations, that they are history-dependent actions, and depend on the relation between observed outcomes and the aspirations and targets of management, following Levitt and March (1988).

According to Fiol and Lyles (1985) there is a general theoretical consensus with regard to the importance of the concept of alignment, as an element of organizational learning. Alignment is understood as a fit with the environment to secure the long-term survival and growth of the firm. Alignment implies that the firm must have the potential to learn, unlearn, or relearn, based on its past behavior. Referring to Chakravorthy (1982), Fiol and Lyles note that "organizational adaptation is the essence of strategic management because it is the key activity for dealing with changes occurring in the environment and involves the continuous process of making strategic choices. Organizations have leeway and choice in how they adjust to a changing environment, and this leads to the capacity of organizations to learn over time."

It is consequently obvious that this notion also applies to the strategic question of information processing, both cognitive and logistic, as information processing is in the frontline concerning alignment and adaptation with respect to the environment. Knowledge need, information and the processing of it, recognizing the basic role of these as such, come according to logic temporally first. In this study it is suggested that management's **self-consciousness** with respect to **both cognitive and logistic** information processing was the background to the Finnish DHQ relocation events that have taken place.

Concerning the relation between individual and organizational learning, this has been dealt with more thoroughly above in connection with the development of the company's identity. As presented, the elaboration builds mainly on the work of Wood and Bandura (1989) on social cognition and organizational management.

Also according to Fiol and Lyles (1985), "organizations, unlike individuals, develop and maintain learning systems that not only influence their immediate members, but are then transmitted to others by way of organization histories and norms." They further note that organizations have cognitive systems and memories and they develop world views and ideologies. While members come and go and leadership changes, these memories preserve certain behaviors, mental maps, norms and values over time. These cognitive systems and memories are developed and shared by members of the organizations and enable them to build an organizational understanding and interpretation of their environment, and to begin to assess viable strategies, according to Fiol and Lyles (1985).

Quoting them further, it has to be noted that organizational learning includes the links between changes in behavior and cognitive development. But both of these may also exist separately; "changes in behavior may occur without any cognitive association development; similarly, knowledge may be gained without any accompanying change in behavior."

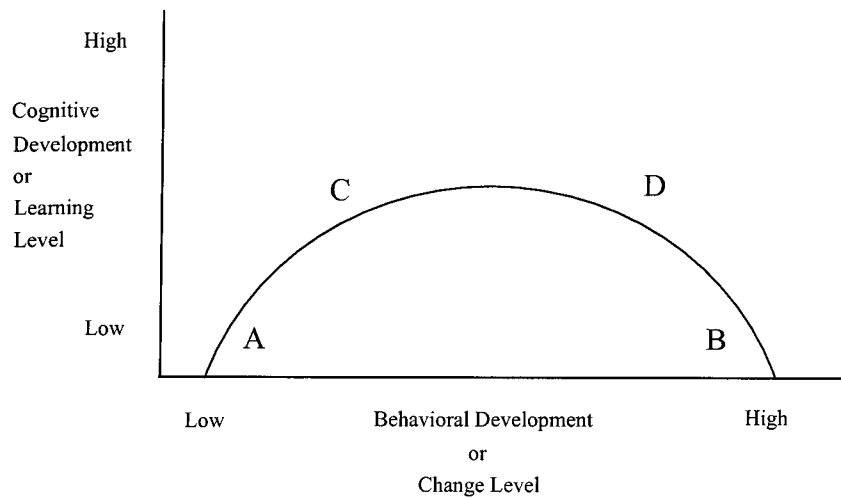
This comment could be thought of as an approximation of the findings in connection with the above presented stages-model of internationalization and the associated notes on organizational learning by Johanson and Vahlne (1977) and Luostarinen (1979). Thus Position C in Figure 25 would approximately be comparable to the organizational learning process of the companies studied by them and of the kind also considered in this research.

As Fiol and Lyles (1985) comment on the figure, position C produces few structural changes but does create meaningful learning tools: modifications in the cognitive development of the organization and new beliefs and interpretive schemes develop. "Position C may be most appropriate in a turbulent environment in which renewal and innovation (forms of learning and change) are crucial for survival, but too much change would cause the organization to lose its sense of direction."

According to the above suggestion by Fiol and Lyles, it could be assumed that an initial or repeated foreign acquisition or a comparable foreign direct investment, along the lines of thinking of international company growth in this study or the above stages-model, always has an incremental cognitive change effect in respect to company identity, social relationships, and spatio-temporal perception. Thus, the sustained successful international growth process characterized by 'strategic intent' and 'commitment and forward momentum' was proposed above to represent organizational learning and be perceived as an organizational value by the

DHQ management. This cognizance can be assumed to be a reality, even though in many cases it might not represent, in a relative material sense, an occasion of any dramatic magnitude. As Shaffer (1977) notes, "cognitive development is said to occur because the organism is continually extending cognitive structures to novel aspects of its milieu.....But equilibrium is, at best, only momentarily achieved since the organism's extension of its structures to novel environmental stimuli occurs continually."

Figure 25. Learning and change. Source: Fiol and Lyles, 1985



Thus, in terms of DHQ management, the cognitive learning effect of an external growth change as a whole is realized, firstly, through the changed company identity and management's 'commitment and forward momentum', applying Luostarinen and Welch (1990). Secondly, the cognitive learning effect comes through perception of foreign growth and long-term profit opportunities, as brought forth in the stages-model and related growth patterns by Johanson and Vahlne (1977) and Luostarinen and Welch; and also through the changed perception of environmental threats. Thus, company growth as a change factor creates "meaningful



modifications in the cognitive development of the organization. New beliefs and interpretive schemes" develop, applying the thinking of Fiol and Lyles above.

As was presented above, the paradigmatic social cognition is also transformed into spatio-temporal cognition through the perceived need for new knowledge and the subsequently perceived need for procuring data and information. This transformation which is connected to the logistic information process is proposed to be essentially experiential, in cognizance of passing of distance and time in connection with the data and information-procuring and processing event proposed in this work. Concerning this processing event as an occurrence, we may quote Golledge and Timmermans (1990) that "at the simplest level, each individual must have some knowledge of important objects or places (called landmarks, nodes or reference points). Implicit in this knowledge structure is the ability to state the location of a particular object or phenomenon and to recognize such an object or phenomenon either when it is within the perceptual field or during the processing of information about the given environment. At this level simple topological relationships (.....) are recognized along with more detailed characteristics of the place itself, including its label or identity, the magnitude of its existence and facts of temporal stability or instability." It is proposed that the historical experience of the logistic information processing mechanisms available for use by company management is inseparably connected in the role of the DHQ managers as perceiving persons to this spatio-temporal cognition.

Based on the this reasoning it is then proposed that within the paradigm of this study the cognitive and the logistic information processes have been in a continuous reciprocal interaction, that is, dynamic in character. It is further proposed that this experiential reciprocal interaction in the cognition, behavior and routines of management can be described in terms of organizational learning. This learning process, of the management of the company has proposedly taken place during the entire history of the company, during its international growth with activities abroad. As a learning process, the proposed cognitive-logistic dynamic information process paradigm resembles that presented by Glynn, Lant and Milliken (1994) in their process model of organizational learning in Figure 14.

As information processing is **in itself** a strategic question of organizational survival as stated by Egelhoff (1991), the suggested paradigm could also be called a changed company-identity induced socio-spatial strategic learning process. The historical learning process within

internationalization may also be thought to have had the character of an adaptive rational model as presented by March (1988). This means that, intermittently, during the growth process of repeated new acquisitions or other new occasions of foreign direct investment or comparable events, the above presented cognitive information process has revolved, as presented in Figure 8, in reciprocity with the logistic information process, creating an adaptive norm in information processes concerning management. Also, Glynn, Lant and Milliken (1994) refer to the above adaptive learning idea, or learning by doing, noting that "actions that are successful are repeated while those that are unsuccessful are not."

It is further assumed according to the depicted and proposed paradigm of this research that after a series of improvement measures to correct misfit between the logistic information-processing requirements and information-processing capacities in the various logistic information-processing mechanisms, the management of a company, still facing a misfit, reaches the conclusive decision to relocate the DHQ under conditions of cognitively interpreted and perceived uncertainty, bounded rationality and long-term growth and profit opportunities.

### **3.4.3 Parallel aspects of thinking with respect to the cognitive-logistic information process paradigm: the stages-model of internationalization of the firm**

As it was indicated above in considering the historical reciprocity between the cognitive and the logistic information processes, the reciprocal information-processing dynamics could be thought of to bear close affinity, if not implicit similarity, to the model presented by Luostarinen (1970, 1979) and Johanson and Vahlne (1977). This model concerns the stage-wise internationalization process of the firm. In the model, the focus is on the accrued knowledge based stage-wise increasing of commitment in scale and mode of foreign operations and/or geographical spread of markets under conditions of perceived uncertainty and risks and perceived growth opportunities. The model is depicted above in Figures 22, 23 and 24.

In the context of this study it can be suggested that there is a close analogy between the need for new knowledge for potential new growth-stages in foreign operations and foreign markets, following the idea in the stages-model, and the need for new knowledge and information caused by the post-growth changed company identity and social cognition, requiring better logistic information-processing mechanisms to be available. The objective in this study is to understand the procurement of knowledge and information as an implement to be used to serve the

organization under new conditions of environmental turbulence, and why it has taken the form of DHQ relocation in order to sustain the essential end itself, the foreign growth process of a company. Both these processes, the paradigmatic cognitive-logistic one and the stages-model, rest essentially on behavioral aspects based on uncertainty and bounded rationality encountered in the internal and external environment of management and staff, as noted by Luostarinen and Johanson and Vahlne concerning the stages-model.

The stages-model of internationalization can also be seen as a socio-spatial model and potential area of application of the strategic reference point theory of Fiegenbaum, Hart and Schendel (1996). The stages-model assumes perception of foreign market growth possibilities and long-term profit as the driving force for survival and success under the original conditions of the small home-market of the company.

The information processual analogy is also comparable to that suggested above concerning the affinity of the cognitive-logistic paradigm to the behavioral location theory and behavioral matrix of Pred (1967) in Figure 6. Likewise, the stages-model and the idea of the behavioral location theory have a close general kinship in real-life conditions and in their background conceptualization. Both the stages-model and, according to Smith (1981), behavioral location theory refer to knowledge and information aspects of the behavioral theory of the firm concerning its decision-making. It can also be noted that the assumption of uncertainty lies behind the thinking of besides the stages-model of internationalization also behind the logistic information processing theory as presented by Egelhoff (1991).

Concerning the paradigmatic cognitive-logistic information process, it has been proposed to represent a dynamic and self-generating process within the context of the assumed historical strategic intent of the company. For the DHQ management and staff it creates new visions and ambitions and brings forth new opportunities, providing for the seizing of those opportunities and inevitably opening up further visions and enhancing the selection of new strategic goals and strategic reference points, as Fiegenbaum, Hart and Schendel (1996) point out.

With this characteristic, the paradigmatic cognitive-logistic information process is in principle actually connected to, and becomes an essential organic part of, the stages-model process of internationalization as presented above in the dynamic models of Johanson and Vahlne (1977) and Luostarinen (1979). This could be expressed more exactly so that the paradigm produced here strives at understanding and explaining in a profound way the essential cognitive and

logistic elements in the process taking place in the stages-model process. This can be seen by comparing Figure 8 of the cognitive-logistic process with Figures 22, 23 and 24 of the stages-model process.

It could then be suggested that these two approaches are in principle inseparable and complementary. It could also be suggested that an instance of DHQ relocation by a Finnish or Nordic MNC may be seen as a logical end-stage within the cognitive-logistic stages-model of the internationalization of the firm.

As has been noted above, the basic background conditions and process of growth-ideas presented in the stages-model are assumed to have applied to the international growth processes of Finnish MNCs dealt with in this research work; this has been explicitly set forth in the Introduction and Chapter 3.3.3, which deals with company identity.

Despite some common background concepts, such as uncertainty and psychic distance and processual similarities, the paradigmatic cognitive-logistic information process and the stages-model cannot in all aspects be regarded as analogous as they represent, following Porter's (1986) categorization, completely different functions in a firm's activities. The stages-model represents in principle the primary activities of the value chain and the cognitive-logistic information process the support activities. This difference is analogical to the one presented above concerning the behavioral matrix of Figure 6.

To conclude the discussion of the relationship and connectedness between the cognitive-logistic information process paradigm and the stages-model of internationalization, according to the above characterization, the holistic cognitive-logistic information process continues in time through the growth and new acquisitions of the company. The quality of this information process is geared then to the quality, i.e. the growth and performance, the governance and continuation, of the entire internationalization process of the company, the cognitive-logistic model process setting the conditions for the stages-model process. It can be further assumed that this cognitive-logistic information process escalates on the occasion of every new foreign acquisition, or any cognitively and logistically comparable foreign operation or market change, according to the basic dynamic assumptions of the stages-model idea and thinking, as put forth by Luostarinen (1970, 1979) and Johanson and Vahlne (1977).

## 4 Conclusions and discussion

### 4.1 Conclusions with respect to the proposed cognitive-logistic information process paradigm

The research done in this work and the resulting propositions clearly indicate that the basic character of the DHQ relocation phenomenon studied is a processual one of cognitive-logistic contents.

As a continuous process it is suggested to start with the real-world growth change of the company. On the one hand, a company growth change abroad is proposed, following the paradigm of Figure 8 and propositions P #1a-b, to cause the DHQ management and staff both quantitative and/or qualitative needs for changes in the logistic information process. This concerns the role of the various mechanisms of this process as they are presented by Egelhoff (1991), and the relevance of which on a practical level is shown by Stenberg (1992) and Santala (1996), who have researched Finnish MNCs in post-acquisition situations.

On the other hand, it is proposed that a company growth change abroad, following the paradigm of Figure 8 and propositions P #2a-e, P #3a-d and P #4a-d, causes a cognitive-logistic information process with its background in the need for new social knowledge induced by growth change perceived by management and staff. However, behind this process it is proposed that there exists in the minds of managers and staff a representation of company history of the nature of cognitive structure. This company identity-attached cognitive structure in memory and thinking is proposed to consist of a 'commitment' and 'forward momentum' or 'strategic intent', which has its background in the company's forced growth in a small home market. This cognitive structure follows Neisser's model in Figure 13 by Weick (1990) and the model in Figure 15 by Forgas and Melamed (1976). The cognitive structure is its learned driving force as presented by Luostarinen (1970, 1979), Fiol and Lyles (1985), Hamel and Prahalad (1989) and Luostarinen and Welch (1990). However, as a change in identity is proposed to be the precursor in the cognitive information process, there are also assumed to be changing components in company identity in the perception of DHQ managers and staff.

As this work has its starting point in and deals with cases of DHQ relocation in Finnish MNCs, it is logical to infer that both of the noted information processes, the logistic one and the cognitive one, each aiming under uncertainty at a new level of company growth-induced need

for socio-environmental knowledge, are in fact inseparable and entwined, creating an holistic cognitive-logistic information process.

According to this research work, then, it can be set forward clearly and with certainty that besides the neoclassical-type empirical and rational side of logistic mechanisms of information processing of the DHQ managers and staff of an MNC in its daily management and strategic and other decision-making activities, there are likewise manifold and strong psychological factors influencing these activities at the same time. These factors are identity-attached social-psychological and spatio-temporal in nature and they obviously represent, together with the emotional components tied to them, some basic human traits and features of great importance. They are further attached to the human need for knowledge for survival, safety and success, also collectively. These traits are omnipresent in the human being as brought forth by Piaget (1950), Forgas and Melamed (1976), Shaffer (1977), Tversky (1992) and Damasio (1996, 2000), and they likewise belong to the context of management of a firm as presented for instance by March and Simon (1958), Weick and Bougon (1986), Ginsberg (1990), Weick (1990) and von Krogh and Vicari (1992).

Behind the socio-psychological and spatio-temporal human characteristics there exists the individual and organizational identity as put forward for instance by Weick and Bougon (1986), Wood and Bandura (1989), Alvesson (1990), von Krogh, Roos and Slocum (1994) and Griffin (1995). It is proposed that the identity of a DHQ management and staff affects the decision-making process of the DHQ both on rational and emotional grounds.

It is significant to understand, within the proposed causal and consequential basic order depicted in the Figure 8 paradigm, the continuous reciprocity of influences between these psychological factors during the growth of an internationalizing MNC. This is also depicted in the lowest section of Figure 8. This purely cognitive information process section could, tentatively, also be thought to act as a 'cognitive charge' or 'battery', with an impact on the main reciprocal cognitive-logistic information process.

The phases of transition between the psychological concepts of identity, social cognition, and spatio-temporal cognition are also very important. These transition phases are presented as propositions P #2a-e concerning the identity of DHQ management, P #3a-d concerning social cognition, and P #4a-k concerning spatio-temporal cognition.

The concrete activities of separate improvements of logistic information process mechanisms, as shown in the upper right-hand section of Figure 8, are attached to this transitional sequence of cognitive phases. These are carried out at any moment of need as perceived by the DHQ management and staff. As noted, it is proposed that the cognitive and logistic information processes belong inseparably together in a mutually constructive way. This is brought forth in propositions P #5a-b and Figure 8 as the reciprocal counterclockwise process of the whole right half of the figure, including the figure's circled center.

On a general level, it also can be noted that a DHQ relocation represents a qualitative change in organization structure. Structure being essentially a means of organizational information processing, following Coase (1986/1937) and March and Simon (1958), the spatial change in structure as a result of the qualitative spatio-temporal change in operative information processing represents on the factual level a qualitative change in formal organization structure.

This theoretical research work is inductive and hermeneutic as a qualitative study to start with, applying Alasuutari (1996), in its approach of problematizing given explanations. It continues with the Aristotelian principles of 'endoxa' applied to modern social studies, following Kakkuri-Knuuttila (1996, 1997). It further attempts deductively with the help of research literature to reach a holistic understanding of the cognitive-logistic information process of the managers and staff of the DHQs of Finnish MNCs. As a starting point of the information processes, it is centered around the tasks and role of the DHQ. However, despite the central and most essential place of the tasks and role, it is evident that there must also be other possible factors affecting a DHQ relocation. These may be purely economic, for instance fiscal or technical in nature, without any indirect information processual contents. Or, a relocation may be attached information processually positively or negatively to the corporate headquarters (CHQ) of the MNC, as noted above in the chapter 'Limitations of the research'.

The chapter 'Extended Problem Analysis' points out, by problematizing the explanations of DHQ managers' for relocation that a problems-ridden logistic information process may be intertwined with a socio-spatial cognitive information process laden with a DHQ's perception of peripherality based on a 2,000 kilometer distance to Central Europe. In the light of these

questions, it seems, on the basis of a range of literature representing cognitive psychology, cognitive and behavioral management research, behavioral location theory and human geography, that the extended problem analysis and the subsequent research questions have been sound and valid and could be analyzed by the construed paradigm and the accompanying propositions.

Besides the extended problem analysis questions on the processual substance factors of logistic and cognitive information, a secondary question concerning the theoretical approaches of management research in respect to the intertwined logistic and cognitive information processes is also presented. It may as well be noted, *ex post*, even though this may seem a circular inference, that the chosen approaches of the strategic reference point theory and the transaction cost theory fit a penetrating study of the intertwined character of the cognitive and logistic information processes very well. The circumstantiality of the extended problem analysis denotes, on the level of principle, the rather detailed approach and many-faceted aspects of this research work in addressing the real-world DHQ relocation problem.

Above were presented some of the principles of an hermeneutic approach which is the science-philosophical groundwork of i.a. the concept of problematizing. Problematizing is regarded methodologically essential for social sciences by Alasuutari (1996). In this connection Eskola (1996) was noted to maintain that “no researcher is able to bypass the realities of the process of understanding. He or she is bound to him- or herself, and the provisions for procuring knowledge” (translation K.E.).

This notion may also include the justification for doing this theoretical research work and construing the theoretical paradigm with its accompanying propositions. As with the research gaps noted above, there is a gap concerning the understanding of the DHQ relocation phenomenon itself. A bridging of the logistic and cognitive information processes of management is also needed. In approaching the under-researched problem of understanding the DHQ relocations and to gain any level of true knowledge of them, past or future, 'provisions' must be made for this.

In science and research, one of those provisions would be a theoretical model for tackling a research problem in the real world. Without tools of a deductive character serving human inference not very much important knowledge and understanding of the real world can be obtained. However, there seemed at the outset of this work to be a lack of theoretical provisions



concerning the research topic of this work. On the other hand, effectiveness in research to achieve the aimed-at understanding can be thought of also to require the simultaneous deductive using, in the sense of hermeneutic wholeness (Johansson, 1987), of some of the plentiful adjoining research previously done and available, to be found in literature.

Very pertinently from the point of view of this research work Doz and Prahalad (1993) note the potential role of literature. In their study on the various areas of organization theory and research on the one hand and MNC management research on the other, they contend that these areas have not been overlapping and cross-fertilized sufficiently. In their words, “we believe that organization theorists have remained too involved with the development of their theories, whereas many (if not all) scholars of MNC management have underexploited the theories available to them. The former have typically studied much simpler organizations than DMNCs, whereas the latter have often been engrossed in the complexity of what they studied and have failed to develop or borrow a sufficiently powerful conceptual framework to shed light on the observed phenomenon”.

It is also important to set this research work on the socio-spatial information process into its pertinent science historical context. Two of the core ideas of the behavioral theory of the firm have been ‘bounded rationality’ and ‘imperfect environmental matching’ according to Cyert and March (1992). As Simon (1976) in his work on administrative behavior characterizes the situation, “it seems equally apparent to one who observes behavior in organizations that the rationality exhibited there has none of the global omniscience that is attributed to economic man. Hence, we cannot simply chuck psychology overboard and place the theory of organization on an economic foundation. Indeed.....it is precisely in the realm where human behavior is **intendedly** rational, but only **limited(ly)** so, that there is room for genuine theory of organization and administration.....Administrative theory is peculiarly the theory of intended and bounded rationality - of the behavior of human beings who **satisfice** because they have not the wits to **maximize**”.

Since the crystallization of this idea in the above citation, relative to the rationality of neoclassical economic theory, very much research work has been done to understand managerial decision making and behavior in organizations, as presented by March and Sevón (1988). Two important areas of these studies concerning social cognition have been quite

extensively presented and used in this work. These are transaction cost theory and strategic reference point theory. In this context it can be seen and suggested that the cognitive-logistic paradigm continues this research tradition. In other words, the paradigm also extends it in a consistent, seamless way to encompass spatiality and spatio-temporality in the behavioral theory of the firm.

Even concerning DHQ relocation and assuming away industry-related particular factors, DHQ relocation could be seen within the behavior of the DHQ management of an MNC as 'intendedly rational but only limitedly so'. This limitedness may be illustrated by the fact that only some of the DHQs of Finnish MNCs have been relocated. A clear majority remain in the home-country, and some of abroad relocated DHQ have even been re-relocated back (Huhtamäki Corporation/Leaf Group, and /Polarcup Group, 1998). On the other hand, still new DHQ relocation instances abroad are taking place (Enso Corporation/Timber Division, 1998).

To the question is closely attached the distortions of social and spatial cognitive maps, as noted by Tversky (1992), but also shown by Ross (1977) in his study on illusory attributing of causation based on another individual's wishes and attitudes. Thinking of organizational conditions internally, relationships between a DHQ and foreign subsidiaries, the question of for example rationality vs. non-rationality of the DHQ in its encountering with non-rationality of subsidiaries, or conversely, is perplexing. This situation can be very well thought of to apply for instance to the empirically-based theme at the beginning of this research, that of problematizing explanations of the DHQ managers of their relocation events.

Hence, concerning **spatial behavior** of the DHQ managers with the paradigmatic cognitive-logistic information process propositions of this research in mind it could be suggested that this spatial behavior was '**intendedly** rational, but only **limitedly** so'.

The justification for this theoretical work to attempt to create 'provisions for procuring knowledge' on the DHQ relocation phenomenon in further research. The concept of knowledge in this connection means its standard epistemological definition "knowledge is justified true belief" (Plato, in 'Meno, Phaedo and Thaetetus'/Grayling, 1996).

Without proceeding into the philosophy of the latter concepts, it is here presented, rather comprehensively that the literature based cognitive-logistic paradigm and its propositions of a deductive character will further enhance research to procure knowledge on the nature of the

'justified true belief' of the phenomenon of DHQ relocation, but evidently also of other related phenomena in MNCs.

But there can be set forth a very tenable general proposition that the proposed cognitive-logistic paradigm with its mode of thinking of very basic human characteristics is applicable to human organisations and institutions of any category, be they economic, political, cultural, military or any other kind, and of any dimension of the self, and dimension socially, and of any extension spatially.

#### **4.2 Theoretical implications**

As the uppermost of the theoretical implications of the cognitive-logistic paradigm with the attached propositions it could be concluded that a cognitive information process and a logistic information process may be in general terms very intimately tied to each other in MNCs. The nature of this processual intimacy is reciprocity and dynamics. Explicitly, this seems to concern the strong international growth process of Finnish MNCs occurring abroad as shown by Luostarinen (1979), but also the wider geographical and national category of Nordic MNCs according to Johanson and Vahlne (1977, 1990) and Nordström (1991). Tentatively, this could apply to even other MNCs having their home-bases in countries and/or cultures which, in the same way as in Finland, are cognitive-logistically peripheral to the international centers and world cities, or their respective core areas of economic activity, following the concept of 'peripherality' according to Goodall (1987). This immediate conclusion is in concert with the notion by Egelhoff (1991) that the cognitive aspect and the logistic aspect "should be viewed as complementary and not contradictory explanations of organizational information processing".

This very same idea is put forth by Daft and Weick (1984) in their model of the organizational interpretation modes and organizational processes of firms. In their model, particularly under their concept 'active organizational intrusiveness' in respect to the environment, they have factually presented a synthesis of cognitive information process aspects and logistic information process aspects and mechanisms.

The models presented by Luostarinen (1970, 1979) in Figures 23 and 24, and Johanson and Vahlne (1977) in Figure 22, which deal with the stages-model of internationalization of the firm can also be termed as cognitive-logistic information processes. The relationship of the proposed

paradigm of this research work and these two models was dealt with above in Chapter 3.4.3. As it was noted in that connection, the cognitive-logistic information process can be seen as an organic part of the stages-model process, producing an understanding and explanations of major and essential elements of the latter. On the other hand, a DHQ relocation instance of a Finnish and tentatively other Nordic MNC can be seen as a logical information-processual conclusion and end-stage within the by-now classical and still much referred-to stages-model. These notions could also be classified as a theoretical finding of this research work.

On the basis of this work, particularly concerning the paradigmatic component of company identity, it may also be set forth that concerning managerial cognition in an MNC, it is necessary to take into account at the same time both structural or 'mental map' variables, and processual variables. The former could in this study be represented, for instance, by 'small market forced-growth strategic intent', the latter by 'strong successful growth abroad and new strategic reference points'. Thus, in this research work both aspects are linked with internal logic. However, in this respect management research has been in general rather divided, representing either processual studies or structural, belief system studies. As Meindl, Stubbart and Porac (1994) note in their synoptic article on organizational cognition, "emphasizing processes meant studying how information and beliefs are combined and used in forming judgements and making decisions. Emphasizing structure meant describing knowledge and its inherent organization. There have been few productive attempts to study both the structure and process of thought simultaneously. Studying one has meant deemphasizing or assuming away the other. Thus, there are few theoretical frameworks for linking structure and process together in a meaningful and useful way." They also point out, with reference to certain research done that studying cognitive structures and processes are not mutually exclusive, but that "cognitive process and structure can be productively integrated in a study on individual decision making".

In connection with the paradigmatic component on company identity the presented paradigm and propositions also bring forth the essential aspect of linking together the individual managerial level and the social organizational level. As noted by Meindl, Stubbart and Porac (1994), this is a field of great complexity concerning measurement of, firstly, the integration of individual and

social cognition, and secondly, the consequent impact of social cognition on organizational performance.

In this study, the integration was suggested to take place through the social cognitive process presented by Wood and Bandura (1989) in their model of the 'triadic causal structure' combining cognition, behavior and environment in Figure 16 and in the 'spiral evolution of knowledge conversion' presented by Nonaka and Konno (1998) in Figure 17, which particularly takes into account the process of externalizing tacit knowledge.

A model of socio-cognitive character, concerning corporate-level decision-making processes attached to diversification, is also presented by Ginsberg (1990). Jelinek and Litterer (1994) also present their model, which links individual level cognition with organizational level cognition.

Thus this central but complicated question must be subjected to active theoretical and empiric research interest to be well understood. The contents of this research work, which concerns the intensive reciprocal dynamic cognitive-logistic process, which is tied to the MNC's turbulent international environment and international dynamics and particularly the cognitive information process itself, also points to the important role of this cognitive linkage-topic.

In several respects, the idea and detailed contents of the cognitive-logistic paradigm and attached propositions of this study come close to the opinion of Meindl, Stubbart and Porac (1996). With respect to future research on managerial and organizational cognition, they argue as follows: "in the future, the most important studies will clearly show linkages between cognition, behavior, and organizational outcomes" and "we will see more attention given to the role of information systems in managerial cognition".

Their notion is also transferable to the context of the relationship of the paradigm and propositions of this study with ideas of behavioral location theory, particularly the behavioral matrix of Pred (1967) in Figure 6. Of this relationship it could be noted that, as the matrix concerns the position of the decision maker in respect to the axes of quality and quantity of the information he or she receives and the ability to use that information, the propositions and outcome of this research work in understanding and explaining the DHQ relocation decision represents the locating of the decision maker himself at or near the point of the optimizer in the right-hand lower corner of the behavioral matrix. Hence, relocation of the decision maker or DHQ improves their position with respect to the axes and raises the level of locational decisions

made by the DHQ. This, then, could be suggested to be a theoretical finding of this research work with respect to the field of behavioral location theory and consequently the disciplines of both economics and geography.

With respect to location theory in general, this research otherwise also has a theoretical implication. It could be proposed that strategic reference point theory and transaction cost theory offer important aspects concerning location of any functions of a firm, thinking of the DHQ cognitive-logistic information process paradigm in its entirety. Inclusion of the various aspects of the paradigm into any location decision or any alternative acquisition in space which is being currently made, could be seen as equal to an inverse DHQ location decision, serving as a discounted, potential future relocation of a DHQ. This notion could be thought of to stem from the information-processual learning and perception by the DHQ in the course of the historical growth process abroad, and the problems in the logistic information process subsequently encountered. This idea could be based on Figure 8, both in the upper logistic information process part and the lower cognitive loop part. This theoretical implication with respect to location theory is comparable to the presentation of Smith (1981) concerning the suggestions by Norcliffe (1975), Taylor (1975) and Wood (1978) and which deal with locational decisions in large, structurally complex, also international, organizations and their contact and linkage patterns. This research could, then, be tentatively regarded as a theoretical, but indirect, confirmation of those ideas of information-processual factors of industrial location. Likewise, the suggested theoretical implication comes close to the idea of Pred in his behavioral matrix on management's informational competence in locational decision making in Figure 6.

The theoretical implication suggested above with respect to location theory can also be regarded as confirmed on the empirical level. In their research on network linkages, both internal and external and location choice in foreign direct investment of Taiwanese firms, Chen and Chen (1998) remark, with reference to Dunning (1997), that "recent studies have shown that transaction- and coordination-cost variables, such as inter-personal relations, information asymmetries, language and culture, and the like, are more important than production-related variables in determining FDI locations. An integrated view of the conventional and network approaches would suggest that firm-specific assets, availability of local resources, and the possibility for network linkages may interact with one another to produce the final decision on FDI location".

In their compiling article on current cognitive research applications in behavioral geography, Golledge and Timmermans (1990) note that spatial knowledge and information processing has been identified as “one of the dominant streams of thought influencing environmental cognition research. It has appeared in various forms in geography, environmental psychology, cognitive science, educational psychology and other behaviourally concerned disciplines. In recent years it has become the favoured base for the building of theory and practical models of spatial knowledge acquisition and use”. They particularly note the “high crossdisciplinary components” in the behavioral research in geography, and bring forth as central topics, in their own study, on the one hand “cognitive behavioural research”, and on the other hand “decision making, choice, preference and movement behaviour”.

Being a cross-disciplinary work and representing management research, this research thus also enters into macroeconomics as part of location theory, and into geography as part of human and economic geography, with its paradigm and propositions and has also many implications with respect to these well-established disciplines.

In conclusion it can be noted, with reference to Selstad (1990) and his suggestions above on the location theory of quaternary industries, that the proposed cognitive-logistic information process paradigm shows the location factors of DHQ to be close on theoretical level to those of the primarily human resources-based aspect of quaternary industries. This is particularly due to the transaction cost theoretical point of view brought forth by Selstad. However, the interests and field of transactional governance between the DHQ and that of quaternary industries may differ substantially.

As a study on the socio-spatial cognition and behavior of Finnish MNCs, this work also comes well into the field of current discussion concerning the management of growing MNCs, concerning their course of globalization and internationalization in a turbulent, unpredictable, geographically scattered, and at the same time many-cultured and many-valued environment. With this real-world background and the background of the intertwined reciprocal cognitive and logistic information processes proposed here, the aspects of various emerging ‘managerial logics’, presented by Rumelt and Stopford (1995) pose various interesting questions. With

respect to the M-form or multidivisional form of organization, there is discussion on concerning various alternatives of development and change with reference to the 'C-logic' (for control). As Rumelt and Stopford note, "the M-Form provides initial benefits to a growing firm because it adds strategic controls to financial controls, thereby reducing opportunistic behavior among managers and fostering longer-term vision". However, the character of the prevalent 'C-logic' of hierarchical planning and coordination has been challenged by the growth of MNCs to ever new culturally different countries and the acquisition of new and ever bigger well-established subsidiaries with for example traditional and strong human resources and research facilities in their established networks of the Porterian type 'diamond'. The stress for using more of the local human resources and knowledge capacities of this kind and the accompanying innovativeness, as presented by for example Dunning (1988), is one of the reasons for stressing autonomy and less hierarchical management with respect to foreign subsidiaries. This has been pointed out by Hedlund (1986, 1990) with his term 'heterarchy' and Bartlett and Ghoshal (1987) within their concept 'transnational corporation'. In their study Rumelt and Stopford (1995), based on this course of development, notice the wide interest in Western companies "to move beyond the logics of the (Full-Fledged) M-Form and hierarchical coordination --- to undo what was yesterday's "ideal form" and develop a new managerial logic". However, they maintain that "there is no clear outstanding model to emulate". For their part, they set forth a thoroughly broadened 'C-logic' of hierarchical planning and coordination, to include i.a. the following aspects, which they note to have been undertaken in practice by companies: delayering or flattening the organization; decentralizing authority for more operating autonomy and responsibility for individual business units; decentralizing entrepreneurship to individual business units through a shared vision and intent to "overall guidance for the whole"; close coordination between units and sharing of information and resources; time-based definitions of competitiveness for i.a. to "focus on the speed with which business managers respond to opportunities and threats; empowering of employees for problems solving; benchmarking and leveraging of intellectual capital and all internal capabilities of the company as a task of managers in respect to themselves and the whole organization.

Illustrative of the situation of various directions of thought and ideas of how to successfully direct and/or guide a growing and fast moving MNC organization in a turbulent environment is the hypothetical view presented by Dunning (1988), with reference to the 'eclectic paradigm'



OLI framework of the international production of MNCs, that “decision taking will be more centralized:

(i) the greater the uniqueness, specificity and non-codifiable nature of decision taking advantages emanating from the home country; (ii) the greater the likelihood of a conflict interest between the parent company and the subsidiary, with respect especially to (a) risk perception and (b) externalities; and (iii) the more the locational costs of decision-taking resources favors the home country, which might reflect both difficulties in transferring management attitudes and practices, and the price of management and management-related services”.

The last point above also directly touches the background problematics of the DHQ relocation of Finnish MNCs, and could be seen as a consequent factor enhancing DHQ relocation instead of for example decentralization and the speed of decision-making, as put forth by Rumelt and Stopford (1995) above.

The very topic and propositions of this work are intimately attached to the above discussion, as they illustrate the basic and essential role of both logistic and cognitive information processing with their intertwined character in the perception of managers and staff, with respect to company growth, its survival and success. Holistic cognitive-logistic information processing of the management and staff of a DHQ is a factor in the nucleus of the question of company survival and continuity, its character as a firm in the sense of the theory of the firm (Coase, 1937/1986, Hymer, 1960/1976). Figuratively speaking, a blind and deaf Goliath is easy prey for anybody, and a tempting one. Consequently, somewhere the summing-up inferences of what he sees and hears, feels and smells of the environment, of himself, and of the relationship of these two, have to be made immediately to his being as a whole.

The above discussion also brings out the important roles of the strategic reference point theory and transaction cost theory, applied in this work, as management research approaches the question of ‘managerial logics’. These theories have a consequential meaning in this connection as central elements in the holistic cognitive-logistic information process paradigm and its propositions; this is also evident in the above quotations.

Hence, concerning the theoretical implications of this research work it could be suggested that with reference to the above illustrated dichotomous problematics of different post-’C-logic’ ‘managerial logics’ and the thoughts above by Dunning (1988) with particular reference to his

point (iii), a DHQ relocation is also one solution in the ‘managerial logics’ problem under the cognitive-logistic conditions of Finnish MNCs assumed in this work. And further, the Finnish DHQ relocation abroad and understanding of it could be seen, in a theoretical sense, and the aim of this research work, as an innovational finding both with respect to the idea of decentralization and enlarged autonomy, as suggested above by Hedlund (1986, 1990) and Rumelt and Stopford (1990) and centralization on the grounds presented above by Dunning (1988) at his points (i)-(iii).

In conclusion, there is one more theoretical implication to be considered on a very general level and with respect to research history concerning the behavior of economic actors and company management. This is, as above noted, the invariable theoretical implication of this research that the spatial behavior of managers of MNCs can also be assigned to Simon’s (1961) classical notion. That is, being economic actors, they are in this respect also “intendedly rational but only limitedly so”. This notion can be suggested as a theoretical basis for future scientific research and studies of the most varied decisions, activities and phenomena of a spatial nature in and around an MNC, a spatial entity and concept in itself.

### **4.3 Managerial implications**

What is to be gained from the developed theoretical cognitive-logistic paradigm in a managerial sense?

The answer lies in a summarizing notion that a theoretical model, being a picture of real-world conditions and contingencies on a level of principle, understanding the entirety of the cognitive-logistic information process then leads to a better perception and understanding of real-world details and problems in practice.

Particularly, this could be thought of to take place in connection with problems encountered in the various logistic information process mechanisms presented by Egelhoff (1991) and brought forth in Figures 9-12. For instance, it could be thought with respect to the kind of problems of impatriates and the travel problems of subsidiary managers met by Finnish DHQs in connection with logistic information processing questions, like those in the two right-hand boxes of the lowest “worldwide product divisions” row of Figure 11. The linked logistic problems met are

represented for example by those mechanisms shown in the lower right hand corner of Figure 12.

Perceiving and understanding with the support of, for instance, this kind of a paradigm is particularly the task of the top management of a DHQ. Referring to for example the above problems, then, top managers being guided through the paradigm to an understanding of both the background perceptual factors of foreign subsidiaries' managers and personnel and the related cognitive processes of DHQ managements and staffs, helps top management to self-understanding and to a sense of reality and relativity in its crucial role of decision-making.

The applications of this two-way and holistic understanding are of course innumerable and may well be illustrated by the cases of distortions of socio-spatial cognition in the propositions P #4k1-14 in Appendix 2. A vivid range of logistic information processing aspects in different conditions and contingencies can be thought to concern for instance benchmarking or the setting of strategic reference points by DHQ managers. This benchmarking may take place with respect to customers, competitors, or also the internal organization itself, as set forth by Fiegenbaum, Hart and Schendel (1996) and also referred to by Rumelt and Stopford (1995).

But a comparable range of logistic aspects can also be attached to for example core-competence knowledge transactions internal for the organization and from the transaction cost economic point of view, as pointed out by Rumelt, Schendel and Teece (1991). In dealing with strategic management and economics, they set forward that organizational capabilities are evidently one of the enduring sources of advantages in firms. With that notion, they continue that "economics is presently at its weakest --- inside the firm", and that in this respect "new and important insights" can be expected from i.a. transaction cost economics. The same point of view is presented by Rugman and Verbeke (1992) in their discussion of "the transnational solution" of Bartlett and Ghoshal (1989) and hence transaction cost theory and multinational strategic management. They notice in FDIs that "internalization advantages.....fundamentally depend upon transactional firm-specific advantages to operate foreign subsidiaries" and that "difficulties associated with the transfer of technology or with organizational learning may be different for two firms in a single industry, depending upon their administrative heritage, thus leading to different optimal configuration of assets and use of coordination and control mechanisms". With reference to Hennart (1991), they continue that on the practical level there exists besides the conventional subsidiary-control modes also the mode of socialization, or

internalizing corporate goals and thereby alignment of corporate and subsidiary goals. The logistic information process mechanisms required for this will depend on the level of detailed knowledge possessed by headquarters and concerning the operations of subsidiaries. Thus, through a process of explicit study by the managers themselves of the their managements' own identity and self-image and consequently of their own relationship to the social environment by way of the presented paradigm, it is essentially easier for top management to evaluate the company-specific and its culture fitting needs and modes of coordination, control and various other logistic information processing mechanisms, as seen from the point of view of transactional cost economics. With reference to Ohmae's (1985) above cited notion on the "insiderization" of the company and on synchronization of activities in MNCs in the form of "active communication at all costs....." it can be said that relocating a DHQ is a cost in the sense of transaction cost theory. In the context of the MNCs of this research, it can be regarded as a cost both ex-post and ex-ante to secure as crucial perceived economies in intrafirm and interfirm transactions. Hence, the paradigm and propositions of this study can also be seen as a top management tool serving the economies of transactions.

With further reference to the 14 distortion cases in Appendix 2, concerning various hypothetical and potential problem-examples of socio-spatial perception, the distortions in the real and serious meaning of the word give an account of the managements' own social and spatial potentially distorted perception. This is an area of subsequently needed self-understanding and thus governance of distortions, following the thinking of Golledge and Timmermans (1990), and Tversky (1992). Self-understanding is necessary for perceiving the possibility that DHQ managers may misjudge the scale and character of the needed adjustments of the logistic information process and its various mechanisms in a strongly growing and internationalizing company. Assuming these distortions to be as pervasive in social and spatial cognition in the organization of information, as brought forth by Tversky (1992), they must be, at closer thought, of extraordinary meaning and consequent importance in most of the decision making taking place in the DHQ, as well as CHQ, whether it concerns matters external or internal to the multinational organization. In other words, within managements' holistic understanding of the cognitive-logistic paradigm the knowledge of the influence of the different distortions of perception may be the most important managerial implication of this study. This may concern

aspects of strategic reference points or transaction cost economics with respect to threats of opportunism, but also many other aspects of organizational activities in managers' decision-making.

In conclusion, the use by DHQ management and staff of a theoretical tool like the paradigm of this research work compares well with the notion presented by Daft and Weick (1984). Their notion concerns the managerial implications of their own basically cognitive-logistic model, as it is suggestingly characterized above, of organizational interpretation. According to them “first it (the model) says that the job of management is to interpret, not to do the operational work of the organization. The model calls attention to the need in organizations to make sense of things, to be aware of external events, and to translate cues into meaning for organizational participants. Managers, especially top managers, are responsible for this process.....to think of organizations as interpretation systems and to take seriously their role as interpreters.....The other implication of the model is that it provides a comparative perspective for managers. The model calls attention to interpretation modes managers may not have thought of before”.

In a somewhat wider perspective the thought-of potential implications of the paradigm and propositions of this study as a tool for DHQ management and staff compares well with the level of knowledge, understanding and intellectual activity required by the management of a modern MNC. As Rumelt and Stopford (1995) point out, “all the evidence we have seen suggests forcibly that the role of the manager is shifting as the nature of the large corporation continues to evolve. Managers are being required to become politicians and in the multinationals they need to assume the clothes and perspective of the diplomat. Managers are also increasingly being pressed to find new ways to increase the social cohesion and to accelerate the collective learning of the organization. The challenges of the turbulence of all the experiments in the global market place mean that the nature of tomorrow's successful large corporation will be determined chiefly by the speed with which managerial logics can be improved and adapted to the specific social and political circumstances of the served countries and industries”.

The holistic cognitive-logistic information process paradigm and its different propositions can readily be seen as an apparatus for thinking and understanding to serve just this aim of the DHQ management and staff in MNCs.

#### 4.4 Suggestions for further research

The cognitive-logistic paradigm with its various propositions in this research work is theoretical in character. The first thing, then, with respect to further research is the consequent verification or testing of this model and these propositions through empirical research. This is a logical continuation of the above presented comment by the author of this study and on this work that “the justification for this theoretical work is, then, in attempting to create for its part ‘**provisions** for procuring **knowledge**’ of the DHQ relocation phenomenon in further research”, and that in this respect “knowledge is **justified true belief**”, quoting Grayling (1996).

From this general level it could be more concretely put forth, as one of the most central research topics, the reciprocity of the cognitive information process and the logistic information process. As Egelhoff (1991) points out, these two information processing perspectives “should be viewed as complementary and not contradictory explanations of organizational information processing”. His comment, however, may suggest an unneeded dichotomy concerning this research area. Still, the complementarity of these two information processing perspectives can be assumed, based on this research work, to be an evident reality. The complementarity is also the core topic of this work; it is materialized in the question of the managers’ need for new knowledge to be realized in space and time. Research on this complementarity is most probably essential for research on MNCs, which as organizations are noticeably socio-spatial and spatio-temporal as actors in their international and global context. In detail, then, the research on this complementarity has to cover both applied organizational and managerial research on for example planning and decision making processes. Particularly, the degree to which the cognitive-logistic process is discrete or indiscrete concerning the **linking** of the cognitive information process and the logistic information process, i.e. the kernel of true ‘complementarity’, should be studied.

Also, some basic research has to be done on the individual level with respect to, on the one hand, cognitive processes, and on the other hand, to the change of the cognitive structure ‘mental maps’ with reference to the paradigmatic components of identity, social environment, and space-time. Perception of space and time, and the various conditions affecting it, can be suggested as a cornerstone in research on decision-making in global MNCs in their fast-changing, unpredictable environment.

A particular point suggested here to be researched and understood is the manager's perception of the **need of new knowledge**, and in which way this phenomenological and experiential cognitive process, proposed to be perceived as an event in space and time, in human mind assumes its spatial and temporal character. This topic belongs in essence to the field of research of cognitive psychology but concerning its component of company pertaining experiential organizational learning with respect to logistic information process aspects and problems the topic falls explicitly into the realm of management research. Attached to this topic is the question of the basic phenomenological components evident in the perception of opportunism, concerning that concept as an element of transaction cost theory. Understanding better the phenomenological innate and emotions-attached different elements of strategic reference point theory and transaction cost theory is an aspect brought forth for further research as a result of this study. This suggestion can be based on the presentations of Forgas and Melamed (1976), Shaffer (1977), Franklin (1992), McNamara (1992), Tversky (1992) and Damasio (1996, 2000).

An important further aspect to be researched concerning the need for new knowledge is the probable difference between **tacit** knowledge and **explicit** knowledge from the point of view of the socio-spatial perception of DHQ management and the possible role of this difference concerning reciprocity between the cognitive information process and the logistic information process. This research suggestion can be grounded on the thoughts and ideas of Polanyi (1962) and Nonaka and Konno (1998).

A further particular aspect attached to this and suggested for research is whether the cognitive-logistic information process paradigm proposed in this work could be seen as a special case of the socio-spatial knowledge creation process, the 'ba', presented by Nonaka and Konno, and illustrated in Figure 17. However, a research suggestion on this topic is here thought to be subject to the culturally conditioned psychological aspects and reservations set forth in Appendix 3.4, concerning the Japanese concept 'ba'. Hence, the culturologically many-sided aspects of 'ba', as such, should also be an object of further research before the wholehearted assimilation of it as a generally valid socio-spatial and spatio-temporal research tool.

The question of the role of **distortions** in socio-spatial and spatio-temporal cognition, following Tversky (1992), and what potential effect they proposedly have in the human perception in general and concerning multinationally acting managers in particular is set forth in this work. As distortions represent an important human characteristic, researching their role in the multicultural and organizationally very varied social and geographically wide context of MNC managers' decision making should be of the greatest importance.

Likewise, then, the degree of the human uniformity of the distortions and consequently of the **linkage** between individual level cognition and organizational level cognition with respect to the paradigmatic information process and its components has to be researched. These aspects attached to the perception of the need for new knowledge are naturally problems of general human nature and belong to the realm of the science of cognitive psychology in a very basic, neural processes, emotions and reasoning encompassing way as presented by Damasio (1996, 2000).

It is also obvious that various conditions pertaining to company, country, culture and industry, both internal and external to the DHQ management and staff, have their effect on the relationships of each of the various components of the proposed paradigm of this study. The continuous development and change of, for instance, communication technology can be assumed to have a pronounced effect on the cognitive-logistic information process. It can for instance be noted that only a minor part of the large group of DHQ of Finnish MNCs have been relocated abroad, and that even some of them have been re-relocated back to Finland within their continued former MNC contexts. Which components and component-relationships of the paradigm are more sensitive than others to different internal and external conditions, and how these various conditions affect the cognitive-logistic information process, is of great interest and a wide area to be researched in order to understand MNCs as global actors. In other words, to what extent is the proposed cognitive-logistic paradigm a continuously flexible process-model from for example identity-attached, social, and socio-spatial points of view?

As a conclusion, it may be suggested that one of the first topics to be researched is also the generalizability of the cognitive-logistic information process paradigm from the conditions of Finnish, or Nordic, MNCs and their DHQ to also cover MNCs in other peripheral areas and



locations that are geographically and culturally distant from Finland as for example in the Mediterranean area of Europe.

A further suggestion for research is in which way the presented cognitive-logistic information process problematics affect, and have in the past been affecting locational, acquisition and other decisions of any functions in the divisional organization, besides the DHQ itself. This problem of the DHQ is an inversive approach to an information processual problem encountered or envisaged by the DHQ, such as dealt with in this research. This approach also opens up a new aspect of location-theoretical studies and partially overlaps the propositions set forth in the behavioral matrix of Pred (1967) in Figure 6. In a theoretical sense, this extended cognitive-logistic information processual approach would likewise be an extension of the 'one-area formal theory' to encompass a 'multi-area formal theory', following Glaser and Strauss (1967). Concerning MNCs, this theoretical extension would also cover the phenomenon of realized relocations of corporate headquarters (CHQ) from the traditional home-country to a foreign country. However, as it was noted above in the general conclusion, the proposed cognitive-logistic paradigm may also be applicable to human organizations and institutions of any category. Consequently, it can also be suggested that future research, through various methodological avenues, may widen the scope of the cognitive-logistic information process paradigm so that it would develop into an even more functionally extended 'multi-area formal theory'.

From the point of view of the socio-spatial perception and cognition of management of MNCs, the ever growing role of computer mediated communication systems pose a very challenging question. This matter also concerns for example relocation of headquarters, whether they are divisional, corporate, regional or other. As was set forth above in the chapter 'Limitations of the Research', how will these systems in the form of for example virtual teams, meetings, cooperation in work, and other modes of global telepresence affect management and decision making in an MNC context? What is the role of these systems in respect to tacit knowledge and explicit knowledge within a multinational organization? These communication systems are attached firmly to human socio-spatial perception and behavior as noted in Appendix 3.5. The growing use and development of them thereby have both theoretically and practically many

aspects and implications which are of great interest and significance for multinational and global organizations, and they have to be accordingly researched.

## References

- Åberg, Leif, 1992. Viestintä ja yrityksen myytit (Communication and company myths; in Finnish), stencil. Presentation in International Semiotics Institute, Winter Seminar, 1.2.1992, Imatra.
- Agnew, John, 1994. 'Territoriality', 'Territory'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*. Blackwell Publishers, Oxford, UK
- Alahuhta, Matti, 1990. *Global Growth Strategies for High Technology Challengers*. Doctoral dissertation, Helsinki University of Technology. Finnish Academy of Technology, Helsinki.
- Alasuutari, Pertti, 1996. *Researching Culture: Qualitative Method and Cultural Studies*. Sage Publications, London
- Alvesson, Mats, 1990. Organization: From Substance to Image? *Organization Studies* 11/3, pp. 373-94.
- Anderson, Erin and Hubert Gatignon, 1986. Modes of foreign entry: a transaction cost analysis and propositions. *Journal of International Business Studies*, Fall, pp. 1-26.
- Athanassiou, Nicholas and Douglas Nigh, 2000. Internationalization, Tacit Knowledge and the Top Management Teams of MNCs. *Journal of International Business Studies*, Vol. 31, No. 3, pp. 471-487.
- Baldauf, Sari, 1995. *Globalization Strategy - How does Nokia go about it*. Lecture in International Business Management, stencil. Helsinki School of Economics and Business Administration/Nokia Telecommunications, Nokia Corporation, Helsinki.
- Balmer, John M.T. and Alan Wilson, 1998. Corporate Identity: There Is More to It Than Meets the Eye. *International Studies of Management and Organization*, Vol. 28, No. 3, pp. 12-31.
- Barnard, Chester I., 1968. *The Functions of the Executive*, 30th anniversary edition. Harvard University, Cambridge MA.
- Bartlett, Christopher A. and Sumantra Ghoshal, 1987. Managing across Borders: New Organizational Responses. *Sloan Management Review*, Fall 1987, pp. 43-53.
- Bartlett, Christopher A. and Sumantra Ghoshal, 1989. *Managing Across Borders: The Transnational Solution*. Hutchinson Business Books, London.
- Björkman, Ingmar, 1990. Foreign direct investments: an organizational learning perspective. *The Finnish Journal of Business Economics*, No. 4.

Blackburn, Simon, 1994. *The Oxford Dictionary of Philosophy*. Oxford University Press, Oxford.

Boyacigiller, Nakiye Avdan and Nancy J. Adler, 1995. The parochial dinosaur: organizational science in a global context. In, Terence Jackson (ed.): *Cross-Cultural Management*. Butterworth-Heinemann Ltd, Oxford.

Briscoe, Dennis R., 1995. *International Human Resource Management*. Prentice Hall, Englewood Cliffs NJ.

British Institute of Management, 1988. *The Effective Head Office. A survey of 45 leading British companies*. British Institute of Management, Corby, and Cresap, London.

Broms, Henri and Henrik Gahmberg, 1987. *Semiotics of Management*. Helsinki School of Economics and Business Administration, Helsinki

Buckley, Peter and Mark Casson, 1976. *The future of multinational enterprise*. Macmillan and Co., London.

Buckley, Peter J. and Jean-Louis Mucchielli, 1997. Introduction. In, Peter J. Buckley and Jean-Louis Mucchielli (eds.): *Multinational Firms and International Relocation*. Edward Elgar, Cheltenham.

Calori, Roland, Gerry Johnson and Philippe Sarnin, 1994. CEO's cognitive maps and the scope of the organization. *Strategic Management Journal*, Vol. 15, pp. 437-457.

Camillus, John C., 1992. *Crafting The Competitive Corporation: Management Systems for Future Organizations*. In, P. Lorange, B. Chakravorthy, J. Roos and A. Van de Ven (eds.): *Implementing Strategic Processes: Change, Learning and Cooperation*. Blackwell Publishers, Oxford.

Chakravorthy, B. and P. Lorange, 1991. *Managing the Strategy Process*. Prentice Hall, Englewood Cliffs NJ.

Cantwell, John, 1988. A survey of theories of international production. In, Pitelis, C.N. and Sudgen, R. (eds.): *The Nature of the Transnational Firm*. Routledge, London.

Casson, Mark, 1995. *The Organization of International Business: Studies in the Economics of Trust: Volume Two*. Edward Elgar, Aldershot, UK.

Cavusgil, S. Tamer, 1980. On the internationalisation process of firms. *European Research*, November, pp. 273-281.

Coase, R.H., 1937/1986. The Nature of the Firm. In, Jay B. Barney and William G. Ouchi (eds.): *Organizational Economics: toward a new paradigm for understanding and studying organizations*. Jossey-Bass, San Francisco CA.

Chen, Homin and Tain-Jy Chen, 1998. Network Linkages and Location Choice in Foreign Direct Investment. *Journal of International Business Studies*, Vol. 29, No. 3, pp. 445-467.

Corley, T.A.B., 1992. John Dunning's Contribution to International Business Studies. In, Peter J. Buckley and Mark Casson (eds.): *Multinational Enterprises in the World Economy*. Edward Elgar, Aldershot, UK.

Cyert, Richard M. and James G. March, 1992. *A Behavioral Theory of the Firm*. Blackwell Publishers, Cambridge MA.

Daft, Richard L. and Karl E. Weick, 1984. Toward a Model of Organizations as Interpretation Systems. *Academy of Management Review*, Vol. 9, No. 2, pp. 284-295.

Damasio, Antonio R., 1996. *Descartes' Error – Emotion, Reason, and the Human Brain*. Papermac, London.

Damasio, Antonio, 2000. *The Feeling of What Happens: Body, Emotion and The Making of Consciousness*. Vintage, London.

de Souza, Anthony R. and J. Brady Foust, 1979. *World Space Economy*. Charles E. Merrill Publishing Co., Columbus OH.

*Dictionary of Human Geography*, The, 1981. R.J. Johnston, editor. Blackwell Publishers, Oxford, UK.

*Dictionary of Human Geography*, The, 1994. R.J. Johnston, Derek Gregory and David M. Smith, editors. Blackwell Publishers, Oxford, UK.

DiMaggio, Paul J. and Walter W. Powell, 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, Vol. 48, April, pp. 147-160.

DiMaggio, Paul J. and Walter W. Powell, 1991. Introduction. In, Walter W. Powell and Paul J. DiMaggio (eds.): *The New Institutionalism in Organizational Analysis*. The University of Chicago Press, Chicago IL.

Dowling, Peter J., Randall S. Schuler and Denice E. Welch, 1994. *International Dimensions of Human Resource Management*. Wadsworth Publishing Company, Belmont CA.

Doz, Yves L. and C. K. Prahalad, 1987. A Process Model of Strategic Redirection in Large Complex Firms: The Case of Multinational Corporations. In, A. Pettigrew (ed.): *The Management of Strategic Change*. Blackwell Publishers, Cambridge MA.

Doz, Yves and C. K. Prahalad, 1993. Managing DMNCs: A Search for a New Paradigm. In, Sumantra Ghoshal and Eleanor Westney (eds.): *Organization Theory and the Multinational Corporation*. St. Martin's Press, New York NY.

Draper, John V., David B. Kaber and John M. Usher, 1998. Telepresence. *Human Factors*, Vol. 40, No. 3, pp. 354-375.

Dunning, John H, 1988. The eclectic paradigm of international production: a restatement and some possible extensions. *Journal of International Business Studies*, Spring, pp. 1-31.

Dunning, John, 1997. Some concluding remarks. In, Buckley, Peter J. and Jean-Louis Mucchielli (eds.): *Multinational Firms and International Relocation*. Edward Elgar, Cheltenham.

Dunning, John H. and Karl P. Sauvant, 1996. Introduction: transnational corporations in the world economy. In, John H. Dunning and Karl P. Sauvant (eds.): *Transnational Corporations and World Development*. UNCTAD / Thomson Business Press, London.

Egelhoff, William G., 1991. Information-processing Theory and the Multinational Enterprise. *Journal of International Business Studies*, 3rd Quarter, 341-368.

Egelhoff, William G., 1993. Information-processing Theory and the Multinational Corporation. In, Sumantra Ghoshal and Eleanor D. Westney (eds.): *Organization Theory and the Multinational Corporation*. St. Martin's Press, New York NY.

Eiroma, Erkki, 1993. See Interviews.

Eisenhardt, Kathleen M., 1989. Building Theories from Case Study Research. *Academy of Management Review*, Vol. 14, No. 4, pp. 532-550.

Emel, Jody, 1994. 'Environmental perception'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*. Blackwell Publishers, Oxford.

Enso Corporation/Timber Division, 1998. Corporate press release 13.10.1998, Helsinki.

Eskola, Timo, 1996. Pelastaako hermeneutiikka teologian? (Will hermeneutics save theology?; in Finnish). *Yliopisto*, No. 13, pp. 26-27, Helsinki University, Helsinki.

Euro, Kalevi, 1992. Locational Changes of Headquarters of Multinational Corporations: A Study on the Motives and Reasons for Relocating Finnish Divisional Headquarters Abroad. Helsinki School of Economics and Business Administration, Centre for International Business Research (CIBR) Working Paper Series, Vol. 1, No. 1.

Feldman, Daniel C., 1995. 'Identification'. In, Nigel Nicholson, Randall S. Schuler and Andrew H. Van de Ven (eds.): *The Blackwell Encyclopedic Dictionary of Organizational Behavior*. Blackwell Publishers, Oxford.

Feneuille, Serge, 1990. A Network Organization to Meet the Challenges of Complexity. *European Management Journal*, Vol. 8, No. 3, pp. 296-301.

Fiegenbaum, Avi, 1990. Prospect theory and the risk-return association: An empirical examination in 85 industries. *Journal of Economic Behavior and Organization*, Vol. 14, No. 2, pp. 187-204.

Fiegenbaum, Avi, Stuart Hart and Dan Schendel, 1996. Strategic Reference Point Theory. *Strategic Management Journal*, Vol. 17, No.3, pp. 219-236.

Finland's International Business Operations databank project (FIBO), 1976 - 1995: periodically updated all-operations database of over 1000 Finnish industrial companies, including their foreign subsidiaries. Helsinki School of Economics and Business Administration, Helsinki.

Fiol, C. Marlene and Marjorie A. Lyles, 1985. Organizational learning. *Academy of Management Review*, Vol. 10, No. 4, pp. 803-813.

Föllesdal, Dagfinn, 1970. Fenomenologia analyttisen filosofian ja eksistentialismin siteenä (Phenomenology as a tie between analytical philosophy and existentialism). In, Jaakko Hintikka and Lauri Routila (eds.): *Filosofian tila ja tulevaisuus* (State and Future of Philosophy; in Finnish). Weilin + Göös, Helsinki.

Folta, Timothy B., 1998. Governance and Uncertainty: the Trade-off between Administrative Control and Commitment. *Strategic Management Journal*, Vol. 19, pp. 1007-1028.

Forgus, Ronald H. and Lawrence E. Melamed, 1976. *Perception: A Cognitive-Stage Approach*. McGraw-Hill Book Company, New York NY.

Forsgren, Mats and Ulf Holm, 1991. Multi-centre structure and location of divisional management in Swedish international firms. European International Business Association (EIBA) proceedings, 17th annual conference, 15-17.12.1991, Copenhagen.

Forsgren, Mats and Ulf Holm, 1993. Internationalization of Management - Dominance and Distance. In, Peter J. Buckley and Pervez N. Ghauri (eds.): *The Internationalization of the Firm: A Reader*. The Dryden Press, London.

Forsgren, Mats, Ulf Holm and Jan Johanson, 1992. Internationalization of the second degree: the emergence of European-based centres in Swedish firms. In, Stephen Young and James Hamill (eds.): *Europe and the Multinationals: Issues and Responses for the 1990s*. Edward Elgar, Aldershot.

Forsgren, Mats, Ulf Holm and Jan Johanson, 1995. Division headquarters go abroad - a step in the internationalization of the multinational corporation. *Journal of Management Studies*, Vol. 32, No. 4, pp. 475-491.

Franke, Richard H., Geert Hofstede and Michael H. Bond, 1991. Cultural Roots of Economic Performance: A Research Note. *Strategic Management Journal*, Vol. 12, pp. 165-173.

Franklin, Nancy, 1992. Spatial Representation for Described Environments. *Geoforum*, Vol. 23, No. 2, pp. 165-174.

Franco, Lawrence G., 1976. *The European Multinationals: A Renewed Challenge to American and British Big Business*. Harper and Row Publishers, London.

Frost, Tony S., 2001. The Geographic Sources of Foreign Subsidiaries' Innovations. *Strategic Management Journal*, Vol. 22, pp. 101-123.

Gahmberg, Henrik, 1991. Organizational Ideology and Leadership: A Semiotic View. *Hallinnon Tutkimus*, No. 3, pp. 198-200.

Gahmberg, Henrik, 1992. Kohti semioottista lähestymistapaa organisaation ja johtamisen ymmärtämisessä (Towards a semiotic approach in understanding organizations and management; in Finnish), stencil. Presentation in International Semiotics Institute, Winter Seminar, 31.1.1992, Imatra

Garten, Jeffrey. E., 1997. Can the World Survive the Triumph of Capitalism? *Harvard Business Review*, January-February, pp. 144-150.

Geanakopoulos, J and Milgrom, P., 1985. A theory of hierarchies based on limited managerial attention. Cowles Foundation paper no. 775, Yale University, New York NY.

Ghoshal, Sumantra and Christopher A. Bartlett, 1995. Changing the Role of Top Management: Beyond Structure to Process. *Harvard Business Review*, January-February, pp. 86-96.

Ghoshal, Sumantra and Peter Moran, 1996. Bad for Practice: A Critique of the Transaction Cost Theory (with comment by Oliver E. Williamson: Economic Organization: The Case for Candor, and counter-comment by Peter Moran and Sumantra Ghoshal: Theories of Economic Organization: The Case for Realism and Balance). *Academy of Management Review*, Vol. 21, No. 1, pp. 13-47.

Giddens, Anthony, 1981. *A Contemporary Critique of Historical Materialism*, Vol.1: Power, property and the state. The Macmillan Press, London.

Giddens, Anthony, 1985. Time, Space and Regionalisation. In, Derek Gregory and John Urry (eds.): *Social Relations and Spatial Structures*, The Macmillan Press, London.

Ginsberg, Ari, 1990. Connecting Diversification to Performance: A Sociocognitive Approach. *Academy of Management Review*, Vol. 15, No. 3, pp. 514-535.

Glaser, Barney G. and Anselm L. Strauss, 1967. *The Discovery of Grounded Theory: Strategies for Qualitative Theory*. de Gruyter, New York NY.



Glynn, Mary Ann, Theresa K. Lant and Frances J. Milliken, 1994. Mapping Learning Processes in Organizations: A Multi-level Framework Linking Learning and Organization. In, Chuck Stubbart, James R. Meindl and Joseph F. Porac (eds.): *Advances in Managerial Cognition and Organizational Information Processing*, Vol. 5. JAI Press Inc., Greenwich CT.

Goleman, Daniel, 1996. *Emotional Intelligence - Why It Can Matter More Than IQ*. Bloomsbury, London.

Golledge, Reginald G. and Harry Timmermans, 1990. Applications of behavioural research on spatial problems I: cognition. *Progress in Human Geography*, Vol. 14, No. 1, pp. 57-99.

Goodall, Brian, 1987. *The Penguin Dictionary of Human Geography*. Penguin Books, London.

Granovetter, Mark, 1985. Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, Vol. 91, No. 3, pp. 481-510.

Grayling, A.C., 1996. Epistemology. In, Nicholas Bunnin and E.P. Tsui-James (eds.): *The Blackwell Companion to Philosophy*. Blackwell Publishers, Oxford.

Gregory, Derek, 1994. 'Phenomenology', 'Space'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*, Blackwell Publishers, Oxford.

Gregory, Derek and Meric Gertler, 1994. 'Location theory'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*, Blackwell Publishers, Oxford.

Griffin, Ricky W., 1995. 'Attitude theory'. In, Nigel Nicholson, Randall S. Schuler and Andrew H. Van de Ven (eds.): *The Blackwell Encyclopedic Dictionary of Organizational Behavior*. Blackwell Publishers, Oxford.

Guest, David, 1995. 'Commitment'. In, Nigel Nicholson, Randall S. Schuler and Andrew H. Van de Ven (eds.): *The Blackwell Encyclopedic Dictionary of Organizational Behavior*. Blackwell Publishers, Oxford.

Gupta, Anil and Juhani Laine, 1991. Pääkonttori luokoon oikeuden olemiselleen (The headquarters themselves have to justify their existence; in Finnish). *Talouselämä*, No.3, pp. 44-45.

Hamel, G. and C.K. Prahalad, 1989. Strategic intent. *Harvard Business Review*, Vol. 89, No. 3, pp. 63-76.

Hamel, G. and C.K. Prahalad, 1992 (in Melin, 1992). Presentations at the annual Strategic Management Society Conference, London.

Hannan, Michael T. and John Freeman, 1989. *Organizational Ecology*. Harvard University Press, Cambridge MA.

Hansen, Odd Christopher and Michael Peytz, 1991. Designing the corporate center. *The McKinsey Quarterly*, No. 3.

Hedlund, Gunnar, 1986. The Hypermodern MNC - A Heterarchy? *Human Resource Management*, Vol. 25, No. 1, pp. 9-35.

Hedlund, Gunnar, 1990. Assumptions of Hierarchy and Heterarchy - with applications to the management of the multinational corporation. Working paper, third draft, on 'Paper prepared for INSEAD conference on "Organization Theory and the Multinational Corporation", 1-2 September, 1989, stencil. Institute of International Business at the Stockholm School of Economics, Stockholm.

Hedlund, Gunnar, 1994. A Model of Knowledge Management and the N-Form Corporation. *Strategic Management Journal*, Vol. 15, pp. 73-90.

Hedlund, Gunnar, 1996. Organization and management of transnational corporations in practice and research. In, John H. Dunning and Karl P. Sauvant (eds.): *Transnational Corporations and World Development*. UNCTAD / Thomson Business Press, London.

Hedlund, G. and I. Nonaka, 1993. Models of Knowledge Management in the West and Japan. In, P. Lorange, B.G. Chakravarthy, J. Roos and H. Van de Ven (eds.): *Implementing Strategic Processes, Change, Learning, and Cooperation*. Basil Blackwell, London.

Heidegger, Martin, 1927/1993. *Sein und Zeit* (Being and Time; in German). Max Niemeyer Verlag, Tübingen.

Heinämaa, Sara, 1996. Ele, tyyli ja sukupuoli: Merleau-Pontyn ja Beauvoirin ruumiinfenomenologia ja sen merkitys sukupuolikysymykselle (Gesture, Style and Gender: Merleau-Ponty's and Beauvoir's Phenomenology of the Body, and Its Meaning to the Gender Question; in Finnish). Gaudeamus, Tampere.

Helle, Reijo, 1989. Kansainväliset keskuksat ja maailmankaupungit (International Centers and World Cities; in Finnish, with English abstract). *Terra*, Vol. 101, No. 2, pp. 161-168.

Helle, Reijo K., 1991. The Geography of Enterprise - A Survey. *Acta Wasaensia*, No. 28, pp. 29-38, University of Vaasa, Vaasa.

Hennart, Jean-Francois, 1991. Control in Multinational Firms: The Role of Price and Hierarchy. *Management International Review*, Special Issue, pp. 71-96.

Hennart, Jean-Francois, 1993. Explaining the swollen middle: why most transactions are a mix of "market" and "hierarchy". *Organization Science*, Vol. 4, No. 4, pp. 529-547.

Hilb, Martin, 1992. The challenge of management development in Western Europe in the 1990s. *The International Journal of Human Resource Management*, 3:3 December, pp. 575-584.

Hirvikorpi, Helinä, 1991. Aivovaje (The brain deficit; in Finnish). *Talouselämä*, No. 6, pp. 22-25.

Hofstede, Geert, 1989. Organising for Cultural Diversity. *European Management Journal*, Vol. 7, No. 4, pp. 390-398.

Hofstede, Geert, 1993. Images of Europe. Valedictory Address as Professor of Organizational Anthropology and International Management, printed publication. University of Limburg, Maastricht.

Hofstede, Geert, 1983/1995. The cultural relativity of organizational practices and theories. In, John Drew (ed.): *Readings in International Enterprise*. Routledge, London. (Reprint from *Journal of International Business Studies*, Fall 1983, pp. 75-89).

Hofstede, Geert, 1995. The business of international business is culture. In, Terence Jackson (ed.): *Cross-cultural Management*. Butterworth-Heinemann Ltd, Oxford.

Holmström, Bengt R. and Jean Tirole, 1989. The theory of the firm. In, Richard Schmalensee and Robert D. Willig (eds.): *Handbook of Industrial Organization*, Vol. 1. Elsevier Science Publishers, New York NY.

Hornig, Ching, 1993. Cultural differences, trust and their relationships to business strategy and control. *Advances in International Comparative Management*, Vol. 8, pp. 175-197.

Huhtamäki Corporation/Leaf Group, and /Polarcup Group, 1998. Corporate press release 25.8.1997, Helsinki.

Husserl, Edmund, 1913/1982. Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. *Jahrbuch für Philosophie und phänomenologische Forschung*. Halle a.d.S., 1913/ Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy, I: General Introduction to a Pure Phenomenology. *Collected Works*, Vol. 2. Martinus Nijhoff, The Hague.

Hymer, Stephen Herbert, 1960/1976. *The International Operations of National Firms: A Study of Direct Foreign Investment*. The MIT Press, Cambridge MA.

Jarvenpaa, Sirkka L., Kathleen Knoll and Dorothy E. Leidner, 1998. Is Anybody Out There? Antecedents of Trust in Global Virtual Teams. *Journal of Management Information Systems*, Vol. 14, No. 4, pp. 29-64.

Jelinek, Mariann and Joseph A. Litterer, 1994. Toward a Cognitive Theory of Organizations. In, Chuck Stubbart, James R. Meindl and Joseph Porac (eds.): *Advances in Managerial Cognition and Organizational Information Processing*, Vol. 5. JAI Press Inc., Greenwich CT.

Johanson, Jan and Jan-Erik Vahlne, 1977. The Internationalization Process of the Firm - A Model of Knowledge Development and Increasing Foreign Market Commitments. *Journal of International Business Studies*, Spring-Summer, pp. 23-32.

Johanson, Jan and Jan-Erik Vahlne, 1990. The Mechanism of Internationalisation. *International Marketing Review*, Vol. 7, No. 4, pp. 11-24.

Johanson, Jan and Finn Wiedersheim-Paul, 1975. The Internationalization of the Firm - Four Swedish Cases. *Journal of Management Studies*, Vol. 12, No. 3, pp. 305-322.

Johansson, Ingvar, 1987. Positivismen (Positivism). In, Ingvar Johansson and Sven-Eric Liedman: *Positivism och marxism (Positivism and Marxism; in Swedish)*. Norstedts, Stockholm.

Johnson, Gerry, 1987. *Strategic Change and the Management Process*. Basil Blackwell, Oxford.

Johnson-Laird, P.N., 1983. *Mental Models: Towards A Cognitive Science of Language, Inference, and Consciousness*. Cambridge University Press, Cambridge.

Johnston, R.J. (ed.), 1981. *The Dictionary of Human Geography*. Basil Blackwell, Oxford.

Johnston, Ron J. (1994). 'Power'. In, R.J. Johnston, Derek Gregory, and David M. Smith (eds.): *The Dictionary of Human Geography*, 3rd edition. Basil Blackwell, Oxford.

Johnston, R.J., Derek Gregory and David M. Smith (eds.), 1994. *The Dictionary of Human Geography*, 3rd edition, Basil Blackwell, Oxford.

Kakkuri-Knuuttila, Marja-Liisa, 1996. Aristoteelista tieto-oppia jälkipositivistille (Aristotelian epistemology for post-positivists; in Finnish). *Sosiologia*, No. 3, pp. 179-190.

Kakkuri-Knuuttila, Marja-Liisa, 1997. What Can the Sciences of Man Learn from Aristotle? In, Matti Sintonen (ed.): *Knowledge and Inquiry: Essays on Jaakko Hintikka's Epistemology and Philosophy of Science*. *Poznan Studies in the Philosophy of the Sciences and the Humanities*, Vol. 51. Rodopi, Amsterdam.

Kaplan, Howard B., 1992. 'Social Psychology'. In, Edgar F. Borgatta and Marie L. Borgatta (eds.): *Encyclopedia of Sociology*. Macmillan Publishing Co., New York NY.

Kashlak, Roger J. and Robert D. Hamilton, III, 1992. Host country influences on control and performance measurement systems of multinational corporations. Presentation at the AIB annual meeting in 1992 in Brussels, stencil. Temple University, Philadelphia PA.

Kilduff, Martin, 1993. The Reproduction of Inertia in Multinational Corporations. In, Sumantra Ghoshal and D. Eleanor Westney (eds.): *Organization Theory and the Multinational Corporation*. St. Martin's Press, New York NY.

Kim, W. Chan and Renée Mauborgne, 1993. Effectively conceiving and executing multinationals' worldwide strategies. *Journal of International Business Strategies*, 3rd Quarter, pp. 419-448.

Kogut, Bruce, 1993. Learning, or the Importance of being Inert: Country Imprinting and International Competition. In, Sumantra Ghoshal and D. Eleanor Westney (eds.): *Organization Theory and the Multinational Corporation*. St. Martin's Press, New York NY.

Kogut, Bruce and Udo Zander, 1992. Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organization Science*, Vol. 3, No. 3, pp. 383-397.

Kogut, Bruce & Udo Zander, 1994. Knowledge of the firm and the evolutionary theory of the multinational corporation. *Journal of International Business Studies*, 4th Quarter, pp. 625-645.

Koivisto, Jussi V., 1998. Cultural Heritages and Cross-Cultural Management: Cross-Cultural Synergy and Friction in Finno-Japanese Management. Doctoral dissertation, Helsinki School of Economics and Business Administration, Helsinki.

Korhonen, Heli, Reijo Luostarinen and Lawrence Welch, 1996. Internationalization of SMEs: Inward-Outward Patterns and Government Policy. *Management International Review*, Vol. 36, No. 4, pp. 315-329.

Krogh von, Georg, see von Krogh, Georg

Kulkki, Seija, 1996. Knowledge Creation of Multinational Corporations. Doctoral dissertation, Helsinki School of Economics and Business Administration, Helsinki.

Kunda, Gideon, 1993. *Engineering Culture: Control and Commitment in a High-Tech Corporation*. Temple University Press, Philadelphia PA.

Lagopoulos, Alexandros Ph., 1990. Two semiotic approaches to space. *Kodikas/Code-Ars Semeiotica*, Vol. 13, No.1/2, pp. 107-118.

Lagopoulos, A.P., 1993. Postmodernism, geography, and the social semiotics of space. *Environment and Planning D: Society and Space*, Vol. 11, No. 3, pp. 255-278.

Laitinen, Pentti, 1995. Wärtsilä Diesel majoittui Ranskaan saadakseen ulkomaisia johtajia (Wärtsilä Diesel settled in France in order to get foreign managers; in Finnish): Interview with vice-CEO Christian Andersson of Wärtsilä Diesel International Ltd Oy, Metra Corporation. *Helsingin Sanomat*, Taloustiistai, 28.11.1995, Helsinki.

Langdale, John V., 1989. The geography of international business telecommunications: the role of leased networks. *Annals of the Association of American Geographers*, 79 (4), pp. 501-522.

Laurent, André, 1986. The Cross-Cultural Puzzle of International Human Resource Management. *Human Resource Management*, Vol. 25, No. 1, pp. 91-102.

Lecraw, Donald J. and Allen J. Morrison, 1996. Transnational corporations and business strategy - the foundations of an emerging field. In, John H. Dunning and Karl P. Sauvant (eds.): *Transnational Corporations and World Development*. UNCTAD / Thomson Business Press, London.

Lee, Roger, 1994. 'Core-Periphery Model'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*. Basil Blackwell, Oxford.

Levitt, Barbara and James G. March, 1988. Organizational Learning. *Annual Review of Sociology*, No. 14, pp. 319-340.

Ley, David, 1994. 'Behavioural geography'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*. Basil Blackwell, Oxford.

Lorange, Peter, 1987. Challenges to Strategic Planning Processes in Multinational Corporations. In, Ananti Negandhi and Arun Savara (eds.): *Challenges to Strategic Planning in Multinational Corporations: International Strategic Management*. JAI Press, Greenwich CT.

Luostarinen, Reijo, 1970. Foreign Operations of the Firm. Licentiate thesis, Helsinki School of Economics and Business Administration, Helsinki.

Luostarinen, Reijo, 1979. Internationalization of the Firm. Doctoral dissertation, Helsinki School of Economics and Business Administration, Helsinki.

Luostarinen, Reijo and Lawrence Welch, 1990. *International Business Operations*. Helsinki School of Economics and Business Administration, Helsinki.

Mäki, Uskali, 1989. On the Problem of Realism in Economics. *Ricerche Economiche*, Vol. XLIII, No. 1-2, pp. 176-198.

Makino, Shige and Kent E. Neupert, 2000. National Culture, Transaction Costs and the Choice Between Joint Venture and Wholly Owned Subsidiary. *Journal of International Business Studies*, Vol. 31, No. 4, pp. 705-713.

March, James G., 1988. Variable risk preferences and adaptive aspirations. *Journal of Economic Behavior and Organization*, No. 9, pp. 5-24.

March, James G. and Guje Sevón, 1988. Behavioral perspectives of theories of the firm. In, W.F. van Raaij, G.M. van Veldhoven and K.E. Wärneryd (eds.): *Handbook of Economic Psychology*. Kluwer Academic Publishers, Dordrecht.

March, James G. and Zur Shapira, 1992. Variable Risk Preferences and the Focus of Attention. *Psychological Review*, Vol. 99, No. 1, pp. 172-183.

March, James G. and Herbert Simon, 1958. *Organizations*. John Wiley & Sons, New York NY.

- Marschan, Rebecca, 1996. New Structural Forms and Inter-unit Communication in Multinationals: the Case of KONE Elevators. Doctoral dissertation, Helsinki School of Economics and Business Administration, Helsinki.
- McNamara, Timothy P., 1992. Spatial Representation. *Geoforum*, Vol. 23, No. 2, pp. 139-150.
- McNamee, P.B., 1987. Tools and techniques of strategic management. Pergamon Press, Oxford.
- Medyckyj-Scott, David and Mark Blades, 1992. Human spatial cognition: its relevance to the design and use of spatial information systems. *Geoforum*, Vol. 23, No. 2, pp. 215-226.
- Meindl, James R., Charles Stubbart and Joseph F. Porac, 1994. Cognition Within and Between Organizations: Five Key Questions. *Organization Science*, Vol. 5, No. 3, pp. 289-293.
- Melin, Leif, 1992. Internationalization as a strategy process. *Strategic Management Journal*, Vol. 13, pp. 99-118.
- Meyerson, Debra E., 1991. Acknowledging and Uncovering Ambiguities in Cultures. In, Peter J. Frost, Larry F. Moore, Meryl Reis Louis, Craig C. Lundberg and Joanne Martin (eds.): *Reframing Organizational Culture*. Sage Publications, London.
- Mintzberg, Henry and James A. Waters, 1985. Of strategies, deliberate and emergent. *Strategic Management Journal*, No. 6, pp. 257-272.
- Nicholson, Nigel, 2000. *Managing the Human Animal*. Texere Publishing Limited, London.
- Nishida, K., 1990. *An Inquiry into the Good*. Yale University Press, New Haven CT.
- Nohria, Nitin and Sumantra Ghoshal, 1997. *The Differentiated Network: Organizing Multinational Corporations for Value Creation*. Jossey-Bass Publishers, San Francisco CA.
- Nonaka, Ikujiro, 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, Vol. 5, No. 1, pp. 14-37.
- Nonaka, Ikujiro, 1998. *Leading Knowledge Creation: A New Framework for Dynamic Knowledge Management*, stencil. Open lecture at Helsinki School of Economics and Business Administration, 30.11.1998, Helsinki.
- Nonaka, Ikujiro and Konno, Noboru, 1998. The Concept of "Ba": Building a Foundation for Knowledge Creation. *California Management Review*, Vol. 40, No. 3, pp. 40-54.
- Nonaka, Ikujiro, Patrick Reinmoeller and Dai Senoo, 1998. The 'ART' of Knowledge: Systems to Capitalize on Market Knowledge. *European Management Journal*, Vol. 16, No. 6, pp. 673-684.

Nonaka, Ikujiro and Hirotaka Takeuchi, 1995. *The Knowledge-Creating Company*. Oxford University Press, Oxford.

Nordström, Kjell A., 1991. *The Internationalization Process of the Firm - Searching for New Patterns and Explanations*. Doctoral dissertation, Stockholm School of Economics, Stockholm.

Ohmae, Kenichi, 1983. *The Mind of the Strategist*. Penguin Books, Harmondsworth.

Ohmae, Kenichi, 1985. *The Triad Power: The Coming Shape of Global Competition*. The Free Press, New York NY.

Oinas, Päivi, 1998. *The Embedded Firm? Prelude for a Revived Geography of Enterprise*. Doctoral dissertation, Helsinki School of Economics and Business Administration, Helsinki.

Olie, René, 1994. *Shades of Culture and Institutions in International Mergers*. *Organization Studies*, 15/3, Special issue, pp. 381-405.

Olie, René, 1995. *Culture and integration problems in international mergers and acquisitions*. In, Terence Jackson (ed.): *Cross-cultural Management*. Butterworth-Heinemann Ltd, Oxford.

Ouchi, William G., 1980. *Markets, bureaucracies, and clans*. *Administrative Science Quarterly*, Vol. 25, March, pp. 129-141.

*Oxford Dictionary of Philosophy*, The, by Simon Blackburn, 1994. Oxford University Press, Oxford.

Palmer, Donald, Roger Friedland, P. Devereaux Jennings and Melanie E. Powers, 1987. *The Economics and Politics of Structure: The Multidivisional Form and the Large U.S. Corporation*. *Administrative Science Quarterly*, Vol. 32, March, pp. 25-48.

Perlmutter, Howard V., 1969. *The tortuous evolution of the multinational corporation*. *Columbia Journal of World Business*, January-February, pp. 9-18.

Piaget, J., 1950. *The Psychology of Intelligence*. Harcourt, Brace, New York NY.

Polanyi, Michael, 1962. *Personal Knowledge: Towards a Post-Critical Philosophy*. The University of Chicago Press, Chicago IL.

Polanyi, Michael, 1966. *The Tacit Dimension*. Routledge and Kegan Paul Ltd, London.

Porter, Michael E., 1986. *Competition in global industries: a conceptual framework*. In, Michael E. Porter (ed.): *Competition in Global Industries*. Harvard Business School, Cambridge MA.

Porter, Michael E., 1990. *The Competitive Advantage of Nations*. *Harvard Business Review*, March-April, pp. 73-93.



- Portugali, Juval and Hermann Haken, 1992. Synergetics and Cognitive Maps. *Geoforum*, Vol. 23, No. 2, pp. 111-130.
- Pratt, Geraldine, 1994. 'Behavioural environment'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*. Blackwell Publishers, Oxford.
- Pred, Allan, 1967. Behavior and Location: Foundations for a Geographic and Dynamic Location Theory, Part I. *Lund Studies in Geography*, Ser. B. Human Geography No. 27. The Royal University of Lund, C.W.K. Gleerup, Publishers, Lund.
- Pred, Allan, 1985. The Social Becomes the Spatial, the Spatial Becomes the Social: Enclosures, Social Change and the Becoming of Places in Skåne. In; Derek Gregory and John Urry (eds.): *Social Relations and Spatial Structures*, Macmillan, London.
- Pucik, Vladimir and Jan Hack Katz, 1986. Information, control, and human resource management in multinational firms. *Human Resource Management*, Spring, pp.121-132.
- Rajecki, D.W., 1977. Ethological Elements in Social Psychology. In, Clyde Hendrick (ed.): *Perspectives on Social Psychology*. Lawrence Erlbaum Associates, Publishers, Hillsdale NJ.
- Reich, Robert B., 1991. Who Is Them? *Harvard Business Review*, March-April, pp. 77-88.
- Reuer, Jeffrey, 2001. From Hybrids to Hierarchies: Shareholder Wealth Effects of Joint Venture Partner Buyouts. *Strategic Management Journal*, Vol. 22, pp. 27-44.
- Robins, James A., 1987. Organizational Economics: Notes on the Use of Transaction-Cost Theory in the Study of Organizations. *Administrative Science Quarterly*, Vol. 32, March, pp. 68-86.
- Ross, L., 1977. The intuitive psychologist and his shortcomings: Distortion in the attribution process. In, L. Berkowitz (ed.): *Advances in Experimental Social Psychology*, Vol. 10. Academic Press, New York NY.
- Routila, Lauri, 1970. Husserl ja Heidegger (Husserl and Heidegger). In, Jaakko Hintikka and Lauri Routila (eds.): *Filosofian tila ja tulevaisuus (State and Future of Philosophy; in Finnish)*. Weilin+Göös, Helsinki.
- Rugman, Alan M. and Alain Verbeke, 1992. A Note on the Transnational Solution and the Transaction Cost Theory of Multinational Strategic Management. *Journal of International Business Studies*, fourth quarter, pp. 761-771.
- Rugman, Alan M. and Alain Verbeke, 2001. Subsidiary-Specific Advantages in Multinational Enterprises. *Strategic Management Journal*, Vol. 22, pp. 237-250.
- Rumelt, Richard P., Dan Schendel and David J. Teece, 1991. Strategic Management and Economics. *Strategic Management Journal*, Vol. 12, pp. 5-29.

Rumelt, R.P. and J.M. Stopford, 1995. The Nature of the Large Corporation. Working paper prepared for the 20th Anniversary Conference of Euroform, Madrid, Spain, September 15-16, 1995. INSEAD Working Paper Series, INSEAD, Fontainebleau.

Saariluoma, Pertti, 1988. Ihmisen muisti (The human memory). In, Antti Hautamäki (ed.): Kognitiotiede (Cognitive Science; in Finnish). Gaudeamus, Helsinki.

Saariluoma, Pertti, 1988a. Historiallinen johdatus kognitiotieteeseen (An historical introduction to cognitive science). In, Antti Hautamäki (ed.): Kognitiotiede (Cognitive Science; in Finnish). Gaudeamus, Helsinki.

Santala, Riku, 1996. Post-Acquisition Integration of Strategic Management in an MNC. Doctoral dissertation. Turku School of Economics and Business Administration, Turku.

Scharmer, Claus Otto, 2001. Self-transcending knowledge: sensing and organizing around emerging opportunities. *Journal of Knowledge Management*, Vol. 5, No. 2, pp. 137-150.

Schneider, Susan C., 1988. National vs. Corporate Culture: Implications for Human Resource Management. *Human Resource Management*, Vol. 27, No. 2, pp. 231-246.

Schneider, Susan C., 1989. Strategy Formulation: The Impact of National Culture. *Organization Studies*, 10/2, pp. 149-168.

Selstad, Tor, 1990. The Rise of the Quaternary Sector. The Regional Dimension of Knowledge-Based Services in Norway, 1970-1985. *Norsk Geografisk Tidsskrift*, Vol. 44, No. 1, pp. 21-37.

Shaffer, David R., 1977. Social Psychology from A Social-Developmental Perspective. In, Clyde Hendrick (ed.): *Perspectives on Social Psychology*. Lawrence Erlbaum Associates, Publishers, Hillsdale NJ.

Shamai, Shmuel, 1991. Sense of Place: an Empirical Measurement. *Geoforum*, Vol. 22, No. 3, pp. 347-358.

Schein, Edgar H., 1991. What is Culture? In, Peter J. Frost, Larry F. Moore, Meryl Reis Louis, Craig C. Lundberg and Joanne Martin (eds.): *Reframing Organizational Culture*. Sage Publications, London.

Shields, Rob, 1991. *Places on the Margin: Alternative geographies of modernity*. Routledge, London.

Simon, Herbert A., 1945/1976. *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization*. The Free Press, New York NY.

Simon, John, 1991. Why Is This Man Packing?: Interview with KONE Elevators president Johan Horelli. *News and Views, KONE In-House Magazine*, No. 2., KONE Corporation, Helsinki.

Smith, David M., 1981. *Industrial Location: An Economic Geographical Analysis*. John Wiley and Sons, Chichester.

Smith, David M., 1994. 'Decision Making'. In, R.J. Johnston, Derek Gregory and David M. Smith (eds.): *The Dictionary of Human Geography*. Blackwell Publishers, Oxford.

Soja, Edward W., 1985. *The Spatiality of Social Life: Towards a Transformative Retheorisation*. In, Derek Gregory and John Urry (eds.): *Social Relations and Spatial Structures*. Macmillan, New York NY.

Solymar, L. and D. Walsh, 1990. *Lectures on the Electrical Properties of Materials*. Oxford University Press, Oxford.

Souza de, Anthony R., see de Souza.

Stenberg, Esa, 1992. *Steering of Foreign Subsidiaries: An Analysis of Steering System Development in Six Finnish Companies*. Doctoral dissertation, Helsinki School of Economics and Business Administration, Helsinki.

Stoor, Johan, 1993. See Interviews.

Strassoldo, Raimondo, 1980. *Centre-Periphery and System Boundary: Culturological Perspectives*. In, Jean Gottman (ed.): *Centre and Periphery: Spatial Variation in Politics*. Sage Publications, Beverly Hills CA.

Subramaniam, Mohan, and N. Venkatraman, 2001. Determinants of transnational new product development capability: testing the influence of transferring and deploying tacit overseas knowledge. *Strategic Management Journal*, Vol. 22, No.4, pp. 359-378.

Sutcliffe, Kathleen M. and George P. Huber, 1998. Firm and Industry as Determinants of Executive Perceptions of the Environment. *Strategic Management Journal*, No. 19, pp. 793-807.

Sveiby, Karl Erik, 1989. Vad är det som pågår på HK? (What's taking place at the HQ?; in Swedish). *Ledarskap*, Nr 5, pp. 37-38 (Review on *The Effective Head Office: survey report by Cresap/ British Institute of Management, of 45 leading British companies*).

Teece, David J., 1986. Transactions cost economics and the multinational enterprise: an assessment. *Journal of Economic Behavior and Organization* 7, pp. 21-45.

Tesch, Renata, 1990. *Qualitative Research: Analysis Types and Software Tools*. The Falmer Press, London.

Thompson, James D., 1967. *Organizations in Action*. McGraw-Hill Book Company, New York NY.

Tsai, Wenpin, 2000. Social Capital, Strategic Relatedness and the Formation of Intraorganizational Linkages. *Strategic Management Journal*, Vol. 21, pp. 925-939.

Tushman, Michael L. and David A. Nadler, 1978. Information processing as an integrating concept in organizational design. *Academy of Management Review*, 3, pp. 613-624

Tversky, Barbara, 1992. Distortions in Cognitive Maps. *Geoforum*, Vol. 23, No. 2, pp. 131-138.

Uspenskij, Boris A., 1991. *Semiotik der Geschichte (Semiotics of History; in German)*. Verlag der Österreichischen Akademie der Wissenschaften, Wien.

Uspenskij, Boris A., 1995. Unpublished public lecture at Helsinki University, 17.10.1995, Helsinki (based on Uspenskij, Boris A., 1991).

Van Maanen, John and André Laurent, 1993. The Flow of Culture: Some Notes on Globalization and the Multinational Corporation. In, Sumantra Ghoshal and Eleanor D. Westney (eds.): *Organization Theory and the Multinational Corporation*. St. Martin's Press, New York NY.

Vernon, Raymond, 1971. *Sovereignty at Bay: The Multinational Spread of U.S. Enterprises*. Longman, London.

Vernon, Raymond, 1996. Epilogue - Research on the transnationals: mapping a course. In, John H. Dunning and Karl P. Sauvant (eds.): *TNCs and World Development*. UNCTAD / Thomson Business Press, London.

von Krogh, G. and S. Vicari, 1992. An Autopoiesis Approach to Experimental Strategic Learning. In, Lorange, P., Chakravarthy, B., Roos, J. and Van de Ven, A. (eds.): *Implementing Strategic Processes: Change, Learning and Cooperation*. Basil Blackwell, Oxford.

von Krogh, Georg, Johan Roos and Ken Slocum, 1994. An Essay on Corporate Epistemology. *Strategic Management Journal*, Vol. 15, pp. 53-71.

von Krogh and Johan Roos, 1996. Research Notes and Communications: A Tale of the Unfinished. *Strategic Management Journal*, Vol. 17, pp. 729-737.

Warkentin, Merrill E., Lufus Sayeed and Ross Hightower, 1997. Virtual Teams versus Face-to-Face Teams: An Exploratory Study of a Web-based Conference System. *Decision Sciences*, Vol. 28, No. 4, pp. 975-996.

Webster's New Collegiate Dictionary. G. & C. Merriam Co., Publishers, Springfield MA, 1956.

Webster's Third New International Dictionary of the English Language Unabridged. Merriam-Webster Inc., Publishers, Springfield MA, 1986.

Webster's Encyclopedic Unabridged Dictionary of the English Language. Gramercy Books, New York NY/Avenel NJ, 1989.

Weick, Karl E., 1990. Cognitive Processes in Organizations. In, L.L. Cummings and Barry M. Staw (eds.): Information and Cognition in Organizations. JAI Press, Inc., Greenwich CT.

Weick, Karl E. and Michel G. Bougon, 1986. Organizations as Cognitive Maps: Charting Ways to Success and Failure. In, Henry P. Sims, Jr., Dennis A. Gioia and Associates (eds.): The Thinking Organization: Dynamics of Organizational Social Cognition. Jossey-Bass, Inc., San Francisco CA.

Williamson, O.E., 1975. Markets and Hierarchies: Analysis and Antitrust Implications. The Free Press, New York NY.

Williamson, Oliver E., 1985. The Economic Institutions of Capitalism. The Free Press, New York NY.

Williamson, Oliver E., 1986. Economic Organization: Firms, Markets and Policy Control. Wheatsheaf Books, Brighton.

Williamson, Oliver E., 1991. Strategizing, economizing, and economic organization. Strategic Management Journal, Vol. 12, Winter Special Issue, pp. 75-94.

Williamson, Oliver E., 1993. The Economic Analysis of Institutions and Organizations - in General and with Respect to Country Studies. OECD Economics Department Working Papers, No. 133. OECD, Paris.

Williamson, Oliver E., 1996. The Mechanisms of Governance. Oxford University Press, New York NY.

Williamson, Oliver E., 1999. Strategy Research: Governance and Competence Perspectives. Strategic Management Journal, Vol. 20, pp. 1087-1108.

Wolpert, J., 1964. The Decision Process in Spatial Context. Annals of the Association of American Geographers, Vol. 54, pp. 537-558.

Wood, Robert and Albert Bandura, 1989. Social cognitive theory of organizational management. Academy of Management Review, Vol. 14, No. 3, pp. 361-384.

Yamaguchi, Masao, 1988. "Center" and "periphery" in Japanese culture - in light of Tartu semiotics. In, Henri Broms and Rebecca Kaufmann (eds.): Semiotics of Culture. Proceedings of the 25th Symposium of the Tartu-Moscow School of Semiotics, 27-29.7.1987, Imatra, Finland. Arator Inc., Publishers, Helsinki.

Yamaguchi, Masao, 1992. The Origin of Center/Periphery Theory in the Human and Social Sciences. In, Eero Tarasti (ed.): Center and Periphery in Representations and Institutions. Proceedings of the International Semiotics Institute Conference, 16-21.7.1990, Imatra, Finland. The International Semiotics Institute, Imatra.

Yin, Robert K., 1984. Case Study Research - Design and Methods. Sage Publications, Beverly Hills CA.

Yoshino, Michael Y. and U. Srinivasa Rangan, 1995. Strategic Alliances. An Entrepreneurial Approach to Globalization. Harvard Business School Press, Boston MA.

Zander, Udo and Bruce Kogut, 1995. Knowledge and the speed of the transfer and imitation of organizational capabilities: an empirical test. Organization Science, no. 1, pp. 1-17

### **Interviews**

Eiroma, Erkki, Marketing Manager, Ahlstrom Machinery, A. Ahlstrom Corporation, Helsinki, 16.4.1993.

Stoor, Johan, Senior Vice President, Wärtsilä Diesel International Ltd Oy, Metra Corporation, Helsinki-Vantaa, 20.6.1993.

## Appendices

### **Appendix 1 Company identity development as approached in the light of autopoiesis theory**

On a theoretical level, the development of the cognitive self-image, or identity, could be approached along the ideas of the theory of autopoiesis. According to von Krogh and Vicari (1992), autopoiesis is based on experimental psychology and regards the brain as an autonomous self-referential system, creating a cognitive system that is closed, constructing its own reality. "It is postulated that the brain creates its own components (distinctions), and that it uses these components in the further recreation of components, hence the term autopoiesis.....The use of distinctions is dependent on norms which are different in each individual.....The brain is open with respect to stimuli; which we will refer to as signals, not information. Information means literally 'put in form', that is to give meaning. The subject does not receive information, it can only create information by assigning meaning to signals, that is, relating them to previous information. Thus, in autopoiesis theory, the adjectives 'open' (signals) and 'closed' (norms), are complementary system descriptions that accompany each other."

Autopoiesis theory has to be distinguished in other words from the mode of thinking in this research with respect to interpreting the cognitive role of information in human perception. In short, an autopoietic system is literally closed to the environment concerning incoming information (vs.data). This basic idea is not shared in this research and neither does it seem to represent the way of thinking, nor does it represent the conceptual wording of the authors and studies which are referred to in this work. However, as a holistic theoretical system, including organizational identity formation, autopoiesis theory is a tool of notable illustrative value.

von Krogh and Vicari continue by presenting the application of this basic psychological structure to social systems, that social systems in general are autopoietic, constructing their own reality. "This construction of a social reality results from the interaction of individual realities.....As cognitive system, the firm acts as other cognitive systems or, more specifically, as a human cognitive system that has knowledge, observes, decides, and learns."

In this connection, concerning the interaction of individual realities, the ideas put forward by Wood and Bandura (1989) above could be referred to in their presentation of the social cognitive theory of organizational management.

von Krogh and Vicari further note that "the firm reconstructs its reality by applying internally-generated norms and distinctions. In effect, we may label reality construction 'a self-referential process'.....It should be noted that autopoiesis theory here suggests a 'total' self-reference; reference is made not only to past experiences, but also to distinctions to be made. Norms and distinctions limit the set of future possible norms and distinctions.....According to the firm's established distinctions and norms, it finds meaningful events, signs, and stimuli in the environment. The environment consists of facts, and the firm seeks and collects data about these facts in a very selective manner. Furthermore, it creates information from this data through applying established norms and distinctions. In effect, 'information' is not seen as something that the firm takes in from the environment."

A more precise treatment of the basic concepts in autopoiesis theory is given by von Krogh, Roos and Slocum (1994) in their article on corporate epistemology. They point out the need to make a clear distinction between data, information and knowledge.

Information is a process of interpretation, or information is the process by which knowledge is acquired: "Knowledge is what makes managers able to make distinctions in their observations (for example between themselves and others) and, based on their norms, determine what they see. The distinctions made reveal the knowledge of the distinguisher.....In turn, applying distinctions allows for new knowledge to develop. By isolating a phenomenon, the manager can gain knowledge about it."

The further developed, central concept in the autopoietic, or self-making process of knowledge development is the above referentiality. This means that "new knowledge refers not only to past knowledge but also to potential future knowledge"; managers use "their imaginations to envision possible futures and courses of action."

The central idea in autopoietic theory, then, is that in the interpretative information process of a manager, from data to knowledge, "he is closed with respect to knowledge (also knowledge about the environment) but open with respect to data from outside. The only way to describe this process is to say that the manager is simultaneously open and closed."



As to their notion of organizational knowledge, it is seen as shared knowledge, based on shared distinction-making in observations of organizational members of events, situations and objects that are internal and external to the organization. Thus, for instance, "according to the traits of autopoiesis theory, history provides an important starting point for knowledge development."

In dealing with the modes of the autopoietic epistemology they argue, as an example of the line of thinking, that "documentation, even if produced by the organization, is data and these data fuel organizational knowledge development. The process of creating information based on data requires that organizational members not only read data, but also discuss and file it for later use. A report written in one office by a certain team of specialists may be sent by internal mail to another team of specialists out of the country. The team members become informed through the data, and, by discussing their observations of the report, they participate in developing organizational knowledge."

This description is comparable to the question of logistic information process, as described by Egelhoff (1991), and could thus be thought of as an event taking place in for example a DHQ.

von Krogh, Roos and Slocum (1994) regard languaging as a crucial question in the creation of organizational knowledge. The language of an organization is not "a static body of syntax, signs and codes subject to consistent use over time and place." Instead, languaging is seen as a process in which language is not only maintained but is constantly being developed, basing on previous language.

Concerning, then, the cognitive information process of the DHQ of an MNC, it is very evident that in the context of a nationally multicultural and multivalue organization, as presented by for instance Laurent (1986) and Hofstede (1989), with perhaps an approach of the 'transnational solution' of Bartlett and Ghoshal (1989), the question of languaging becomes even more important, the very central question of mutual understanding for the ability of the organization to develop successfully.

As to the organizational conditions for autopoiesis, von Krogh, Roos and Slocum (1994) bring forth the knowledge connections. This means that knowledge at one point in time connects with new knowledge at a later point in time. Here, they specifically stress the deviation of this concept from the concept of 'organizational memory', as it is used by some authors. The latter concept they regard as representing data from the autopoietic point of view, not knowledge. They define knowledge connection as "the potential for individuals to convey messages about

their observations". Should this connection be lacking, the entire autopoietic process of the organization stops.

There are a further two conditions for knowledge over time to connect in the organization. Firstly, there are the informal sets of relationships ensuring immediate conveying of distinctions on which to build on further in the organization. Besides there are the formal structures and reporting relationships.

The other condition for knowledge connection over time is the self-description of the organization. "A self-description results from an 'observation' by the organization of itself. In fact, a 'self-description formulates the identity of the (organization)'" , as von Krogh, Roos and Slocum (1994) cite N. Luhmann in his 'Essays on Self-reference', of 1990. The concept of an organization's identity includes "business ideas, mission statements, strategy documents, vision statements, management principles, guiding values, etc." The self-description is advantageous in its capacity to provide criteria for what passes for 'knowledge' to be further connected in the organization.

If a firm's knowledge-connectivity is good, the above authors consider the meaning of self-description very important in that it "allows for experimentation in the realm of the unknown", even in the face of nonunderstanding, and thus allowing "for the development of new distinctions and organizational knowledge over time."

As to the meaning of autopoiesis for strategic management, von Krogh, Roos and Slocum make a distinction between 'advancement activities' and 'survival activities'. They stress the importance of strategic management to ensure both of these and the balance between them. Advancement emerges from knowledge development, which in turn develops options for the organization.

To stress the point of view, due to self-reference with its temporal dimensions, the autopoietic process determines the limits of knowledge in the development of the corporate knowledge base. Seen from organizational cognizance, "the critical distinction is between what the firm knows it knows, vs. what the firm knows it does not know, and what the firm does not know it knows and, vs. what the firm does not know it does not know."

In this cognitive space with a simultaneously turbulent environment, then, takes place the development of the corporate organization, and in that context the balancing of advancement and survival activities is also required.

The advancement activities include developing distinctions and norms, scaling knowledge, ensuring knowledge connectivity, self-referencing, and languaging.

Survival activities include product-marketing positioning, planning, organizing, routinization, and controlling.

A clear distinction between these two categories of activities in practice is of course impossible. Of the above division of strategic management aspects, it could be thought that, on the one hand, most of the survival activities represent a level of activities heavily focused on the question of logistic information processing within the general paradigm of this study. On the other hand, advancement activities in their character are particularly comparable and partly also commensurate with the aspects of the cognitive information process of the paradigm of this study. But they, too, are in close contact with the logistic information process questions and problems.

As a conclusive thought, it could be put forward that the idea of a company's identity, as the starting point of the cognitive information process thinking of the paradigm in this study, would be a question for fruitful handling within the autopoiesis theory. This could be thought of to apply particularly to the Finnish MNCs in their history of generally incremental, stage-wise international growth necessitated by a small open market and forced growth in order to survive, as presented by Luostarinen (1979).

This background, the ingrained historical course of events and consistent vision of internationalization, and the attached strategic goals, which closely resemble in implementation the notion of 'strategic intent', may well be understood from the autopoiesis theory concepts of distinction-making, self-referentiality, knowledge-connections, relationships, and self-description. The development of the company identity of these Finnish MNCs could thus also be considered analyzable and understandable likewise within the conceptual framework of the autopoiesis theory. The autopoietic approach is still more analytically and theoretically interesting, thinking of the successful continuity from now onwards of these Finnish MNCs, assuming that their historical development process has so far been successful.

## **Appendix 2 The proposed transition of the social cognitive information process into the spatial cognitive information process, in the light of cognitive map distortions: a general introduction and the propositions (P #4k1 - P #4k14)**

### **Appendix 2.1 A general introduction of the application of the distortions**

As a conclusion from the above organizational, cognitive and logistic paradigm variables of Finnish MNCs presented in this theoretical research work, it is proposed that the dynamics of the suggested paradigm, leading to the relocation of the DHQ, stems from:

1. the objective historical and international foreign growth process of the MNC and its division,
2. the DHQ management's cognitive information process as a result of, and in reciprocity with, this international foreign growth process, and
3. the company's foreign growth induced, gradually mounting logistic information process problems, met in practice within the mechanisms of the logistic information process, and affecting in turn reciprocally the above illustrated cognitive information process.

To repeat the grounds and justification for examining the role of distortions, presented as a principle in Figure A 1, the following five points can be set forward. However, it shall also be noted that the existence of the important phenomenon of the distortions of spatial cognitive maps and the existence of this phenomenon also concerning for example social cognitive maps, as brought forward by Medyckyj-Scott and Blades (1992) and Tversky (1992), represents a justification for taking into regard these distortions in connection with the topic of MNCs and the phenomenon of relocating a DHQ.

1. The starting point is the realization that phenomenologically, through the concept of otherness, sociality is simultaneously spatiality (March and Simon, 1958, Föllesdal, 1970, Forgus and Melamed, 1976, Heinämaa, 1996),
2. In human cognition, some principles of organizing information seem pervasive, having parallels in different domains of thought, for example social and spatial thinking, and that this information, for example spatial information, may be acquired by various means (Franklin, 1992, Medyckyj-Scott and Blades, 1992, Tversky, 1992),
3. An emotional or affective component (March and Simon, 1958, Forgus and Melamed, 1976, Ginsberg, 1990, Damasio, 1996, 2000) which is suggested to be represented in the distortional

examples either by psychology of perception-based strategic reference points or opportunism under bounded rationality (Fiegenbaum, Hart and Schendel, 1996, Williamson, 1993), is embedded or attached into the company growth induced identity change, and into the subsequent change in socio-environmental or socio-spatial cognition,

4. The distortions in cognitive maps and organizing of information in thinking are assumed, logically and consequently, to be contingently reciprocal and inversive in the sense that what is social may be perceived as spatial and what is spatial may be perceived as social, with simultaneous feedback effects,

5. The socio-spatial cognitive distortions are in DHQ management's **cognitive** information process, consequently, in reciprocal feedback relationship, through experientiality in cognition, with the **logistic** information process and its mechanisms in a company; the two information process modes are complementary for understanding a company's information process in the DHQ relocation phenomenon which takes place in space (Egelhoff, 1991) in a holistic way.

The suggested distortional applications are presented briefly in the following matrix in Figure A 1. Each of the elements in the matrix is subsequently explained as a proposed process of change of the previous space-time image of the DHQ management and staff, as affected by a distortional change within its social cognition due to the company's foreign growth changes.

Figure A1. The proposed transformation of the social cognitive map to the spatio-temporal cognitive map in the light of the phenomena of distortions in cognitive maps

The mutual relationship of variables in the change processes of the social cognitive map and the spatial cognitive map concerning distortions in cognition, combining :						
Aspects of Strategic Reference Point Theory and Transaction Cost Theory as variables in the paradigmatic social cognition <u>change process</u> (cause 2)	Concepts of spatial cognition from experimental psychology as variables in the paradigmatic social cognition <u>change process</u> (distortions in cognition as cause 1)					
	Hierarchy	Landmark	Rotation	Alignment	Perspective	Barriers and detours
	SPATIO-TEMPORAL SPACE OF PERCEIVED SOCIAL OBJECTS					
External reference points:	1. Phenomenologically perceived change in space and in new knowledge need , and					
- Competitors	2. Experientially perceived change in new information need, resulting in an experientially perceived change in space-time cognition					
- Customers						
*						
*						
Transactional variables, spatially localizable:						
- Market						
- Hierarchy						
- Hybrid						

As was set forward above, these distortions seem to be a basic human mental trait, everpresent in spatial cognition, and also to be of great importance with respect to human spatial behavior. This may be a result of his evolutionary survival. As Tversky (1992) says, "on reflection, memory for the visual world would not be very useful if it consisted of unrelated snapshots.....But what we need to remember, and often seem to construct, is a more general representation of the spatial relations of the objects in a room or the landmarks in the environment. That way, if we encounter the environment from another point of view we may still recognize it or know how to navigate it. In fact, people appear spontaneously to integrate spatial material to make spatial inferences." To this is to be added the notion by Franklin (1992) of spatial information and representations acquired through description. This fact of

everpresence, then, as such and in analogy with for example social topics, must also be valid for e.g. a DHQ managerial socio-spatial cognitive information processing and the subsequent locational decision making.

Perhaps an analogy from physics could be used here as background, concerning the cognitive change process from the social one to the spatial one within a common environmental entity.

This analogy would be the hologram which is presented in Figures A2 and A3.

Figure A2. Schematic representation of taking a hologram.

Source: Solymar and Walsh, 1990

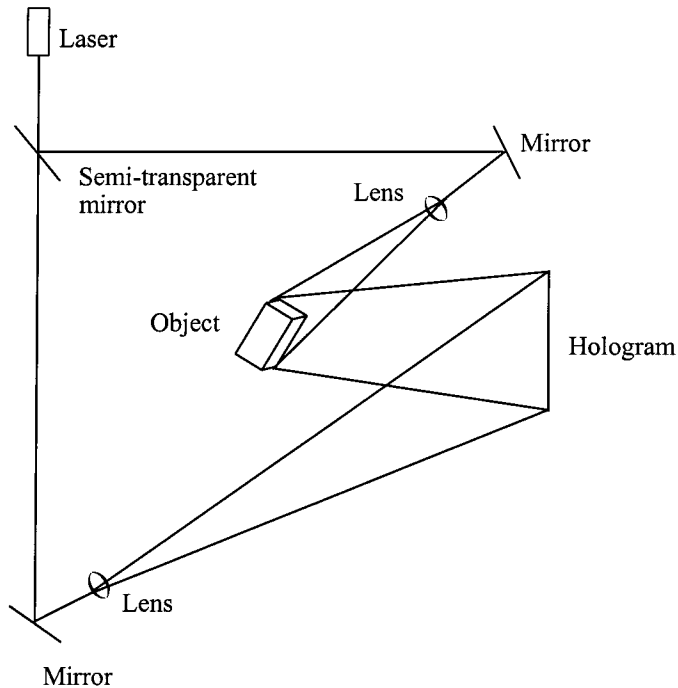
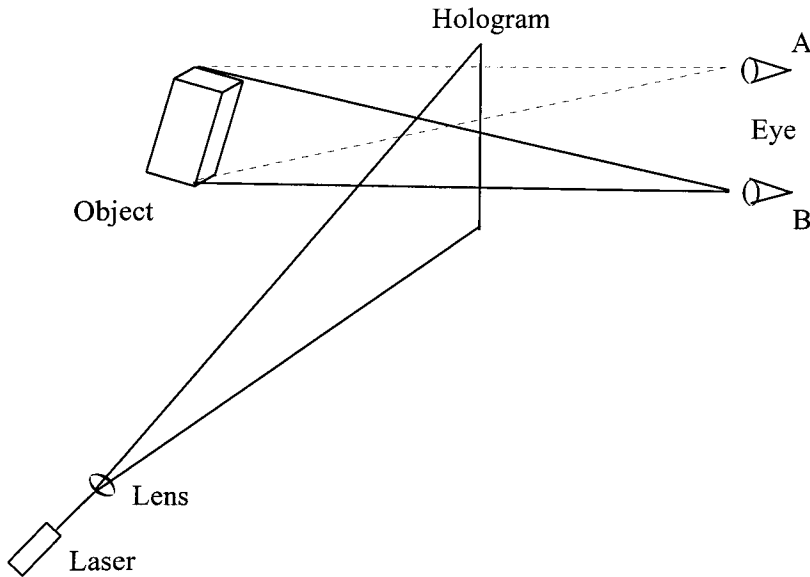


Figure A3. Schematic representation of viewing a hologram.

Source: Solymar and Walsh, 1990



Here the laser beam starting from the upper left in Figure A2 and the light-waves ending at the observing eyes on the right in Figure A3 could be thought of as representing the cognitive process in the role of the perceiving and cognizing DHQ management subject-actor. In the analogy, the object - the particular environment - is the same but the perceiving of it is divided into a social aspect and a spatial aspect both phenomenologically and experientially, at the semi-transparent mirror. In this analogy it can further be supposed that as there is a time lag in the holographic image reconstruction between the original photographic plate, the hologram, and its later illumination by a laser, so the spatial cognition or image would be formed similarly after the social cognition or image. The final holistic three-dimensional socio-spatial image including the time dimension would be comparable to the hologram in physics (Solymar and Walsh, 1990).



The illustrative role of systematic distortions of cognitive maps has also been brought forth in the study by Portugali and Haken (1992). In their study, they first bring forth the holisticity of the approach to cognitive mapping and internal representation which takes place by various means of seeing and “non-visual information such as texts, auditory or haptic information, inference and the like”. They further emphasize that “mental map processes are intimately connected with socio-cultural processes”, and set forth, then, that “cognitive maps may eventually be reduced to a few simple and general properties of the cognitive system as a whole”. In their study on the basis of the theory of synergetics, the idea of which is studying “the behavior of complex systems from a unifying point of view”, they have as an analogy and method used a synergetic computer for pattern recognition and creation of visual presentations. This method, using temporally various levels of parameters, i.e. comparable to memory and external and internal stimuli, they call an “holomovie approach to environmental cognition”.

In the following presentation of the distortions there is a characterization of each of the proposed distortional elements as cause 1 of Figure A1, thus representing a certain analogy in the socio-spatial cognition. The DHQ manager's social cognition role is represented likewise, as cause 2 by various perceptual aspects based on the strategic reference point theory ideas of Fiegenbaum, Hart and Schendel (1996) and perceptual aspects based on transaction cost theory along the ideas of Williamson (1993). It is to be noted that these perceptual aspects include emotional or affective components, as stated above with reference to i.a. Ginsberg (1990). It is proposed then, that causes 1 and 2, function together, forming the social perceptual entity which is effected distortively in spatial cognition, as the effect of the two causes.

It is then proposed that DHQ managers' cognitive processes in real life originate in strong or notable strategic reference points cognition changes and transactional variables cognition changes, and end up in comparable distorted space-time cognition or cognitive maps (Tversky, 1992, Portugali and Haken, 1992).

It is to be noted, however, that the explicit similarity in social and spatial cognitive processes, according to findings from experimental psychology, applies particularly to the distortions of hierarchy, landmark and perspective, as remarked by Tversky (1992). However, as she notes concerning the distortion of rotation in respect to the distortion of landmark, "it does seem that a

similar process underlies both of them". "Like cognitive reference points, cognitive frames draw other elements towards them", and Tversky notes this to apply further to the distortion of alignment, the orientation to other figures. "Like the effects of hierarchical organization and of cognitive reference points, the effects of alignment and rotation are to draw figures closer to them. In fact, it seems that all of these organizing principles reduce to a simpler one. We relate figures to referents, either on the same level of analysis, such as reference points or other figures, or at a superordinate level of analysis, such as reference frames or hierarchical category, and then remember the figures as closer to and/or more aligned with their referents."

However, she notes the spatial distortion of barriers and detours to seem clearly different in nature and "seem to be due to procedures invoked in judgment." The presentation of an analogy here also concerning the last mentioned distortion is, then, a tentative suggestion, and justified by the above general idea of the homogeneity and indivisibility of the socio-spatial cognition as an environmental dimension existing outside oneself.

To conclude the introduction of the distortions, these may be thought of in the socio-spatial structure of the proposed paradigm to represent an additional structural feature within it.

The presented distortional examples could also be thought of as a theoretical and experimental psychology-based testing and exercise of the basic cognitive-logistic proposition of the research paradigm of this work. A preliminary presentation of the following various distortions was made above in Chapter 3.3.5.2.

## **Appendix 2.2 The external reference point of competitors with respect to the cognitive map distortion of an hierarchy (P #4k1)**

### **Social cause**

According to Fiegenbaum, Hart and Schendel (1996), "successful strategies are often characterized as those which outdistance competition. Indeed, the most accepted external reference point in the literature on strategic management has to do with competitors.....and the concept of 'competitive advantage' is premised upon sustaining a favorable position relative to competitors.....".

Thus, preceding the DHQ relocation this may be one of the strongest situations of an explicit reorganization of reference points in competitor hierarchy. Possibly there is one or even several

more powerful new competitors to be regarded; previous competitors might be considered less important now.

With a new reference competitor or competitors, new business fields and competence factors may have also come into the picture. Also, a new restructured hierarchy of reference competitors and competence groups may have to be learned. There are consequently new information needs, which due to a grown company's presumably wider competitive interfaces, are more urgent than previously.

However, at the same time, management still has in its memory the previous strategic reference points with their hierarchy of business field, competence factors, and other relevant contextual elements. These may temporarily cause disturbances and misplacing of the new reference point competitor or competitors in the hierarchy.

### **Spatial effect**

It may be difficult to see any direct social-to-spatial analogy concerning hierarchy, because categorization may take place from many different aspects, both concerning different companies but also within a single company.

However, it is evident that the cognitive restructuring, the new cognitive social map of reference competitors and competence groups, requires a vast amount of new knowledge and subsequently information to be tackled by the DHQ managers and staff.

Firstly, a new knowledge structure concerns the assumed restructuring of the hierarchy, with at least some new knowledge elements and subsequent categorization in the evolving context of internationalization, for example industrial, cultural, historical, political, and intellectual facts.

Secondly, because of the previous strategic reference point competitor or competitors still in memory, there may take place a cognitive social misplacing, or a lag, of the new reference point with respect to categorization and placing in the ongoing restructuring process of the hierarchy. This may lead to a consequent misevaluation of the need for knowledge within the restructuring process.

Altogether, the restructuring of the hierarchy with its new form and categorizations tentatively lengthens the social cognitive distance of the firm with respect to the new strategic reference point of a competitor, or competitors. As a consequence of this distortion of social distance it is subsequently perceived by the DHQ management and staff that, due to their keen interest for

survival-pertaining social knowledge, the level of their knowledge is not compatible relative to the new social distance. This incompatibility of survival knowledge is then, within the boundedness of rationality, the above assumed socio-spatial conversion process and intrinsic knowledge-need, simultaneously perceived as a comparable spatial distance.

To this is further attached the DHQ managers' and staff's experiential spatio-logistic cognition, both in general and specific to the company, resulting in an information requirement that is compatible with knowledge-need. These aspects together are in practice, then, perceived as an ability question, that is, as a spatio-temporal locistic capacity and fit ability, according to Egelhoff (1991).

On the practical level this could, as a distance distortion, also mean for instance perceptually overestimated information requirements with respect to some referent competitor and inversely estimated disability to gain information, and consequently problems pertaining to space-time attached perceived concrete information-process mechanisms.

Naturally this socio-spatial distortional process may also indirectly, through overestimated information needs and thereby perceived further logistic problems in information processing mechanisms, give added momentum to the management's spatio-temporal cognitive information process.

### **Appendix 2.3 The external reference point of competitors with respect to the cognitive map distortion of a landmark (P #4k2)**

#### **Social cause**

For many MNCs, particularly technologically oriented fast growing firms, one of the strongest competing companies may be as a newly acquired reference point and catalyst for prospective risk taking, following the idea by Fiegenbaum, Hart and Schendel (1996). Often it may be a technological and market leader regionally or globally, or within a certain product area. In that capacity, it is a cognitive landmark around which many important aspects of information are strongly centered. It serves widely as a social reference point in the profession and industry, with respect to which abilities, capabilities, positions and other relational qualities of the company in question, lesser reference points and other companies in the field are compared and inferences made. But it may also serve as some kind of a general background reference point across this network for all those players and competing companies regarded as relevant.

### **Spatial effect**

It must be seen that a newly chosen competitive landmark company, through its distortional capacity in DHQ management's perception with respect to their own company, needs to be held and kept in alert intelligential governance by the upwards aiming prospective company and attempting competitor. The landmark-competitor is to be held at bay as it is very close. The nature of this governance, is consequently knowledge-needing and informational in character as perceived by the management and staff, and it can even include some transactional elements.

The inseparable socio-spatiality is a part of the cognitive structure of the management also due to the previous experiential, historical development of the company. This experience as a new, more compulsive knowledge need is then included in the management's perception of the post-growth situation of a new cognitive social landmark. The ensuing information procurement takes place in the course of the continuity of the management's cognitive process and adaptive behavior, following the presentation by Forgas and Melamed (1976).

It must be presumed in connection with this study concerning executed relocation decisions that the landmark-competitor is not a Finnish one but located in some of the leading countries in Central Europe with respect to technology and/or markets.

A landmark draws objects closer; socially it draws competitors closer to itself in the perception of the other competitors of themselves and others; thus it may increase the perceived need of new knowledge of the other important competitors, too.

With the experiential socio-spatial cognitive structure the management in the Finnish DHQ may also perceive that other competitors are, with respect to information procurement and transactional possibilities, menacingly close to the landmark or new strategic reference point company. This indirect additional landmark-effect may also have an impact on the perceived need for new knowledge about the strategic reference point competitor and its external relationships.

Within the role of the total perceived need for new survival knowledge and the subsequent information procurement, and with the realization of this through the various logistic mechanisms as presented above, the former spatio-temporal cognitive map of DHQ management and staff may be proposed to have been transformed into a new spatio-temporal cognitive map or a new space-time image of the company of itself, with respect to the strategic reference point competitor and other competitors therewith.

## **Appendix 2.4 The external reference point of competitors with respect to the cognitive map distortion of a perspective (P #4k3)**

### **Social cause**

Perspective, that is the three-dimensionality or perception of diminishing object size and object discrimination with growing distance, works in social cognition with respect to social belonging and grouping between the self and others. As Tversky (1992) says, "we ourselves belong to social classes, our family.....our business and our political party, (which) serve as our own cognitive perspective. We tend to see the differences in the members of our own group more readily than we see the differences among members of other groups." The others are 'them', altogether, according to her.

With the choosing of a new reference point competitor, this competitor is drawn into the nearest sphere of interest of the DHQ management and staff, mentally to the same category with the company itself, to its very personal strategic reference point in the actual meaning of the word. It is assumed then in this research, that after the newly selected strategic reference point-competitor for prospective, ambitious and challenging risk taking, this situation means that the new referent competitor company, being mentally very close, is suddenly perceived to be farther away in knowledge terms. In other words, the relative knowledge level, i.e. the relative knowledge distance is perceived by the DHQ management and staff to be longer than the conditions in the new situational relationship would allow. It means that, following Shaffer (1977), a new cognitive post-change equilibrium is psychologically needed both in the sense of organization and of adaptation, with respect to this very object of novelty of the social environment.

In other words, the new strategic reference point competitor has not yet been analyzed with respect to, for instance, various possible product, marketing, operational and strategy details and in general to the extent and thoroughness that the competitor previously held as a strategic reference point has been dealt with. Until now, the new referent competitor may not have belonged to the company's competitive vicinity.

Instead, there may have been a long social distance to the new referent competitor; it may have been "a distant grandness", one of the lump of "them", as Tversky (1992) notes.

This social distance has logically also been a knowledge and knowledge-need distance, a lack of the existing human "intrinsic need to cognize.....toward equilibrium with the environment",

as noted by Shaffer (1977). (It can even be thought that relative ignorance may have enhanced the selection of a very challenging reference point competitor.)

The strategic reference point having thus been changed, having taken place abroad in some notable way in the new situation of company growth, there has consequently occurred a change in social perspective as an integral part of the change of the social cognitive map.

### **Spatial effect**

The coming of the referent competitor much closer in perspective than before in the perception of DHQ management and staff causes the relative distance to become longer to the reference point, due to lack of sufficient knowledge. This cognitive paradox could be thought of, as seen from the DHQ management and staff, to consist of an emotional component of the referent's change from 'them' to 'us', following Tversky (1992), as well as an intrinsic social knowledge-pertaining component of a referent's inversely comparative change in knowledge-distance, in the sense presented by Shaffer (1977). This consequently leads to a comparable growth in perceived new knowledge need with respect to the new referent competitor. This need, which is distorted in cognition, comes in addition to the increased absolute need for new knowledge which results from the explicit choice of a company as a new strategic reference point competitor.

The change of the management's social perspective leads to a consequent change in its spatial perception. This change is phenomenological in two ways simultaneously: firstly, by social being spatial, *per se*, and secondly, proposedly, through this socio-spatiality attached simultaneous Piagetian 'intrinsic equilibrated cognizance'-bound knowledge-need which could be thought of to be phenomenologically spatial in character; also knowledge of 'the other' is knowledge to be realized in space. However, this phenomenological spatial perception is inseparably tied, as Forgas and Melamed (1976) and Damasio (1996, 2000) note, to experiential perception including emotions, both in general human terms and in the particular terms of the company-pertaining experience of DHQ managers and staff. This experience is attached to logistic data flows and information processes in the company. The distortion of perspective-attached spatial cognitive information process takes place, then, in a way analogical to the processes presented above at the previous distortional points.

Hence, the above cognitive-logistic information process represents the management's adaptive behavior and the continuity of the cognitive process, as presented by Forgas and Melamed (1976).

Also in this case of distortion it can be assumed that due to greater information requirements and the resulting problems encountered in the logistic information process, these also affect the social-to-spatial cognitive map transformation and the new spatial cognitive map.

### **Appendix 2.5 The external reference point of customers with respect to the cognitive map distortion of an hierarchy (P #4k4)**

#### **Social cause**

Many firms are driven more by customer needs than competitor actions as the primary external reference point. This may mean painstaking assessment of those needs. "A 'customer' orientation has important implications for organizational actions and strategic choice.....a 'gap' between customers' needs and the organization's ability to deliver on those needs results from comparison to an external reference point", as Fiegenbaum, Hart and Schendel (1996) note.

On the practical level of strategic thinking, the role of customers is well expressed by a Finnish MNC division in the written presentation of its mission by one of its managers, in the words: "that kind of firms succeeds which with intent seek cooperation with the most demanding customers, in the most demanding markets, react swiftly to the changing challenges, and learn quickly" (Baldauf, 1994).

Here the concept of customer is assumed to represent a single customer, a group of them, or all customers collectively.

As a result of the company's strong foreign growth, particularly if carried out through acquisitions with new customer segments, it can be thought that the group of customers may undergo a quantitative or qualitative restructuring or shift in center of gravity in the company's strategy. Notably in cases where the growth process has been carried out through some big acquisitions of old well-known foreign companies, with their established group of customers, this could be a dramatic and an inevitable course of events on the strategic level. In principle then, the restructuring process of the perceived hierarchy is comparable to that of the competitor, presented above in connection with a hierarchy.



### **Spatial effect**

The spatial effect of the restructuration and recategorization of the customer hierarchy may in character be very much like that of strategic reference point competitors. In essence, then, the spatial effect of the social distortion is realized through the perceived new spatial setup and new passageways and entrances and consequent need for new knowledge and the ensuing perceived information requirements and logistic arrangements.

As above in connection with strategic reference point competitors, the socio-spatial distortion here also affects in experiential cognition, in perception of managers and staff and pertaining to the customers. A strongly changed hierarchy is likely to cause the distorted perception of a lack of sufficient knowledge of the customers' field, and subsequently a lack of logistic information processing capacity to fulfill the DHQ management's requirements. This again leads toward management's perception of problems in the logistic information processing mechanisms, those presented by Egelhoff (1991).

### **Appendix 2.6 The external reference point of customers with respect to the cognitive map distortion of a landmark (P #4k5)**

#### **Social cause**

As noted above, in many cases a customer may be the most important external reference point for a company, with the company's guiding mission being, then, to meet the needs of that customer.

The concept of a customer may also in this case represent any magnitude from a single one to a collective one, or a qualitatively changed aspect of customers, for example continued services and support including total customer care, as a result of particular changes in strategy induced by foreign growth.

The newly acquired strategic reference point customer may indeed be a veritable landmark, an acknowledged strategic reference point, drawing the attention around itself in the social cognitive map of the company and in some cases inducing a radical change in the cognitive map. The bulk of matters throughout the company is consequently centered around and evaluated within the proper setting of the company's mission and with respect to the new reference point customers, possibly to the extent described by Bartlett and Goshal (1989) in connection with their presentation of the concept 'strategic intent'.

The distortional social structuration here is mentally analogous to the spatial landmark structuration principle, which as a way of basic human judgement and thinking also has its expression in our language. Here it is evident in the spatial statement 'the bike is near the house', instead of saying 'the house is near the bike', as Medyckyj-Scott and Blades (1992) present the matter in dealing with spatial structures in human cognition.

The consequent result of the company growth induced change in the social cognitive reference point is a change in the distortion in the perceived social distance; the distance between the company and the new strategically referent customers has become shorter than it was before, with the result that the existing relative knowledge level of the customer seems paradoxically insufficient.

### **Spatial effect**

The essential practical feature of the company management's perceived relationship with the new referent customer, in the true sense of a strategic reference point, is then keeping oneself at a level of sufficient knowledge of the customer's needs, wishes, and ideas. This is even the more so because of a vigilant, ever-present and never-ceasing competition. It is proposed that the spatial effect of a perceived longer distance emerges from a paradox; the distance to the customer is socially perceived by DHQ management and staff as shorter, but within the socio-spatial indivisible analogy the spatial reality is transformed to be perceived experientially as longer and more laborious because of the now-perceived lack of sufficient knowledge or the new knowledge need for intimate contact. Simultaneously, on the other hand, the company's logistic information process capability is considered incompatible with the requirements with respect to the data and information pertaining to the new reference point customer and serving the company's intentional aims and expectations.

Additionally, in the spatio-temporal perception of management and staff, the increased distance can be aggravated due to logistic information processing problems previously experienced. These problems may be a result of earlier concrete instances of international acquisitions and growth, and previous changes in external strategic reference points.

## **Appendix 2.7 The external reference point of customers with respect to the cognitive map distortion of a rotation (P #4k6)**

### **Social cause**

In the case of rotation, the question is about remembering or perceiving the orientation of things according to some natural or canonical frame of reference instead of their actual or real state or position. In other words, people rotate in their memory-based perception the remembered things according to this natural canonical rule, in a way which then alters the thing from its actual orientation or direction, according to Tversky (1992).

Concerning the strategic reference point customers in the case of rotation, it is here assumed to be a quantitatively and/or qualitatively very important single customer or a particular group of customers with an important historical and societal nation-market context. It can further be thought of that this customer or customer group is acquired for example in a vertical integration process by the Finnish MNC division as its new foreign subsidiary.

In other words, there is the present foreign nation-market with its traditional and general competitive structure as a canonical position, with respect to which the assumingly noteworthy and valuable new customer-subsiary is an essential and appreciated national part and a consequent strategic reference point.

It can further be assumed that the traditional competitive nation market also includes one or more well established national suppliers, which for the newly come subsidiary-owner are now then local competitors. Thus the Finnish newcomer company with its customer-subsiary is assumed to get in touch, and deal with, a new nation market context with all its historically developed and traditional mutual national elements. This context is comparable to that presented by Porter (1990) in his 'diamond', concerning the determinants of national competitive advantage.

This to a great extent self-evident holistic national societal system with its dense old-established internal networks is proposed, then, to exist in the cognitive structure of the Finnish newcomer company's DHQ managers like a canonical frame of reference in social cognition.

The canonical frame of reference can be thought of to affect distortively, in this case for example as a potentially hidden threat, the social perception of the Finnish DHQ management and staff with respect to the new customer subsidiary and the local national competitors. These

may have been the traditional suppliers to the newly acquired and in the national context important customer.

That kind of a distortive perception may, in turn, cause uncertainty with respect to the new subsidiary-parent customer-supplier relationship, for example in terms of the parent newcomer company's perception of its own competitive position with respect to the subsidiary. The role of uncertainty naturally would depend on the relative business operational freedom of the new customer subsidiary and the competitive abilities of the local competitors.

This kind of cognitive social distortion could also be thought of as a potential threat to a foreign MNC within a new nation context concerning the MNC's efficient participation and cooperation in the Porterian 'diamond' in the new context, contingent, however, on many local and industry-connected factors. On that account, as in the above example, the distortion of rotation may also be thought of to include elements represented by transaction cost economics, as suggested in proposition P #4k13. The aspects concerning transaction cost economics are dealt with below in more detail in propositions P #4k10-14.

### **Spatial effect**

The above illustrated social distortion of rotation or canonical orientation can drive the company in its post-acquisition situation to overemphasizing the perceived need for new knowledge. New knowledge is necessary about its new customer-subsiary, the traditional supplier competitors, and the mutual relationships of the subsidiary within the national 'diamond' in question.

The spatial effect of the social distortion is realized indirectly through the phenomenologically and experientially perceived need for extra new knowledge and a consequent perception of an event of information processing of greater volume and of more intensive mechanisms than before, thus causing an extra spatial weight on the distance to grow proportionally in importance, as perceived by the DHQ managers and staff. To this perception of the increased importance of distance may be added the previously encountered problems in the various mechanisms of the logistic information process of the DHQ. In this growing weight of distance perception, the matter is comparable to the landmark distortions above.

However, another indirect spatial effect as a result of this distortion in social cognition can also be conceived. The social canonical nation-context rotation may induce another distortion, that of a secondary social landmark effect in relation to some notable nation-

context competitor of the newcomer MNC. The national 'diamond' context competitor or competitors, and particularly its presumably old and established relationship to the MNC's newly acquired important customer on that market, are thus indirectly seen as a kind of competitive landmark, with its subsequent distortion. The potential double overemphasis of the needed level of new knowledge for the DHQ management could, then, result in a perceived unneededly heavy logistic information process requirement. The experiential spatial effect of this in the DHQ management's perception, with the previous logistic information processing problems in mechanisms possibly added, may strongly restructure the spatial cognitive map of the DHQ management and staff.

Concluding on the distortion of rotation it is to be seen that it is an inborn phenomenological human trait. However, to the extent that certain aspects of experientiality are included in perceptions of phenomenological character, as pointed out by Forgas and Melamed (1976) and Damasio (1996) it may be thought of that the phenomenon of rotation also encompasses historically established deeply ingrained social views of certain relationships and conditions, things that have 'always been' in different contexts and thus representing cognitive structures. In that case rotation, with reference to its natural canonical frame of reference, can also represent an aspect of constant state of certain things, of social invariants, traditionalism and conservatism in perception and consequent behavior and logistic information processing of management.

## **Appendix 2.8 The the external reference point of customers with respect to the cognitive map distortion of an alignment (P #4k7)**

### **Social cause**

Compared with the above assumed case example of rotation dealing with a holistic nation-societal model, alignment could be thought of socially to represent a more individualized relationship between the subsidiary-customer and the national supplier-competitor, a detail of their practical traditional relationship. The memory organizing principle of alignment is in psychology related to the Gestalt organizing principle of grouping by proximity. Within perception, this means that two things which are perceived as grouped together but are misaligned, are remembered as more aligned than they really are, according to Tversky (1992).

In social cognition, then, this could be thought of to mean that despite the new positive competitive situation on the market from the DHQ management's point of view, with the consequent weakening of old and traditional national business contacts, the DHQ management perceives the relationship between its new strategic reference point customer and the national supplier-competitor as closer than it is in reality. Thus, from the point of view of the MNC as a newcomer company, the DHQ management perceives the market position of the competitor as stronger than it actually is, due to the distortion of alignment in its social cognitive map. Alignment could thus be termed as a kind of delayed perception of a social outsider in a particular nation context, with respect to a traditional national market with its old established domestic actors.

However, alignment could naturally be attached to any new business relationship, and particularly to international relationships that spring up as a result of the successful international growth of an MNC or other company with its new market shares. These relationships may encompass very big, demanding and internationally esteemed customers worthy of being strategic reference points. The new relationships can be assumed to be well-grounded on solid competitive advantages, and mutually aimed to be of a more or less permanent nature. Prior to the new relationship there may have been, however, very long-lasting, tradition-laden and internationally well known business relationships between the new customer and some other supplier, the company's competitor. This competitor may possibly even have certain business contacts left with the new customer. Despite a new, realistic business relationship based on sound competitive advantages, the international newcomer company may perceive the former business relationships, even when finished, as potentially existing and a cognitive threat, and the former business partners as closer to the acquired new customer than they are in reality by now. As above in connection with the distortion of rotation, this point of view of simultaneous threat also brings close the below presented aspect of transaction cost economics. In the cases of the distortions of rotation and alignment, as well as possibly concerning some other distortion, it may thus be thought of that distortions in perception of the socio-spatial cognitive map become intertwined both from the aspects represented by strategic reference point theory and transaction cost theory. This was with respect to a general socio-spatial cognition also suggested in proposition P #4h above.

### **Spatial effect**

The spatial effect of this proposed distortion in the social cognitive map is assumed to have been realized on the same grounds as above in the case of rotation, as these two distortions closely resemble each other. Also in the case of alignment, there could be thought of to exist in practice another distortion, in the consequent indirect form of a combinatory secondary landmark, in the perception of the DHQ management and staff.

In the spatial cognition of a relatively increased distance by way of this latter distortion, this changed distance perception thus takes place in DHQ management and staff through a perceived excessive need for new knowledge about the potentially threatening relationship between the customer subsidiary and its former partners, and of both the customer and the competitor themselves. The perceived excessive need for new knowledge and need for mutual communication in general in turn leads to a comparable amount of experientially perceived information processing need through different logistic mechanisms, i.e. perception of a spatial event. This may experientially further result in a perceived overstress in a company's existing logistic capacity in space and time.

### **Appendix 2.9 The external reference point of customers with respect to the cognitive map distortion of a perspective (P #4k8)**

#### **Social cause**

The argumentation on this point runs parallel to the proposition above concerning the social cognitive map in relation to the external reference point of a competitor.

In this case it is assumed that until now, before the change in the strategic reference point, a particular customer or group of customers did not represent an element in the company's referent competitive vicinity; the perspective, or point of interest and view, has been a neutral one.

In the sense of the social perspective presented by Tversky (1992), the perceived social distance has accordingly been rather objective, representing a social cognition with a relatively moderate amount of knowledge and need for new knowledge. That is, in the perception of DHQ managers and staff there has not been any compelling need to procure any marked amount or quality of information about that particular customer until now. As the strategic reference point customer or customers is changed in the new situation of foreign growth of the company, it becomes

included in the company's new sphere of interest with a completely new intensity. Consequently, there occurs a radical distortional change in social perspective, in the sense presented by Tversky (1992), in connection with the change of the social relationship. Hence, the coming of the referent customer much closer in perspective causes the dimensions of various relevant details to seem greater, revealing an unsatisfactory distinction in details and 'white spots'. As suggested above, in connection with a perspective and a referent competitor, a paradoxical inverse comparable change takes place. Following Shaffer (1977), it materializes in that the intrinsic need for an equilibrium of cognizance with the social environment causes DHQ managers and staff to perceive the knowledge-distance to be relatively much longer and here in a distortive way as presented by Tversky. This consequently leads to a relatively greater perceived need for new knowledge about the new referent customer in DHQ management and staff.

### **Spatial effect**

The change of the social cognitive map to the comparable spatial cognitive one is suggested to take place within a distortion phenomenologically, including an experiential determiner according to Forgas and Melamed (1976) and Damasio (1996). It is also suggested that spatiality, in a distorting way, is included in the intrinsic social knowledge need presented in general terms by Forgas and Melamed in dealing with Michotte's experimental research and by Shaffer (1977) in dealing with Piaget's research. Through the experiential perception of the DHQ management and staff the strongly increased new knowledge need is suggested to add another element or phase to spatial, and spatio-temporal, perception both in phenomenological terms, and through the management's direct learned experience with the company's logistic information processes. This latter experience includes, as presented above, also problems within the DHQ management's logistic information processes encountered previously.

Thus the holistic realization of the space-time perception of the DHQ management and staff takes place through the cognitive phenomenologically and experientially perceived new knowledge need and growing information processing requirements. It also includes experientially a perception of the required procurement of information as a perception of an event taking place in space and time. Hence, the new perception represents the DHQ management's change-induced adaptive behavior. It is thus also based on the previous spatial



cognitive map and will be another and further part in the historical continuity of the socio-spatial cognitive process, following the presentation of Forgas and Melamed (1976).

#### **Appendix 2.10 The external reference point of customers with respect to the cognitive map distortion of barriers and detours (P #4k9)**

##### **Social cause**

As noted above by Tversky (1992), the distortion of distance based on barriers and detours does not seem to be related to the other distortions dealt with above. The other distortions are based on inherent human phenomenologically perceptual organizing principles and processing in comprehension as a general mode, and not only concerning spatiality.

Contrary to them, this distortion seems to be due to procedures invoked in judgment through experience. In the words of Tversky (1992), "estimates of Euclidean distance between points are greater when a route has a barrier or detour than when a route is relatively direct. Indeed, people do not seem to have direct perception of route distance, especially over distances that cannot be perceived at once. Rather, people seem to use a variety of surrogates in order to estimate distance, and these surrogates are not necessarily perfectly correlated with distance. Among the surrogates people have been demonstrated to use are: number of turns, number of nodes, amount of information remembered, and amount of clutter." This sort of information has been used in research in models of cognitive maps, according to Tversky.

The question is, then, whether this experiential perception invoked in judgment could be analogous to social relationships in any respect. Proposedly, this analogy could be thought of to exist in the experiential social cognition of the DHQ management and staff, applicable in a new post-growth situation to a strongly renewed social network, with all the resulting new important knowledge needs. Particularly, this distortion effect could be thought of to apply to a new strategic reference point customer or perhaps a group of customers, with whom the needed social relationship assumedly must be particularly close and knowledgeable. The inherent pressure for these communicational relations can be thought of to be perceived by the DHQ management as a matter of company survival, applying the suggestion of Shaffer (1977). Additionally, this distortion might be aggravated by the DHQ management's experiential perception in applying it to the company's organizational context, with all the evidently potential knowledge-flow complications in a new information procuring situation. This course

of events is thinkable as the conditions of new reference point customers and the functioning of an attached new organizational information system, possibly restructured with new foreign subsidiaries, are insufficiently known and mastered. This kind of problems is very realistic according to research results on foreign acquisitions of Finnish MNCs by Stenberg (1992) and Santala (1996).

It could be thought that this distortion is applicable to the DHQ management's experiential perception of an analogical 'travelling' or flow of data and information in the company's post-growth renewed and restructured logistic information process. As Stenberg (1992) notes, for example structural change seems to function like this in a contingent way. Management's conception of the logistic information processing mechanisms, as presented by Egelhoff (1991), can be seen to have been geared essentially to higher fit requirements.

Here, an additional aspect may be suggested in dealing with the distortion of barriers and detours. This concerns the aggregate concept of psychic distance, or business distance, as described by Johanson and Vahlne (1977) and Luostarinen (1979), in dealing with the stage-wise knowledge-level based internationalization process of a company. This concept incorporates physical distance, cultural distance, economic distance and business practices.

Psychic distance may be regarded in the perception of DHQ management and staff both as a general social and hence spatial 'otherness' in a phenomenological sense and an experiential aspect pertaining to the company's logistic information process requirements, within the context of international business. As Luostarinen puts it, "the greater the differences in these (cultural) environments, the longer the cultural distance between the countries.....generally, the greater the distance.....between the home and target country, the less the amount of knowledge of the firm about the target country." Johanson and Vahlne note that "the psychic distance is defined as the sum of factors preventing the flow of information from and to the market....we believe the lack of knowledge due to differences between countries with regard to, for example, language and culture, is an important obstacle to decision making connected with the development of international operations.....these differences constitute the main characteristic of international, as distinct from domestic, operations. By market knowledge we mean information about markets, and operations in those markets, which is somehow stored and reasonably retrievable - in the mind of individuals, in computer memories, and in written reports."

The operational contents of the cultural or psychic distance varies somewhat in various studies, but its main components are language, educational level, level of industrial development, level of economic development, (culture), and business practices, according to the above authors.

However, there are also other aspects in national and business culture differences which may have a distance distorting effect. A main division in culture can be made between profound values on the one hand, and more superficial practices of collective habits on the other. Of these, the nation-culture component is the most profound, followed by the less profound occupational and more superficial organizational culture components. As to the former, Hofstede (1989) notes that "national cultures are programmed into us first, that is, right from the day we are born", occupational cultures in adolescence, and organizational cultures usually in adult age.

Of the cultural differences the most relevant on the managerial level appear to be the national culture value settings, which "indicate the cultural proximity or distance between countries." For the management of multinational corporations "cultural gaps between host and home countries present a problem which is more serious in the modern world in which countries negotiate as equals", however, "differences along some dimensions are easier to cope with than along others."

It is well reported in international business research literature that these very many-faceted language and cultural differences do have performance, managerial and economic relevance. "With business becoming more international, effective strategic management requires accounting for fundamental national differences.....profiles of national culture can become tools for strategic choices in corporate boardrooms", as Franke, Hofstede and Bond (1991) contend. The very essential role of cultural differences in terms of trust, strategy and control in headquarters-subsidiary relationships, seen within the background of the logistic information processing framework, is also discussed by Horng (1993).

On the grounds of the aspects presented above, the need for new knowledge of the various geographical, business, cultural and other institutional differences, and a consequently efficient system of logistic information processing, is a central prerequisite for international management. The question above was, could there possibly be experiential cognitive processes invoked in the management's judgement and triggered through environmental perception over social relations analogous to the spatial distance distortion of barriers and detours, as suggested

by Tversky (1992). And could these cognitive processes exist with respect to the social relationships of the company to for example a strategic reference point customer?

As an analogy to spatial Euclidean distance evaluation, it could be assumed that an homogenous culture context, compared to internationally strongly varying nation-cultures, would represent a socially straight and easily evaluable business relation contact. In domestic business, there would not be any of the distances-creating differences, turns and difficulties as essential characteristics making foreign business operations distinct from domestic ones, as Johanson and Vahlne (1977) note the differences to make. In other words, domestic business is a straight road instead of a foreign cultures road of 'barriers and detours'. Consequently, a new language, new norms, values, business practices and other cultural differences could be seen as Tversky's barriers, detours, turns, nodes, amount of information, and clutter, invoked in the judgment in the DHQ management's experiential socio-spatial cognition.

It consequently seems feasible to suggest that there is the possibility of an analogous, experiential social distance distortion effect of 'barriers and detours', rising from the situation of a company's foreign growth and attached to a decision to acquire a new strategic reference point with respect to a particular customer or customers. This strategic intention also includes, as suggested above, a landmark distortion for instance.

The main concern, then, in the social change process of the company is the knowledge-based governance of the new social relationships. This cognitive and logistic information process, based on the behavioral theory of the firm is one of the fundamentals in the theoretical stages-model of the internationalization process of the firm, as it is brought forward by Luostarinen, and Johanson and Vahlne. In other words, the nature of this 'barriers and detours' information process is in itself the reason for the stage-wise proceeding in internationalization.

In their stages-model, knowledge is instrumental in the new opportunities that serve company growth, i.e. planning and realization of the ordinary functional operation modes of the firm. This research starts a step further along, concerning the commanding of needed knowledge and managing of the very information process by the firm's management and staff with the same aim. The basic problem, however, is an equal one: the governance of knowledge and information.

### **Spatial effect**

It is proposed that the realization of the distortion of barriers and detours in socio-spatial cognition takes place due to the DHQ management's perception of extra needs for new knowledge and the experientially perceived consequent processing requirements of information, perceived as an event and taking place in the space-time dimension. This perception of management and staff may be complemented by the experiential spatio-temporal cognitive map of management and staff with the logistic information processing problems encountered previously.

It is also possible that there exists a combination of the distortion of a landmark, in its noted paradoxical effect illustrated above, and this distortion, which would work together and cause a radically stronger perceived need for new information, and a consequent new spatial perception.

### **Appendix 2.11 The transaction cost economic governance structure of a market with respect to the cognitive map distortion of a landmark (P #4k10)**

#### **Social cause**

During a period of strong international growth by a company and a subsequent change in its identity, it is to be assumed that a transactional costs analysis concerning the aspects of bounded rationality, opportunism and the markets will be made in the company. As brought forward above, market here refers to one mode of the governance structure, "the institutional matrix within which the integrity of a transaction is decided", in reference to Williamson (1993). The other institutional governance structures are 'hierarchy' and 'hybrid contracting' or a mix of market and hierarchy.

Particularly, if it is assumed, as above, that there has been a notable change regarding the external reference point of a customer or customers, it is evident that the governance of information becomes a central concern. In fact, in presenting the proposed change of the social cognitive map to the spatial cognitive map according to propositions P #4 this holistic socio-spatial perceptual approach comes in essence and implicitly face-to-face with the transactional cost theory in the latter's notion of bounded rationality. As March and Simon (1958) and Williamson (1993) contend, bounded rationality can be defined, in Williamson's words, as "a condition of **limited** cognitive competence to receive, store, retrieve, and process information".

Thus, the cognitive change approach at the various instances of distortion presented above comes basically close to the transaction cost theory, which is an approach of governance of informational integrity of transactions either explicitly or implicitly, either through the organizing method of hierarchy or of price, or a hybrid of them, following Hennart (1991, 1993). From the point of view of governance of transactional integrity it is here to be noted that Hennart calls 'market' and 'firm' as institutions and 'hierarchy' and 'price' as methods of organizing transactions, differing thus partly with respect to the term 'market' as it is used by Williamson (1993).

Thus transactional governance may also concern the strategic reference point customer as an element of the market. Besides concerning a customer of the strategic reference point quality, a comparable perception by the DHQ of transactional governance concern may regard any important customer or supplier or other institution in the market, in DHQ's social cognition in a distorting way analogous to that of spatial distance distortion of the cognitive map, following Tversky (1992).

In the context of the change process of the social cognition of the DHQ, it is suggested that the landmark distance distortion effect of the social cognitive map works out through perceived diminished distance in relation to the respective market partner. The process is paradoxical in character, as it was presented above with the strategic reference point competitor and customer. The object market partner firm has through the company's foreign growth process become socially nearer in cognition, and has thereby become bigger in perception. But the existing amount of knowledge relative to the perceived new shorter distance, i.e. the amount of knowledge with respect to the cognitive surface or interface of the object firm has as a consequence lessened or become thinner due to the 'white spots' on the cognitive map. Thus, while contacts with the object company may have become manifold, the ability to govern asset specific interests is lacking with a comparable lack of knowledge. This inevitably drives the company to improve its relatively decreased knowledge status with respect to the now nearer market partner and to subsequent activities to realize the position of informational governance. It is also possible that a market partner firm of a landmark character, being cognitively considerably nearer, may cause the DHQ management and staff to perceive under bounded rationality also competitors to be nearer to these. This may further activate the company to improve the asset specific informational governance with respect to these market partners.

### **Spatial effect**

In the above situation, it is evident that the lagging knowledge level perceived by the DHQ management and staff with respect to the foreign market partner firm must be corrected to eliminate any potential for opportunism. Consequently, according to an experientially perceived need, a well functioning, improved logistic information process must be realized. This perception is materialized through reasoning based on experience within the field of various logistic mechanisms, to attain a fit with the strongly increased information requirements. Facing a new knowledge-need induced uncertainty this is necessary for an effective firm, according to Egelhoff (1991).

By definition, this is also perceived as a spatial transactional cost solution in the informational governance situation described above. In other words, it is proposed that in this situation opportunism is potentially encountered at the international market interface, and it is suggested that in this situation ex ante costs are needed to safeguard the market agreements (Williamson, 1993).

It could thus be said on a general level that a transactional cost economics solution, as a solution of social cognition and perception, with respect to the international market interface is also a spatial solution, both phenomenologically and experientially. To that extent and in that capacity it is included in the spatial cognitive map of the DHQ management and staff. The cognitive spatiality, or the space-time dimension, may be further strengthened through direct misfit experienced by the management and staff in the logistic information process mechanisms of the company, regarding the market partners within a landmark's distortional effect.

### **Appendix 2.12 The transaction cost economic governance structure of a market with respect to the cognitive map distortion of a perspective (P #4k11)**

#### **Social cause**

The effect of the distance distortion of perspective can be understood directly as a company-growth induced change process in itself, the change taking place in the management's social cognition, in its social relationship with the environment. The environment that perceptually has become close is a challenge to be tackled through governance in cognizance. The distance distortion concerns then the most relevant market elements covering customers, suppliers and others which have become nearer in perspective, as they have been magnified from the point of

view of the interests of the strongly grown company. This can be seen as a new-born company, in a sense in many cases a company with a new self and new intentions of self-manifestation and commitment with an accentuated international role, an organization well described by Luostarinen and Welch (1990).

From the point of view, then, of the company's identity which corresponds with the new environmental realities, and from the point of view of the new strategic goals attached to these realities and which goals the management has explicitly assumed itself, this means that the knowledge needs to sustain integrity of transactions are qualitatively and quantitatively considerably more comprehensive for covering the social relations with the environment of the DHQ management and staff. In somewhat other words, following Lorange (1987), the multinational strategy requires early scanning, intelligence gathering and division-level analysing of global information on customers, competitors and the scientific and socio-economic environment, in an overall context as a basis serving the company's asset specific transactions. As Nonaka (1994) notes, interactions become larger in scale and faster in speed, with more actors in and around the organization becoming involved. Along the same course of thinking McNamee (1987) points out that in strategic management, quality of perception, presage, and avoidance of strategic myopia require high-quality multidimensional scanning by well-informed strategic planners with the ability for random information with weak signals and with broad enough aspects on the environment.

It is these strategic requirements in the market interface context which, on the basis of uncertainty and bounded rationality, drives the MNC and its DHQ to an optimal position to acquire the perceived needed new knowledge, information, and the subsequent logistic information processual fit of an effective organization.

The basis of the transaction-cost analysis, referring to March and Simon (1966), and Williamson (1989), lies essentially in the perceptual and behavioral aspects of company management within its cognitive process with respect to the environment, in its effort to avoid or minimize decision-making uncertainty in conditions like the one characterized above.

Thus the approach in this research paradigm of a perceptual identity-induced change in the social cognitive map, i.e. social perception as a part of a wider cognitive information process, is a logical and organic part and spatial extension of the transactions-cost analysis.



### **Spatial effect**

It is proposed that the perceived need for new knowledge under uncertainty and bounded rationality leads, according to the mode expressed above in propositions P #4, to the subsequently perceived requirements with respect to the logistic information processing phase. This may be proposed as equal to a space-time aspect within transaction-cost economics. In this connection it is brought forth under the particular conditions of the social cognitive distance distortion of perspective, as suggested to be plausible by Tversky (1992). Additionally, the problems already encountered in earlier growth phases, in connection with various logistic information processing mechanisms, may be added to this perception of the DHQ management and staff.

### **Appendix 2.13 The transaction cost economic governance structure of a market with respect to the cognitive map distortion of barriers and detours (P #4k12)**

#### **Social cause**

In dealing above with the external strategic reference point of customers and the distortion of barriers and detours, the possibility to use the concept of cultural distance in a sense supplemented by the distortion of 'barriers and detours' was introduced. It was suggested that the same idea also applies to the concept 'psychic distance' used in the Nordic research and in studies on the internationalization process of firms (Luostarinen, 1970, 1979, Johanson and Vahlne, 1977).

As was presented above in the chapter on transaction cost theory, the existence of secrets, friction or uncertainty, and the lack of trust, may in addition to information asymmetry and bounded rationality be a central factor behind the transactional costs that arise, according to Rumelt, Schendel and Teece (1991). These consequences are also brought forward by Ouchi (1980) as a result of a lack of trust between parties in a situation requiring a perception of equity and a standard of reciprocity. The above conditions may rise due to nation-cultural differences which hinder effective communication and mutual understanding. There may be a negative relationship between cultural differences and trust, as Horng (1993) notes.

With this background, we could think of a situation of strong company growth, and a situation where there additionally would be demanded discreet and good judgment for expansion according to the strategic goals. Under circumstances of a clearly perceived cultural distance,

with a pressing need for new additional cultural knowledge concerning the idiosyncratic transactional market interface, there is also present considerable uncertainty and bounded rationality, together with the perceived possibility of opportunism. It can then be proposed that the new environmental knowledge need, with the subsequent experiential informational logistic complicacies, acts within the DHQ management's social cognitive map in a sense analogous to that of the spatial distance distortion of barriers and detours, as presented in Appendix 2.10.

### **Spatial effect**

It is proposed that the social cognitive map distance has its implication in the management's phenomenologically and experientially perceived need for new information to overcome the increased distance. Consequently, through experience a more effective logistic information process is also perceived to be necessary to attain a fit between the information requirements and capacity of the company.

This perceived knowledge need and information process is subsequently in the experiential cognition of the management and staff transformed into the spatio-temporal dimension, following the ideas above.

The temporal dimension can be seen as one of a firm's basic realities, according to Rumelt, Schendel and Teece in their view on strategy, economics and organization (1991). As they add on contemporary theory of the firm, one of the most basic real world factors, besides base concepts belonging to transaction cost economics, is information asymmetry.

The reality of temporality is also implicit in the conceptual structure of the theory of the firm, from the transactional point of view, as it is brought forward by Coase (1937/1986). This is indirectly very evident for instance in his words that "it would appear that the costs of organising and the losses through mistakes will increase in the spatial distribution of the transactions organised, in the dissimilarity of the transactions, and in the probability of changes in the relevant prices. As more transactions are organised by an entrepreneur, it would appear that the transactions would tend to be either different in kind or in different places. This furnishes an additional reason why efficiency will tend to decrease as the firms get larger. Inventions which tend to bring factors of production nearer together, by lessening spatial distribution, tend to increase the size of the firm. Changes like the telephone and the telegraph

which tend to reduce the cost of organising spatially will tend to increase the size of the firm. All changes which improve managerial technique will tend to increase the size of the firm."

Following Williamson (1993), the basic reality of the spatio-temporal dimension, in its turn, then, can be proposed to lead to ex ante or ex post costs seen necessary to overcome perceived problems attached to specificity of assets and opportunism. These problems are perceived under conditions of bounded rationality with respect to transactions at the market interface.

To this ex ante, or ex post, cost effect may also contribute the problems encountered in practice by the DHQ management and staff in connection of the implementation of the various mechanisms of the logistic information process.

#### **Appendix 2.14 The transaction cost economic governance structure of an hierarchy with respect to the cognitive map distortion of a landmark (P #4k13)**

##### **Social cause**

In the presumed situation of a Finnish MNC division that grows strongly to a large extent through foreign acquisitions, it is inevitable that a considerable amount of new personnel is also acquired and assimilated into the company's organization.

In many cases the MNC's new foreign subsidiaries may represent old, and for instance in their respective Porterian 'diamond' frames of reference, technologically renowned and well established organizations. In their new MNC divisional context they may be 'strategic centers' as to their resources, role and importance, following the presentation of Forsgren, Holm and Johanson (1992, 1995). The managers and staff of these, anchored in the subsidiary's competitive advantage, may be thought of to have ambitious future goals and strategies in their own fields of business at the moment of the foreign acquisition having occurred.

This kind of a situation of an MNC asset specificities induced foreign acquisition by the MNC, with acquired new assets in quality comparable to the new mother company's core competence, and probably even with a recent background of a former competitor, is to cause a great psychological pressure for instance when thinking along the lines of the concept of procedural justice, dealt with by Kim and Mauborgne (1993), within the divisional hierarchy.

When conceiving and executing the MNC's effective worldwide strategies after a foreign acquisition described above, commanding the integrity of the asset specificity attached internal transactions within the hierarchy with respect to a former competitor or for example the above

category, creates then a great informational challenge to the MNC's management and staff. This may occur in conditions along the lines, for instance, of thinking by Horng (1993) concerning nation-culture differences, and culturally strongly affected aspects presented by Kim and Mauborgne with respect to procedural justice. Psychologically there can be said to exist a contradiction between two asset specific integrity interests, caused by for example emotional lags and resistance to change for political and cultural reasons. As Santala (1996) notes in his case study on post-acquisition integration of strategic management in a Finnish MNC, "resistance to change in the political sphere was primarily caused by lack of external motivation because of contrary individual or collective interests." Hierarchy could thus be thought of as a reaction to call for its opposite in the multinational corporation of today, 'the heterarchy', along the lines of thinking of Hedlund (1986, 1990).

It is noted by Dunning (1988) that common governance and coordination of complementary assets within the hierarchy is to be preferred instead of the market, and that transactional market failures may occur because, among other things, risk and uncertainty may be significant in transactions carried out across national borders. It is implicitly and logically then equally evident that risks and uncertainty, or at least, DHQ managers' perception of risk and uncertainty pertaining to the nation culture peculiarities and differences do not totally disappear at the advent of the hierarchy, concerning asset specific transactions.

This reality is indirectly but clearly also brought forward in the ideas of Hennart (1991, 1993). He presents the price system and hierarchy to be substitutes within firms, "with the price system utilized in firms to overcome the basic flaws of hierarchy". He also presents the concept of the "swollen middle", the intrafirm tradeoff involved between price and behavior constraints in organizing a subsidiary's management, and that the mix of these two organizing methods is in practice a prevailing reality in companies.

The basic flaws of hierarchy may be inferred from Hennart's (1991) definition of hierarchy as "characterized by centralized information and the use of behavior constraints. While information is decentralized with prices, it is centralized with hierarchy. The hierarchical method of organization channels all the information possessed by individuals (employees) to a central party (the boss) who assimilates all this information, draws up consistent plans and transmits information to employees in the form of directives. If individuals have 'unbounded

rationality', this method is as efficient in making optimal joint decisions as is the decentralized system of market prices."

With Hedlund's (1986, 1990) and Bartlett and Ghoshal's (1989) above thinking in mind, relating the presented discernible flaws of hierarchy to the above described situation of a newly acquired subsidiary puts forward the problem from the point of view of transaction cost economics. This problem may be highlighted by the fact that the subsidiary may be a highly esteemed and well established company, representing for the new MNC parent the 'strategic center and leader', or 'dominant subsidiary' category, as brought forth by Forsgren, Holm and Johanson (1992, 1995). With the latter kind of a landmark subsidiary it is very evident that it possesses a strong organizational identity, also with respect to the new foreign, Finnish, parent company.

As thus put forth, there may be through the very creation of a new international hierarchy unforetold psychological reasons for the risks and uncertainties to spring up, also with nation cultural differences attached. In particular, this situation may then confront the DHQ in the case of a landmark subsidiary in the subsidiary's own Porterian 'diamond' context. A foreign landmark subsidiary, with its consequently well-developed network domestically and internationally, is strategically both an invaluable asset and a heavy liability within the MNC hierarchy.

This type of subsidiary could also be thought of to represent the kind particularly representative of the suggestions of the "transnational solution" of Bartlett and Ghoshal (1989), as presented and scrutinized above from the aspect of the transaction cost economics by Rugman and Verbeke (1992).

Under conditions of bounded rationality on the part of the DHQ, a strategic liability subsidiary like this within the distortion of a landmark of the social cognitive map brings the subsidiary in the cognitive map much closer to the DHQ management and staff. It is consequently under the perceived threat of opportunism and perceived to require a great amount of new knowledge in the DHQ cognition. This knowledge need is seen to be very keenly attached to the vast amount of material and immaterial transactions of the operative network of the subsidiary, the transactions of which can be assumed to cause a considerable amount of uncertainty and potential for opportunism. Within the MNC's divisional hierarchy, then, this could be thought of also to represent a more general situation perceived by the DHQ management in respect to any foreign subsidiary.

### **Spatial effect**

As above in the distortion cases with the strategic reference point aspects, also in connection of the transaction cost economics the social cognitive map with the landmark distortion is proposed to be transformed into the spatial one. This is proposed to take place by the DHQ management's phenomenologically and experientially perceived need for new social knowledge (Forgus and Melamed, 1976, Shaffer, 1977), and the ensuing experiential perception, both general human and pertaining to the DHQ, of a subsequent information process. This information process is an event perceived both spatially and temporally, as presented above.

Additionally, it may be thought that the practical information needs resulting from the potential of opportunism perceived by DHQ management and staff will be considerable, as in the case described above, in order to attain a satisfactory governance level for the integrity of the company's transactions. This governance level aspect is also noted in the studies of Makino and Neupert (2000) and Reuer (2001) concerning aspects of transaction cost economics with respect to high technology foreign subsidiaries. The governance level is realized subsequently within the logistic information process, with capacity for that process adjusted according to the needed fit for the information requirements (Egelhoff, 1991).

The practical implementation of these mechanisms, in turn, may raise logistic problems, adding to those logistic problems proposed as experienced and cognized already before. It is consequently proposed that this new added information need leads to an information requirement-capacity misfit in the logistic mechanisms. In the case of overwhelming problems in attaining this fit the situation is proposed to lead to a relocation of the DHQ.

The DHQ relocation decision would, then, be in accordance with the idea of an effective organization operating under uncertainty as presented by Egelhoff (1991). It would be applicable, for instance, to the transnational organization with its nonroutine-reciprocal information processing needs in the mechanisms, and the organizational development interventions, with ensuing costs.

Taking the transactional costs into account, as defined by Williamson (1993), will then be a slight but logical extension according to the behavioral theory of the firm, over that presented above by Egelhoff, regarding his dealing with uncertainty and the transnational organization.

This transaction cost economic thinking would be seemingly contradictory to the focal idea of the transnational company. However, as Bartlett and Ghoshal (1989) also remark in their notes,

the transactional cost economic solution would be logically, as the other side of a coin, a part of it according to the grounds of thinking of the behavioral theory of the firm, as put forth by for instance Cyert and March (1992) and Rugman and Verbeke (1992).

A transactional cost economy based relocation of the DHQ would then take place as a form of an indirect spatio-temporal safeguard apparatus within the governance structure of hierarchy. It takes place, as suggested, with a foreign subsidiary having the effect of distortion of a landmark in the social cognitive map, as exemplified above.

As a pertinent transaction cost economic procedure the DHQ relocation, then, can be expected to support sufficient information, and information enhancing, including information disclosure, following Williamson (1993).

The DHQ management's vicinity to the subsidiary can subsequently be perceived as a constraint within the organizing method of hierarchy, through the means of the relocation of the DHQ as a transactional cost. Relocation can then in more general terms also be seen as the design of an institution by the decision makers, the company management, along the thinking of Hennart (1993). The structure and the stability of the social network in which transactions are embedded, which also generates the powerful pressures limiting opportunism according to Hennart, is most likely to be communicationally enhanced by way of the DHQ's physical vicinity which is applicable to the different logistic mechanisms.

In conclusion, the DHQ relocation is a consequent solution from the point of view of the integrity of asset specificity attached transactions, within the governance structure of the newly set up hierarchy which adopts the new subsidiary, to complete the processual efficiency and economics of that hierarchy as an organizing system and an information system.

The DHQ relocation decision can be seen as an economizing cost in general in running the economic system, and an *ex ante*, or *ex post*, cost as a safeguard in the form of a private ordering apparatus to deal with contingencies, following the ideas and definitions of Williamson (1993).

The transactional interfaces could be thought of to comprise both company internal interfaces, as that between the parent company and the new subsidiaries, or subsidiary managers and specialists, and company external interfaces, as those between the subsidiary and the customers, suppliers, competitors etc.

## **Appendix 2.15 The transaction cost economic governance structure of an hierarchy with respect to the cognitive map distortion of a perspective (P #4k14)**

### **Social cause**

The proposed effect of the distance distortion of perspective in social cognition is somewhat similar in character to that presented above in connection with the governance structure of a market, as seen from the transactional cost aspect.

The change in the social cognition of the DHQ management and staff is a direct result of the company growth induced change-process, having resulted in, among other things, the inclusion of a new foreign subsidiary member into the hierarchy or the "rank and order" of the organization. From the point of view of the DHQ management and staff the new member is adopted and integrated into the organization to share the mother company's mission and strategic goals, and evidently its cultural values, as brought forth by Stenberg (1992) and Santala (1996) in their studies of Finnish MNCs. A new member of the company family and one of "us" the new subsidiary is perceived, with respect to the social cognitive map of the management up till now, from a completely new mental distance, a new perspective, following the presentation of Tversky (1992).

However, being a foreign acquisition, the new subsidiary also represents a different nation culture, which varies from the parent company's home country culture. Consequently there may be differences in the values attached to the company's mission and goal setting and the principles of everyday business practices. The cultural integration, to the extent that it is necessary or important for the internalization of the corporate goals and implementation of its strategy, is in practice often a more costly and time-consuming part in the process of incorporation and integration of the subsidiary than anticipated at the outset, according to the notions by Laurent (1986), and Hofstede (1989).

Thus, in an internationally growing multinational organization the DHQ management and staff, in striving to coordinate and control the company in a turbulent competitive environment, faces a perplexing situation. On the one hand, there is the new highlighted mental nearness situation sprung forth with a new family member, entrusted with the parent company's asset-specificity and general commitment to the new member. On the other hand there is the intensified perception of a lack of knowledge, or knowledge distance, brought forth by the distortion of perspective; sparsity of knowledge and 'white spots' in it. The knowledge lack is underlined by



cultural and value differences, or psychic distance. This induces and increases uncertainty and bounded rationality which in turn affects DHQ management's trust with respect to the new subsidiary, following the presentation by Horng (1993).

The above paradox may be particularly felt in the case of a big, old and esteemed subsidiary which is well established as to its company culture and external domestic and international networks. It can be consequently proposed that this distortion of a perspective, which is presented by Tversky (1992) brings forth the DHQ management's perception for a pressing need of information by some effective means, for example organizing, the knowledge gap. This is to secure the integrity of informational asset-specific transactions within the expanded organization and its hierarchy against opportunism; for economizing on bounded rationality, following Williamson (1991). This is inevitable for the expanded company is to be managed in a fast moving environment and situation, in order to carry out the very strategic ideas and goals of the acquisition, according to the notion of Lorange (1987).

### **Spatial effect**

Thus, the company management faces the situation of a considerably increased factual uncertainty and bounded rationality, as proposed with respect to its social cognitive map. With the mental background in the specificity of the company assets, this situation leads the management to improve the level of governance of the integrity of the transactions within the hierarchy. This would take place at both the subsidiary's firm and personal interfaces. The improvement is consequently implemented through the governance aspects of the organizing system of hierarchy, in the capacity of hierarchy as a knowledge communicating or informational system, according to Hennart (1991) and Williamson (1993).

This grown need of social knowledge which is phenomenologically and experientially perceived by the management and staff (Forgus and Melamed, 1976, Shaffer, 1977) is proposed to be transformed, within phenomenological and experiential perception, into a logistic information process event and thus the spatio-temporal dimension. The spatio-temporal dimension is proposed to take place within the very nature of the concept of information as an experientially perceived event.

As in the above previous cases, it is proposed that an experienced need to improve on the mechanisms of the company's logistic information process be further added to this, from earlier

instances of the company's foreign growth. This would take place according to the requirements of the informational fit for company survival, under conditions of uncertainty, as presented above. One possibility for a solution seen by the management with respect to this needed improvement is, then, proposed to be the relocation of the DHQ. The transactional cost economics reasoning would take place along the thinking presented above in Appendix 2.14 dealing with hierarchy.

**Appendix 2.16 Conclusion of the proposed transitions from the social cognitive map to the spatio-temporal cognitive map (P #4k1 - P #4k14) in the light of distortions of the spatial cognitive map**

As an overall conclusion of the above presentation of the distortions of the social cognitive map and their proposed transformation into the spatio-temporal cognitive map, it may be logically and consequently suggested that these distortions illuminate and highlight the paradigmatic cognitive-logistic principle of this research work. The question may be here also raised whether these distortions have an even essential and particularly influential role in social cognition, hereto unrealized or unnoticed in research, on decision making in international business. This would, then, in practice notably concern MNCs.

The application of these distortions to the research paradigm of this work is by no means complete with the above few examples with respect to the strategic reference point aspect, even less with respect to the transaction cost economics aspect. Even other distortions than those presented in connection with these aspects could be applicable to highlight the pressure of the social-to-spatial transformation in cognition. The analogy of these distortional human cognitive processes "in judgment and thinking", as Tversky (1992) puts it, may then also enhance the transformation from social cognition to spatio-temporal cognition. It may take place with a comparable weight as experimentally noted in psychology with respect to spatial cognition, and leading to the conclusive DHQ management's decision studied, the DHQ relocation decision. Thus, strategic reference point theory and transaction cost theory could be seen, at first sight, to be in disharmony with the concept of alignment in cognitive psychology, as these theories represent modes of human thinking and inference with respect to relationships. However, the phenomenon of alignment, as well as that of rotation, seem reminiscent of the landmark phenomenon with similar cognitive processes underlying both of these. As Tversky (1992)

notes, this kind of cognitive processing seems to appear not only in spatial thinking but in judgment and thinking about other topics, for example social relationships, as well. Alignment deals with the remembering of one figure, thus also a social relationship, in relation to another. According to this concept, it is the relative locations or orientation of objects in scenes, not the absolute locations, which we try to remember as viewed from a particular place, after a change has taken place. This psychological organizing principle is related to the organizing principle of grouping by proximity. "The prediction is that two figures that are perceived as grouped together but are misaligned, that is, offset in one spatial dimension, are remembered as more aligned than they really are", as set forth by Tversky (1992). It is proposed that misalignment is brought about by disturbances in the socio-spatial perception. This is assumed to take place, at the latest, as a result of experienced problems in the logistic information process, in its practical mechanisms presented by Egelhoff (1991). From the point of view of DHQ relocation, based on social cognition referring to strategic reference point theory and transaction cost theory, this alignment phenomenon could, then, be thought of to be effective by causing **a lag in the perception** of DHQ, based on those two theories, this lag being realized partly as a result of the encountered logistic information processing problems, and subsequent managerial inference. In a new foreign growth induced situation, having brought about a new reference point **difference**, thinking of strategic reference point theory, and a new situation of informational **asymmetry**, thinking of transaction cost theory, the phenomena of cognitive distortions can be thought of to affect and indwell these two theoretical approaches representing human behavior. Alignment would thus have negative inhibiting and disturbing effects by a phenomenological direct socio-cognitive information process, and its effects would be eliminated through an alert logistic information process. At this point it is evident that the concept of tacit knowledge, in respect to for example customers and competitors, may have an essential importance as it is, through personal involvement, "deeply rooted in action, commitment, and involvement in a specific context", following Nonaka (1994). Tacit knowledge, intimacy and closeness through socialization, can subsequently be externalized and combined with the logistic information process of DHQ, following the model of Nonaka and Konno (1998). The changes-induced cognitive processes referring to, besides the self, the social environment and consisting of cognitive structures and intellectual functions of organization and adaptation, as these are set

forth by Shaffer (1977), were presented closer in the chapter of the spatio-temporal cognitive map and information process.

Altogether, these distortions may possibly have a much wider application than here suggested, from the point of view of the research paradigm. Besides, as it is suggested in two of the instances of distortions above, it seems fairly likely that some of the distortions within the social cognitive map may form causal links in the social cognition from one distortion to another distortion. Thereto there may be additional reciprocal processes between social cognition and spatio-temporal cognition, these altogether forming processes which cumulatively magnify the distortional effects in social and spatio-temporal cognition.

### **Appendix 3 Some other aspects of spatiality-attached social cognition presented in literature**

#### **Appendix 3.1 A note on the presumption of mimetics**

The intimacy of biological sociality and spatiality in the context of survival could, tentatively, be seen for instance in the way animals behave. As Rajecki (1977) notes in dealing with ethological elements in social psychology, "at least for heuristic reasons" there are phenomena of animal behavior "open to the confirmation by the reader", phenomena surprisingly resembling that of humans in comparable situations. On the other hand, in the field of neuropsychology Damasio (1996) refers to social behavior of certain animals as a corollary when dealing with human social behavior in connection with primary emotions.

For instance, in the case of how dozens of seagulls, individually and scattered flying above the roofs of a city, within seconds gather for a treat thrown only at one of them visible from the place of the thrower. But this one seagull, suddenly diving down, is evidently discerned by some other gull or gulls wide and far, drawing them all instantly as through a chain reaction into a large flock to the place of the treat.

It could well be supposed that this social phenomenon is also comparable with humans. It could be analogous to that seen in innumerable advertisements, showing people rushing for some particular opportunity or sale, offered for instance by a shop. The rush implies, logically and consequently, that people in general imitate the behavior of others reacting to some opportunity,

and further, that people having seen the advertisement should also behave likewise by the impulse of it. In other words, the instinctive mimetics of reality is transferred and manifolded through a fictive illustration, this reality of behavior being then utilized commercially.

Basically the same phenomenon is well known from the era of economic scarcity and lack in cities of the Soviet Union: jokes over the instinctive, albeit also most experiential behavior of people in everyday life in relationship to any queue somewhere seen were numerous in that society.

The factual omnipresence of this human instinctive trait with respect to for example queues is also proved by the frequent employment of it in the arts, particularly comic film art, be it Charlie Chaplin, or certain Oliver and Hardy-type comic characters in Finnish films from the immediate post-war time of scarcity.

This socio-spatial mode of imitative behavior, evidently to be understood within ethology, human psychology and social psychology, is also tangent with organizational research under the concept of mimetic behavior. As DiMaggio and Powell (1983) put forward in their study on institutional isomorphism and collective rationality in organizational fields, "uncertainty is also a powerful force that encourages imitation. When organizational technologies are poorly understood.....when goals are ambiguous, or when the environment creates symbolic uncertainty, organizations may model themselves on other organizations." Referring to Cyert and March (1963) they continue, "the advantages of mimetic behaviour in the economy of human action are considerable; when an organization faces a problem with ambiguous causes or unclear solutions, problemistic search may yield a viable solution with little expense..... Modeling, as we use the term, is a response to uncertainty."

As to problemistic search, March and Sevon (1988), in dealing with the behavioral theory of the firm, note that a "search for new alternatives or new information is motivated by a problem and proceeds in a relatively simple way to consider alternatives in the neighborhood of existing alternatives before going further afield." Accordingly, then, under uncertainty created by the environment, imitation is one alternative in the survival of the firm. But imitation for survival as a social event is also simultaneously and consequently a spatial event. As DiMaggio and Powell (1983) continue, "a focus on institutional isomorphism can also add a much needed perspective on the political struggle for organizational power and survival....."

The question of survival, then, evident also above with the gulls and the human shop queues, and the progenitor of all evolutionary phenomena, seems to effectively tie the individual and the social, and hence the individual in sociality and spatiality tightly and instantly together.

The thought presented above by DiMaggio and Powell concerning mimetics under the symbolic uncertainty of the environment could, tentatively, within international competition over foreign market opportunities ('the gull treats') be applied to the logistic information processing conditions and problems of a Finnish DHQ prior to a relocation decision.

Mimetics is explicitly dealt with in connection with MNCs by Kogut (1993), in his study on country imprinting of MNCs, foreign direct investment and comparative management. In dealing with various organizational learning models in literature, for example adaptive learning, he presents the previously ignored role of guided learning, "learning from others whether by imitation, consultancy or cultural institutions (e.g. schools)". With reference to a certain adaption model he notes "the rate of adaption, can itself be a function of how many other firms are engaged in a similar activity.....Thus the rate of adaptation is influenced by the possibilities of externalities through an undefined mechanism of imitation"; and with reference to another, cybernetic, learning model he notes, "imitation, therefore, can affect not only the rate of adaptation, but also the selection of the goal".

Consequently mimetics could also be suggested as one behavioral explanation for DHQ relocation. It is to be supposed that mimetic behavior, concerning the relocation decisions of the DHQ, could be considered viable as one of complementing variables besides the cognitive-logistic paradigm proposed.

However, mimetic behavior as a mode of behavior within the general context of socio-spatiality, and in that capacity in principle dealt with even in the field of management research, is not further elaborated in the frame of this study. The limitation can be justified due to the secondary nature of mimetics, compared with the suggested paradigmatic cognitive-logistic information process of this research work. Somebody acts first to be imitated.

Additionally, there is still another aspect of the relationship between the social cognitive information process and the spatial cognitive information process, with respect to the mimetic process and the chosen aspect of the strategic reference point theory.

It might be asked what could psychologically be seen as the difference between the above cognitive processes attached to mimetics and the strategic reference point. As Fiegenbaum, Hart and Schendel (1996) note, "the concept of a reference point has its roots in the psychology of perception. The argument is that human perceptual mechanisms appear to consider differences, rather than absolute levels, when evaluating alternatives....." With reference to an empirical study according to a prediction of prospect theory, the background theory to strategic reference point theory, they further note that ".....the risk-return relationship for firms below the reference point was three times steeper than for the above-reference point firms.....both individual and organizational choices appear to depend upon whether decision makers see themselves as being above or below a 'reference point' used to describe their situation."

From the point of view of a socio-spatial information process, then, it could be tentatively thought of, referring to Rajecki (1977) above, that a mimetic process, 'the gull treat' effect, possibly serves as a substructure based on psychology of perception also of social difference, on a basic binary 'have - have not' level of relativity. On this there would be superimposed a secondary perceptual difference level, in the form of a perceived strategic reference point, which is assumed by the management. The strategic reference point then serves as a 'have' -solution on a more symbolical level, in terms of a mimetic process, whether imitation refers to an external point or an internal point, i.e. one's own previous success that includes the reference point of time.

### **Appendix 3.2 A note on the presumption of territoriality**

Seen from the socio-spatial psychology of perception, and the tentative role of mimetics within it concerning survival opportunities and, subsequently, concerning the strategic reference point theory, it seems equally evident that the same basic perceptual approach is viable with respect to the opposite of social survival opportunities, i.e. survival threats. Hence, the question of threats could accordingly be considered to include opportunism, one of the three key concepts within transaction cost economics besides asset specificity and bounded rationality. As Williamson (1993) defines it, the concept of opportunism is "self-interest seeking with guile, to include calculated efforts to mislead, deceive, obfuscate, and otherwise confuse." This definition of opportunism may with reason be socially perceived as implying a threat with respect to an organization's specific assets and means of success and survival.

As a socio-spatial aspect to transactional opportunism and tentatively representing a valid scientific concept and approach to that phenomenon in the context of an MNC, the concepts of territory and territoriality, borrowed from the disciplines of ethology and human geography, might be used. According to Agnew (1994), the concept 'territory' means "a general term used to describe a portion of space occupied by a person, group or state.....In more social geographical usage, territory refers to the bounded social space occupied and used by different social groups as a consequence of their practice of territoriality or the field of power exercised over space by dominant institutions." By the concept of 'territoriality', in turn, is meant according to Agnew "the spatial organization of persons and social groups through the demarcation of boundaries. Some works drawing from the literature on animal behaviour see the need for territory as a universal drive or instinct. More typically, however, human territoriality is seen as the strategy whereby individuals and groups exercise control over a given portion of space."

However, territoriality within ethology is, in fact, defined in an equal mode as meaning "an area that is actively patrolled or defended.....that certain animals in one way or another exercise some kind of control over certain areas." As Rajecki (1977) continues, in dealing with ethological elements in terms of social psychology, "without making any claims for an ethological interpretation, human territoriality and dominance patterns are sometimes too painfully obvious." However, based on research of the structure and functions of the human brain and the brain of other primates and the corresponding social behavior, although not explicitly territorial, Damasio (1996) regards the analogous neuropsychology evident. In other words, survival attached emotions pertaining to human social behavior are in many respects innate, as Damasio maintains.

As to different forms of territoriality dealt with in human geography, Agnew also notes that "the emergence of the transnational corporation has given rise to a new global territoriality on business organization, with a central HQ and widely scattered production locations. Territoriality is put into practice through: 1. popular acceptance of classifications of space (e.g. 'ours' versus 'yours'); 2. communication of a sense of place (where markers and boundary have meaning); and 3. enforcing control over space (by means of surveillance, policing and legitimation). The mixture of consent and coercion in strategies of territoriality is often referred to as hegemony".



It can also be noticed that the concept territory is used in various connections as a metaphor, referring then to the term in its original meaning, "in the definition of private property rights associated with the modern territorial state and the modern 'self' owning or investing exclusively in its territory", according to Agnew.

Based on the above presentation of the concepts 'territory' and 'territoriality' it seems very viable that these socio-spatial concepts, pertaining to human behavior, are at least to a certain degree congruent with management's perception in respect to a threat or threats, implied by the concept of opportunism of the transaction cost theory.

Thus, referring to the above presentation by Agnew concerning realization of territoriality, it could be thought that 'classification of space' is analogous to the concept of opportunism and what it perceptually implies, on a metaphorical level.

'Communication', in turn, could be considered analogous to the internal decision making process of the DHQ management and staff, with respect to the transactional integrity securing institutional arrangements of the governance structure of, for instance, hierarchy, adapted to the definition by Williamson (1993).

'Enforcing control over space by surveillance, policing and legitimation' could again be thought of as the enforcing or putting into practice of the above institutional arrangements to secure the integrity of transactions, with the ensuing ex ante costs, or costs to run the economic system, adapting this again to Williamson.

Thus, the above combining of territoriality with transaction cost economics could, then, tentatively be another dimension on the operational level of the socio-spatial perception, a conceptual transformation of sociality into spatiality, within the cognitive-logistic information processing paradigm of this research.

In the realm of organizational research, the concept 'territory' has been used indirectly in organizational ecology, concerning boundaries in organizational space. This indirect use can be interpreted to be correct following the by Agnew (1994) above given definition that "territory refers to the bounded social space occupied and used by different social groups as a consequence of their practice of territoriality....." The question of the bounded social space has been dealt with by Hannan and Freeman (1989) in connection with the social processes attached to the ecology of organizations, and more closely, the identification and explanation of

processes that create and sustain boundaries, or "boundary-based reasoning in identifying and classifying organizational forms. The main idea is to locate the boundaries and the processes that sustain them as a first step in identifying the structure and dynamics of the niche." With the concept niche Hannan and Freeman mean, on a very general level, "the role of a population (or species) in a community, a population's 'way of earning a living'."

In their presentation of organization ecology, they discuss how organizational structures and management styles are tied to innovations and the subsequent new products created. In a more general formulation of their argument in this matter they refer to transaction costs in the meaning expressed by O.E. Williamson. They note that he has set forward that "technological differences per se are less important in determining organizational forms than are considerations of transaction costs". A very central element in this respect comprise "problems of control, scheduling, supervision, and enforcement of contracts", in order to "minimize the costs of completing certain transactions." This cost-minimizing strive leads to bundle sets of transactions, which is realized, as they refer to Williamson, by 'efficient boundaries'. They continue by noting that "when transaction-cost considerations lead to distinctive and persistent bundling of sets of transactions, organizational forms will tend to diverge. Selection of forms of organizations employing efficient boundaries or rational adaptation by reshaping boundaries of existing organizations creates discontinuities among populations of organizations engaged in different kinds of transactions."

In substance, the basic rationale of organizational ecology is thus comparable to the idea and way of thinking above concerning the idea of territoriality as a general mode of human socio-spatial behavior, also applicable to the question of the motives and reasons of DHQ relocation.

In his presentation of the theory of structuration, and therein the time-space constitution of social systems, Giddens (1981) also uses the term 'territory'. In elaborating the term 'social system' as equivalent to 'group' or 'collectivity', but particularly stressing the 'systemic' nature of the relations of interaction in a 'social system', he regards 'territory' as one of the four criteria embodied in the term. Here he means "the association of the system with a locale comprising a 'social space' or a 'territory of occupation'."

Seen from the socio-spatial aspect of the cognitive-logistic information processing paradigm in this research, also the other three criteria embodied by the 'social system' presented by Giddens

are of interest in this connection. These criteria are "the sustaining of a legitimated series of prerogatives over occupied social space", "an 'institutional clustering' of practices among the participants in the social system, sustained through mechanisms of social/system integration", and "an over-all awareness, discursive and practical, of belonging to an inclusive community with a certain 'identity'". Giddens (1981) continues by noting that "all human interaction involves the communication of meaning, the operation of power, and modes of normative sanctioning", and that the corresponding structural properties in interaction drawn upon and reproduced by actors are "signification, domination and legitimation."

The concepts territory and territoriality include several interesting aspects from the point of view of the research problem of the DHQ relocation, its reasons and motives. However, the concepts are not assigned any further explicit role in dealing with the suggested cognitive-logistic paradigm of this study. This is justified by maintaining the relative simplicity of the paradigm, which within its various elements can be regarded, per se, to embrace the most essential cognitive aspects, including emotional components, in a similar way as set forth above in respect to mimetics. Thus, some particular, albeit interesting social psychological approaches are left outside further elaboration.

### **Appendix 3.3 A note on a presumption of emotional components of cognition attached to the center-periphery metaphor**

As presented above, it is proposed that the explicit transformation from social cognition to spatial cognition occurs in the phenomenological and experiential perception of a need for new added social and environmental information. This takes place as a spatial logistic information process, perceptually an event, perceived phenomenologically and experientially in imagination and thinking, following Forgas and Melamed (1976) and Shaffer (1977). It is assumed to be both a perception of a very general human nature, and also a perceptual result of the DHQ managements' and staff's particular experience in the course of a company's historical foreign growth, with the continuous subsequent need for new social knowledge of customers, competitors and other environment, as well as foreign subsidiaries of the own organization.

However, besides this centrally rational socio-spatial transformation process, there are also proposed to exist emotional components within the socio-spatial change process of the

cognitive set. That is, the "long term memory contains not only stored facts but meaningful schemata which have emotional components", and which represent within thinking attempts to integrate current conflicts, threats and uncertainty in order to cope with the environment, as Forgas and Melamed (1976) point out.

In a comparable way, Golledge and Timmermans (1990) bring forward that within cognitive space "nonspatial dimensions could be dominated by affective components such as emotional attachment.....or by informational dimensions such as historical, cultural or religious significance....."

In this connection, concerning the emotional components, it could be viable to briefly introduce the socio-spatial notion of the center-periphery, or core-periphery, model of human geography.

In the context of this study, center refers then to the most important foreign growth locations and geographical regions of the Finnish MNCs and their recently or newly acquired, consequently equally important foreign subsidiaries. They thus include the main geographical areas and locations of the most important markets, plus both customers and the most important competitors. These can be assumed to have been adopted in many cases by the DHQ as strategic reference points. In practice, then, these locations and areas are equal to the center of gravity of economic activity in Europe, that is Western Europe, this core region with its 'world cities' and 'international centers' dealt with as a locus of the MNC headquarters by Helle (1989, 1991).

Periphery for its part, then, would be located in the traditional geographical location of the DHQ of the MNC, that is Finland.

The basic physical and time distances, and differences of physical and climatological geography between these two areas, and the consequent differences in the course of history of cultural and socio-economic development, are assumed as given and known by both parties in this study context.

Peripherality in the discipline of human geography has been defined by Goodall (1987) as "the condition experienced by individuals, firms and regions at the edge of a communication system, where they are away from the core or controlling centre of the economy".

It could be presumed that this definition, referring to the communication system, as such would fit the geographical context of the Finnish MNC DHQ of this study. Further, it could be thought

of to fit the above suggested, divisional managers' foreign growth caused cognitive information process, leading to a subsequent change in the logistic information process as a result of encountered and by DHQ managers explained problems 'at the edge of a communication system', according to the ideas and requirements presented by Egelhoff (1991).

As to the center-periphery model in human geography, it has been defined by Lee (1994) as "a model of the spatial organization of human activity based upon the unequal distribution of power in economy, society and polity. The core dominates.....while the periphery is dependent".

The background in developing this model of dependence has been the notion of the relations of exchange, these in turn depending on, for instance, the interaction of the various factors of production. Instead of being the relations of exchange, it also has been put forward, according to Lee, that "it is the geography of production.....that acts as a dynamic of geographically uneven development", and that the "spatial arrangement and transformation of a capitalist economy at a particular moment in time reflects, above all, the current requirements of accumulation and the historical legacy of a landscape created by previous rounds of accumulation and layers of investment", or the "successive cycles of economic development of particular places or regions." As Lee continues, "it may be argued that economic power stems less from its location than the locus of control over the means of production, and that it derives its specific historical characteristics from the nature of this control", and that "the concentration of control is more likely to be intensified rather than reduced, as the economy becomes more highly integrated in spatial terms.....".

Thus, whatever the true interpretation of the historical development of the phenomenon illustrated by the center-periphery model, this phenomenon very evidently does exist as a spatial description of power and control, between a center and a periphery, also applicable to the foreign core-area growth-contingent conditions of the peripherally located DHQ of Finnish and other Nordic MNCs.

As a general macro-economic characterization of the location of power and control, the model is also congruent with the above ideas and suggestions attached to the growth process of core areas, set forward by Selstad (1990) in connection with the location of quaternary industries.

Despite the potential of interesting connections between the logistic information processing aspects of the micro-economic paradigm of this study, and the macro-economic center-

periphery model, in the light of the various interpretations and discussions around the latter, these connections are not further elaborated in detail in this study.

In dealing with the center-periphery topic and its system-boundaries from culturological perspectives, Strassoldo (1980) sets forward that "there is some agreement that the centre-periphery metaphor, as used in social sciences, entails two assumptions: 1. that the centre is the locus of decision-making, i.e. power; 2. that they both belong to an encompassing system, of which they are differentiated but interdependent parts. This is most clearly seen, for example, in the politological and organizational use of the concept. An adequate discussion of these assumptions would then call for analysis of such disproportionately large subjects as 1. social power, 2. social systems, and 3. the relationships between the functional (analytical, normative, symbolic, and behavioral) dimensions of society and its spatial (concrete, matter-energy, and communicational) ones.....". Strassoldo continues by noting about the centre-periphery concept that there is "the quite interplay between the spatial and the analytical (behavioral, and social) aspects of society, for the simple fact that society is both a collection of human organisms on territory and a 'reality sui generis'.....located as a structure of images, norms, and values in their immaterial minds. Thus a phenomenon such as power has both material referents (e.g. transmitted commands, means of coercion, and resources) and symbolic, mental referents (e.g. consent, fear, legitimization, resistance, and persuasion)."

Strassoldo's above general characterization is also most interesting in terms of organizational and management research of MNCs and fits well with the socio-spatial cognitive process argumentation carried forth above.

Within human geography, still another definition of power from the point of view of the center-periphery metaphor is noted, as the one by Johnston (1994), that "strictly speaking, power is an absolute concept, but it is often treated as a synonym for influence, which may be either direct (the power to do something) or indirect (the power over something)", and that "the concept.....is more frequently used to characterize interpersonal and inter-group relationships....."

These above definitions of power in connection with the center-periphery metaphor both indirectly and directly can be suggested to also imply an inevitable presence of affective, or emotional components in the socio-spatial cognitive set, putting the concept in relationship with

the thoughts presented by Forgas and Melamed (1976), Shaffer (1977), Ginsberg (1990) and Damasio (1996, 2000) on cognition in general, and Strassoldo (1980) and Golledge and Timmermans (1990) on spatial cognition.

It may be thought of, then, that these emotional components are also derived and emerge from the perception of peripherality by those DHQ managements and staffs of Finnish MNCs located peripherally in Finland. This would take place through socio-spatial reciprocity in perception between the company identity vis-à-vis the social environment abroad, following the ideas of development of social cognition in the presentation by Shaffer (1990), presented above. The contents of these emotions could consequently be derived from the implicit contents of the explanations given by managers of relocated DHQs, from the unexplained aspects within their explanations of the relocation events having taken place. These implicit, the logistic explanations problematizing aspects were presented above at the end of Chapter 1.4 'The research problems' and led subsequently to the justification of the presented and employed paradigmatic cognitive information process of this work. Consequently, the emotions of the DHQ management and staff, attached to identity, social cognition and spatio-temporal aspects, could implicitly be considered to reside within the emotionally perceived central power aspects of the center-periphery metaphor. These emotions as part of the management's cognitive skills were above assumed to concern the company survival and "to satisfy the basic demands of being human without undue concerns with security and anxiety", referring to Forgas and Melamed (1976).

In this connection it could well be brought forth and thought of, as suggested as possible above in the Chapter 3.3.5.4, that the concept of tacit knowledge is a socio-spatial, inherent human knowledge-need concerning concept. This, then, is a matter of emotions, for as Polanyi (1962) was cited, "tacit assent and intellectual passions, the sharing of an idiom and of cultural heritage, affiliation to a like-minded community: such are the impulses which shape our vision of the nature of things on which we rely for our mastery of things. No intelligence, however critical or original, can operate outside such a fiduciary framework....." In a comparable way Nonaka and Konno (1998) say, when dealing with the socio-spatial concept 'ba', that "tacit knowledge is deeply rooted in an individual's actions and experience as well as ideals, values, or emotions he or she embraces.....the larger self means that we empathize with our colleagues and customers.....self-transcendence is fundamental to sharing individual tacit knowledge."

Exclusion, then, in one way or the other from the possibility of obtaining tacit knowledge on the part of DHQ management is consequently experienced and perceived by management as emotionally socio-spatial peripherality.

Logically then, as a dimension of the power aspect, and notably power in its essence of influence as set forth by Johnston (1994), the above idea of socio-spatial mimetic behavior, under conditions of symbolic uncertainty created by the environment, could be seen as a form of inversive compensatory materialization of central power on the practical level within the center-periphery dichotomy, as it could be perceived by a DHQ management.

But, further on and indirectly, this idea of mimetics may also be extended to concern territoriality, presented above, these therefore being intertwined aspects in relation to central power and influence from the point of view of a compensatorily reacting peripheral DHQ management.

Mimetic behavior of management, under uncertainty, was suggested by DiMaggio and Powell (1983) in connection with their presentation of 'the new institutionalism', which is tangent to some of the theoretical thinking slightly touched upon in dealing with the center-periphery metaphor. To make the role of emotions more clear with respect to power, some thoughts presented by Yamaguchi (1992) could be brought forward, as he deals with the origin of the center-periphery theory in human and social sciences within the approach of semiotics. Concerning the symbolic dimension of the political world and the actors in it, he notes that "the relevant model for the actor is the 'political cosmos' in which they live.....Any political cosmos has a center as well as a periphery, and all political actions are clusters of performance aimed at getting nearer to the center.....There are various means of visualizing the center. One of them which is indispensable in the semiotic dimension is the marking of and placing emphasis on the 'periphery' that contradicts the idea of the center."

Yamaguchi continues by presenting the idea of Shils (1951) that "the center of politics and religion serve not only as functional centers, but also as symbolic ones.....that the center cannot take shape only on a geographical dimension, because it is regarded as the area where ultimate values are sought.....the center of central part is a phenomenon in the field of value and belief.....of symbolic order. It is the center because it is ultimate and cannot be reduced to other things." Continuing with some ideas of Edward Shils, Yamaguchi (1992) comments his



presentation along the lines of theory of action, according to which the center is a phenomenon in the field of action. Center is the structuring of roles and actions within the framework of an institution, and it is within such roles that central values and beliefs are sought. This is "the role played by the center in the functioning of cultural mechanism", and this discussion "covers not only politics but also those of economy, religion, culture etc."

In the light of the above and thinking of the Finnish DHQ as an organizational center of 'politics', applying Palmer et al. (1987) and also noting Forsgren, Holm and Johanson's (1995) work, and 'religion' - values, norms, purpose and vision - according to Laurent (1986) and Bartlett and Ghoshal (1989), the question of the role of a DHQ located in an economic, political and religion-cultural periphery - historically seen and so also cognitively and emotionally mutually perceived - , and the relocation of this DHQ, is a matter of an interesting reciprocal and dynamic paradox.

In another study of the center-periphery dichotomy, concerning semiotics of culture, Yamaguchi (1988) sets forward that "generally speaking, man tends to divide culture between what belongs to his side and what is pertinent to the other. The logical mechanism, apparently too complex to be seen in this way, is fundamentally based on the dichotomy of the desirable and the undesirable. We call the former 'culture' and the latter 'nature'.....nature and culture - this dichotomy is the basis of human consciousness and thought. All cultures are based on this conscious/unconscious opposition between nature and culture.....Thus, the spatial opposition of culture/non-culture can be seen on any cultural level as a fundamental unit. Cultural space must be treated in relation to non-cultural space.....Culture is constructed by a lot of sub-cultural units and each unit has its own non-cultural counterpart which can be considered as a semiotic expression of a sub-universe."

From the point of view of MNCs of the 'nature-near' Nordic countries this characterization is interesting.

Shields (1991) in his study on places on the margin and periphery, and in dealing with social spatialization and its conventions of social binding of time and space, notes that it "represents an often-overlooked part of hegemonic systems of thought and supposition because spatialisation sets in motion more than an imaginary geography.....Spatial suppositions will be argued to ground a cultural edifice of perceptions and prejudices, images of places and regions, and to

establish performative codes which relate practices and modes of social interaction to appropriate settings.....But, we also organise our lives around spatial routines and around spatial and territorial divisions. These surface as the carriers of central social myths which underwrite ideological divisions between classes, groups and regions."

The above presented aspects are by no means unknown to general continent-wide European every-day center-periphery thinking. This also applies to the Northern European or Nordic 'Periphery' which is thoroughly imbued by the values of Western civilization from 'the Center' of Central Europe since the early Middle Ages. These aspects are also viable with respect to the center-periphery dichotomy in economic activity. This would be operationalized, then, through the managements and staffs of the DHQ in MNCs as their perception from the periphery with respect to the center of market power, for example the important subsidiaries, customers, and competitors, of the old-established culturo-technological hub, according to 'expectations of conformity'. This perception would further be comparable to the above suggestion by Forgas and Melamed (1976) and Damasio (1996, 2000) concerning the emotional components in the cognitive set in general, those components belonging to the DHQ managements' general perception of company survival.

As was pointed out at the outset of this research, concerning the unexplained aspects of managers' explanations of the relocation events of DHQ, it is evidently viable to presume that the decisive element of this 'unexplainedness' is not only the perception of knowledge peripherality on a general cultural, political and economic level of the DHQ management and staff. Additionally, it may be presumed that it is a matter of their anticipative explicit perception of the particular perception being realized by the others, from the side of a 'culture' and 'center', represented by those managements and staffs of the foreign subsidiaries unwilling to travel and to expatriate. These are suspected to perceive the location of the DHQ, and thus possibly also the DHQ itself, to represent 'nature', a 'non-culture', and a 'periphery'. As a cumulatively consequent result there is, then, a strengthened self-perception of peripherality, including emotional components, by the management and staff of the DHQ of the Finnish, and wider Nordic MNCs. Consequentially there are tentatively grounds for a lack of trust, and a subsequently perceived lack of solid communication and flow of information. This, then, is akin to and in congruence with the paradigmatic social cognitive information process perception of

lack of new knowledge. This lack of new knowledge concerns opportunities serving strategic intent, and it is in relation to the strategic reference points, and potential opportunism under bounded rationality. But the latter is also, by means of a lack of trust, akin to the emotional components attached to the above presented territoriality.

It may be noted that while within the organizations the DHQ are centers, some of the centrally located foreign subsidiaries perform, indeed, as strategic centers in the MNC division, and also represent considerable resource power within the division, as Forsgren, Holm and Johanson (1992) have pointed out in their research on the DHQ relocation events of Swedish MNCs.

Also, the perception of peripherality with respect to the "center.....a phenomenon in the field of action.....symbol of those who live more intensively", as it was presented by Yamaguchi (1992), gives rise as an emotional component tentatively, in its own right, to the above presented mimetic behavior. On the above account it could be regarded and suggested that the much used center-periphery metaphor and model of human and social sciences, including human geography, may also have a role of its own in a further and closer examination and research on the topic of this study. However, aside from the above presentation, this approach is not further treated in relation to the actually suggested cognitive-logistic paradigm of this work. This omission is grounded on the justification of an assumed fundamentality and the consequent simplicity of the suggested paradigm.

#### **Appendix 3.4 A note on a presumption of conceptual similarities with respect to the Japanese concept 'ba' as adapted to a knowledge creation process**

In their presentation of the culturally idiosyncratic Japanese organizational knowledge-creation system, and the fundamental conditions for it, Nonaka and Konno (1998) strive to "introduce the Japanese concept of "ba", which roughly translates into the English word "place".....we consider ba to be a shared space that serves as a foundation for knowledge creation". In further presenting the fundamental conditions of the 'ba', they point out the phenomenological nature of approach to the concept in order to understand it culturally and operationally. In this connection they refer to for example the work of Heidegger, and likewise Nonaka (1994) to Husserl, in this respect.

The four basic modes of knowledge creation and their dynamic spiral system encompassing this approach and idea is above presented in Chapter 3.3.3.1, and the thereby attached Figure 17, in

connection with presenting the cognitive-logistic information process paradigm element of organizational identity formation.

The **first** similarity between the cognitive-logistic information process paradigm or model and the information processual model of 'ba' stems from their knowledge/information processual origin in the individual. This concerns the individual particularly in the 'ba' knowledge conversion mode of socialization, and the individual in the element of identity in the paradigm of this work.

**Secondly**, there is a strong similarity between these two models in the relationship of the individual to 'the other' and 'otherness' in a phenomenological sense. As it is set forth by Nonaka, Reinmoeller and Senoo (1998), "ba provides a platform for advancing individual and/or collective knowledge. Ba as existential platform with transcendental perspective integrates all information and allows the recognition of the self in all. Thus, we consider ba to be a shared mental space or an emergent foundation of knowledge creation".

In the paradigm of this work the question of 'otherness' is dealt with essentially in connection with transformation of the DHQ organization's social cognition to spatial or spatio-temporal, cognition. But it is likewise brought forth in this work in dealing with the element of identity, as any perceptual and cognitive process has its basic origin in the individual, to be subsequently then enlarged by various modes to the wider organizational context. This logically applies to the individual's all social and socio-spatial cognition, the individual's perception of 'the other' and 'otherness', as it is presented in the introductory Chapter 3.3.1 of the cognitive information process and Chapter 3.3.3.1 on the formation of identity.

It may be in this connection noted that the phenomenological concept 'otherness' seems on the surface to be very similar in these two models. However, in essence it could be thought of as strongly conditioned culturally and possibly quite different. In the Western humanistic-individual and rationalistically toned culture, and consequently also in the paradigm of this work, 'otherness' can be thought of as an intentional noematic act of 'objective' comment or phenomenon in the Husserlian meaning. In the Japanese culture and tradition it seems to be attached to intentional "pure experience" based on Eastern religious learning, where socialization and jointness and subsequently "tacit knowledge can only be shared if the self is **freed** to become a larger self that includes the tacit knowledge of the other.....in practice,

socialization involves capturing knowledge through physical proximity” (Nonaka and Konno, 1998, emphasis added), and includes “deep personal commitment into bodily experience” (Nonaka, 1994). This notable cultural difference is also brought forth by Nonaka (1994) in his study of the dynamic knowledge creation theory. Knowledge of possible full applicability of ‘ba’, even in principle, will obviously require further very thorough in-depth comparative research of a social psychological and cultural nature. This seems logical as Nonaka (1994), while building on a phenomenological approach, simultaneously implies the cultural differences noted above as a ground for a potential processual mismatch or difficulty in the interchange of tacit knowledge. On the other hand, in commenting on this basic cultural difference with respect to the Western culture Nonaka seemingly restricts himself to that area of Western Christian culture which, according to the classification of Hofstede (1983), primarily represents the Anglo-Nordic and Germanic block on the individualism and power distance scales in Hofstede’s model. This is of course not all of Western Christian culture as seen from a multi-ideological global civilisational scale, and far from it even concerning Europe, as the study of Hofstede shows. However, the profound role of religion-based world-views and intertwined nation-cultural social values with respect to for example social interrelationships, and thereby also friction in intercivilisational management of firms, is effectively brought out by the comparative study of Koivisto (1998).

The above presented basis of the individual and ‘the other’ that is common to the two models and which is something outside ‘the self’, create the dimension of space by definition; otherness phenomenologically includes the dimension of space. This is brought forth in the elaboration of this work, finalized in propositions P #4a-e, and which ultimately concerns the phenomenological perception of new knowledge need as an event. As Nonaka (1998) sets forth on the ‘ba’, it is a ”shared space for emerging relationship.....a platform where knowledge is created, shared, and exploited. It can be physical: office, dispersed business space; virtual: e-mail, teleconference; mental: shared experiences, ideas, ideals”. As a practical case in point he brings forth the “on-the-spot-ism” in Japanese management in respect to customers and markets, “through interaction.....by personal bodily experience rather than by “objective”, scientific conceptualization” (Nonaka, 1994). Thus the **third** similarity between the two models is spatiality, or spatio-temporality in connection with a cognitive-logistic information process, which is the essential common nature of these two models. The ‘mental’ aspect of spatiality in

'ba' is, however, further elaborated in the study by Nonaka, Reinmoeller and Senoo (1998), as they set forth that "knowledge is embedded in ba (in these shared mental spaces), where it is acquired through one's own actions or reflections on the experiences of others. We ground the concept of ba in an existentialist framework. Ba may refer to a specific time and space or even the space of 'relations' (time-space nexus). Ba is the world where an individual realizes himself as a part of the environment on which his life depends. Such ba of knowledge can emerge in individuals, working groups, or on the shop floor.....Ba exists at many levels and these levels may be connected to form a greater ba (known as a basho). The collective embraces the individual that enters the ba of teams or organizations". The idea expressed above comes very close to the mode of phenomenological thinking in the transformational phases of the cognitive-logistic paradigm of this work.

A further and more detailed description of tacit knowledge and the shared space of 'basho' is given by Scharmer (2001) in his study on the process behind the creation, per se, of tacit knowledge. This process he calls 'the spiral of self-transcending knowledge creation' and it consists of the three spatio-temporal elements called 'formation of common will', 'shared praxis' and 'shared reflection'. The 'knowledge **creation**' model is proposed to give an answer to the question of what is the force that drives the 'spiral evolution of knowledge **conversion**', depicted in Figure 17.

As spatio-temporal cognitive-logistic information processes, the processes of Nonaka and Konno and the cognitive-logistic paradigm of this research, in the real life of a DHQ and a MNC unlimited by space or time may even have elements in common in their circular dynamic and cumulative processes. This dynamic processual nature is their **fourth** similar property. Hence, the organizational dynamic knowledge creation model by Nonaka (1994), and Nonaka and Konno (1998) is by nature a cognitive-logistic one in the sense in which the term is used with the model or paradigm of this work; this nature could be seen as a **fifth** similarity between the models.

It is further set forth that the pronouncedly cognitive information process dimension of their model applies to the concept 'ba' and essentially to the modes 'socialization' and 'externalization' in Figure 17. For as the authors say, "according to the theory of existentialism, **ba** is a context which harbors meaning. Thus, we consider **ba** to be a shared space that serves as a foundation for knowledge creation. Knowledge is embedded in **ba** (in these shared spaces),

where it is then acquired through one's own experience or reflections on the experiences of others. If knowledge is separated from **ba**, it turns into information, which can then be communicated independently from **ba**. Information resides in media and networks. It is tangible. In contrast, knowledge resides in **ba**. It is intangible". According to their representation, then, the concept tacit knowledge can, per se, be termed a socio-spatial concept. The idea of 'ba' as sharedness in the space of tacit knowledge, of a context harboring meaning, is parallel with the notion of Van Maanen and Laurent (1993) on the tacitness of culture, for what is shared in the 'ba' is essentially organizational culture in all the multiplicity the concept contains, culture itself representing "socially-organized meaning and a product of interaction", i.e. collective sharedness, as Van Maanen and Laurent say. Likewise, from the point of view of structuration theory as applied to the MNC the idea of 'ba' can be considered important and offers a theoretical solution, for as Kilduff (1993) notes, "knowledge of routines is largely tacit, the replication of routines across organizational boundaries is problematic..... The emphasis of the theory, then, is on the recursiveness of institutionalized reality.....The work of the MNC is continually recreated as employees engage in routinized exchanges that enact the familiar characteristics of the institution".

In conclusion, from the point of view of the concept 'ba' as it is brought forth above by Nonaka (1994), Nonaka and Konno (1998) and Nonaka, Reinmoeller and Senoo (1998), it could be for example thought that the cognitive-logistic information process and the consequent relocation decision illustrated in the paradigm of this research, in Figure 8, represents in the case of the DHQ an essential part of the suggested spiral four-elements knowledge creation process, depicted in Figure 17. It encompasses the various 'ba'-spaces, with notable weight laid on the mental and the physical, spatio-temporal spaces, instead of the virtual space. In the DHQ this would, then, cover the complete, and according to Nonaka and his co-authors also tacit knowledge encompassing cognitive information process. This consists of the elements of identity, social cognition, and spatio-temporal cognition, and also includes the experiential aspects concerning both tacit and explicit knowledge of the logistic information process, as these are presented in the propositions P #1-5 in the paradigm of this research. In this light, tacit knowledge and the appropriation of it can be seen to extend itself and cover both cognitive and logistic information process aspects.

Further research and a thorough comparison of space-attached perceptual and cognitive aspects might bring forth various other similarities and analogies of the dimensions and characteristics of these two information processing models. However, it may be feasible to take notice of the potential role of some deeply ingrained cultural, socio-psychological idiosyncratic aspects attached to the concept of 'ba' as it is understood in the Japanese context. This concerns the subsequent wider application of 'ba' to a more individual-centered and less collectivistic and also in philosophical respects rather different Western culture, as noted by Koivisto (1998). In other words, research in the matter should include thorough cultural, sociological and socio-psychological interpretative aspects. Concerning the development of organization and management research this reservation would be comparable to the thinking of for example Schneider (1989), and Boyacigiller and Adler (1995) in their evaluation of the international representativeness and relevance of the organizational theory and behavior strongly affected by American individualism and values, considered universal, in the context of a fast growing globalization of business and economy.

### **Appendix 3.5 A note on the potential role of computer-mediated communication systems in MNCs with respect to the cognitive-logistic information process**

For this research work and for an understanding of DHQ relocation abroad as a consequence of the cognitive-logistic information process, the recent development of virtual, computer-mediated communication systems poses a relevant new aspect. In particular, there is the question of whether virtual communication systems affect in some fundamental psychological way human socio-spatial perception or experiential telepresence, to use the term of Draper, Kaber and Usher (1998), and thereby socio-spatial behavior and decision-making. According to their presentation, "telepresence is a mental state in which user feels physically present within the computer-mediated environment.....". The aim of using computer technology is thus to enhance and support communication between actors in physically remote sites by creating a perception of presence with those sites. On the practical level, the use of computer-mediated communication has centered on various cooperative work-teams and meetings. Technologically, the communication means may be asynchronously, with a difference in time presence, or synchronously, at the same time used email, video conferences, Internet or other modes (Warkentin, Sayeed and Hightower, 1997).



The theoretical approaches used to explain experiential telepresence have been, according to the above authors, “technological approaches, which emphasize the role of control/display technology, and psychological approaches, which identify experiential telepresence with known psychological phenomena.”

As to the psychological approaches, concerning “which known psychological phenomena may be responsible for telepresence”, Draper, Kaber and Usher note that “unfortunately this line of inquiry has not received as much attention as technological approaches, and there have been few attempts to integrate technological and psychological explanations.”

One of these approaches is termed “telepresence as flow”. “The “flow” experience is a state in which one concentrates so much on some task that he or she becomes unconscious of stimuli outside the task, including even awareness of self and the passage of time”, according to the above authors. Another approach is called “distal attribution, in which a person “externalizes”, creating an identification of self to include the external world. Because our own bodies have a physical reality and a phenomenological reality that can differ, a tool in one’s hand may become phenomenologically part of one’s body even though it is not physically part of it. From this perspective, telepresence can be viewed as the degree to which a user makes distal attributions to the computer mediated environment.”

A third approach is called the “structured attentional resource model”. In this model, a person’s attentional resources are postulated finite and are studied as a structure of pools which are dedicated to specific processing tasks.

Draper, Kaber and Usher note that there are various questions attached to telepresence: “how to measure telepresence, what factors influence it and what its impact is on transfer of training or task performance, and how to exploit it to benefit synthetic environment and existing applications.....A theory of telepresence should first provide definitional hypotheses about the experience (i.e., it should begin with a description of the experience). Second, it should provide functional hypotheses (i.e., it should describe how different elements composing the definitional hypotheses are interrelated).” The authors conclude by noting that “it is important to a human-centered philosophy to note that although the technology is new, the nature of its human users is unchanged and unchanging. It is necessary to place the new field within the pale of what is already known about people and to evaluate the new observations in the context of known phenomena.”

As to empirical research on the effectiveness of virtual teams as compared with face-to-face teams, Warkentin, Sayeed and Hightower (1997) found out, using asynchronous computer conference technology, that “teams using computer-mediated communication system could not outperform traditional (face-to-face) teams under otherwise comparable circumstances.” Particularly the latter groups had stronger relational links, had a higher degree of cohesion and were more satisfied with the decision process and with the team’s outcome. However, there was “no statistically significant difference in the proportion of unique information items exchanged between the two team types or categories.” The authors note that frequent users of computer mediated communication “develop ways to convey more meaning in their messages as a means replacing paraverbal and nonverbal cues”, which are present in face-to-face teams. They also contend that computer-mediated communication is more appropriate within established contexts, cultures and set of routines. In other words, it could be thought that within organizations it is advisable to initially create the basic understanding and trust building contacts in face-to-face contacts, and thereon, being culturally mutually familiarized, to more satisfactorily resort to computer-mediated communications systems. Warkentin, Sayeed and Hightower also argue that effective communication in virtual teams requires certain psychological and personality characteristics from the members: “patience, persistence and perseverance with a certain degree of tolerance, flexibility, and understanding.” Users of computer-mediated communication systems “must exercise leadership and influence with little means of social control, and some members may become “lost in cyberspace” and may “drop out” of virtual teams in the void of familiar communication patterns. Care must be exercised to develop and foster familiarity and proficiency with these new tools and techniques of social interaction. This represents an entirely new paradigm of communication that must be learned, much like the rules and methods of face-to-face communications that must be learned by all children.”

Ideas of comparable nature concerning for example requirements on personal traits and preliminary trust-building exercises are set forth by Jarvenpaa, Knoll and Leidner (1998). They focus in their research on antecedents of trust in global virtual teams, trust being the mutual cornerstone for effective virtual shared communication across different cultures and practices. Trust is a dyadic relationship, like a coin with its two sides, “based on the expectation that others will behave as expected.” The attribute of the trustor is “how trusting one should be”, it

is an aspect of natural self-interest and the thereto attached "propensity to trust". The attributes of the trustee, dealt with in the research as empirically measured antecedents, are ability, benevolence and integrity. "Ability refers to the group of skills that enable a trustee to be perceived competent within some specific domain. Benevolence is the extent to which a trustee is believed to feel interpersonal care and concern, and the willingness to do good to the trustor beyond an egocentric profit motive. Integrity is adherence to a set of principles (such as study/work habits) thought to make the trustee dependable and reliable, according to the trustor." The international, multi-country research of seventy-five teams on electronic mail showed a considerable variety in the antecedents, the subsequent construct trust, and the consequent results of carrying out the assigned task in the research.

To conclude about the topic of virtual electronic communication it could perhaps be characterized as a technologically qualitative extension of communication means which have existed for a hundred years. Also virtual reality and telepresence, set as general concepts in relation to the aggregate socio-spatial perception concept used in this research work, seem psychologically akin to for example literary text, film, even medieval market performances or ancient Greek theater. As Draper, Kaber and Usher set forth with reference to Hendrix and Barfield (1996), "virtual presence (feeling present in a computer-generated environment) and telepresence (feeling present in a remote but real environment) are indistinguishable phenomena psychologically." So despite a seeming lack of any conceptually revolutionary change in communication and its effectiveness in terms of the logistic information processes of an MNC, it is to be realized as Warkentin, Sayeed and Hightower set forth, with reference to Chidambaran (1996), that "recent evidence suggests that when virtual teams are given sufficient time to develop strong intragroup relationships and to adapt to the communication medium, they may communicate as effectively as face-to-face groups." This notion could, then, have profound practical implications for the research problems of this work and the phenomenon of DHQ relocation as a whole.

On the other hand, Scharmer (2001) notes that in the highly competitive, fast developing (global) technological markets of knowledge-based companies, "leaders must see the emerging opportunities before they become manifest in the marketplace". This requires the ability to sense the emerging market potentials, which is a 'precognition' and a kind of knowledge he terms "tacit knowledge prior to its embodiment, or 'self-transcending' knowledge". For managers to

attain this he proposes a learning infrastructure consisting of 'formation of common will', 'shared praxis' and 'shared reflection', which form the basis in the creation of 'tacit-embodied knowledge', i.e. tacit knowledge in the ordinary sense. This learning infrastructure is the above presented 'spiral of self-transcending knowledge creation'. In practice, then, he notes that "since the surfacing of both tacit knowledge (shared reflection) and self-transcending knowledge (formation of shared will) requires a very high quality of shared time and space, Type III learning infrastructures (i.e. the 'spiral') are the most expensive and difficult to attain."

This notion would suggest, then, that the DHQ relocation, interpreted as a phenomenon by means of the cognitive-logistic information process paradigm, remains an option for Finnish MNCs even in the future.

A-SARJA: VÄITÖSKIRJOJA - DOCTORAL DISSERTATIONS

- A:146. ANTTI SUHONEN: Three Essays on the Finnish Fixed Income Markets. 1999.
- A:147. HELI KORHONEN: Inward-Outward Internationalization of Small and Medium Enterprises. 1999.
- A:148. SEPPÖ KARI: Dynamic Behaviour of the Firm under Dual Income Taxation. 1999.
- A:149. EERO VAARA: Towards a Rediscovery of Organizational Politics: Essays on Organizational Integration Following Mergers and Acquisitions. 1999.
- A:150. JULIANNA BORSOS-TORSTILA: The Determinants of Foreign Direct Investment Operations of Finnish MNCs in Transition Economies 1990-1995. 1999.
- A:151. ZUHAIR AL-OBAIDI: International Technology Transfer Control. A Case Study of Joint Ventures in Developing Countries. 1999.
- A:152. JANNE TIENARI: Through the Ranks, Slowly. Studies on Organizational Reforms and Gender in Banking. 1999.
- A:153. VIRPI KRISTIINA TUUNAINEN: Different Models of Electronic Commerce. Integration of Value Chains and Business Processes. 1999.
- A:154. MARJATTA MAULA: Multinational Companies as Learning and Evolving Systems. A Multiple-Case Study of Knowledge-Intensive Service Companies. An Application of Autopoiesis Theory. 1999.
- A:155. MAJ-LIS SAARIKIVI: Tilintarkastajan riippumattomuus. 1999.
- A:156. MERVI NISKANEN: Corporate Borrowing Patterns With Bank Equity Ownership. 1999.
- A:157. KRISTA KARLI-IVANTO: Centralized Cost and Risk Management in a Diversified Portfolio of Contract Guarantees. 1999.
- A:158. PETRI NIININEN: High Technology Investment, Growth and Productivity. Empirical Studies of Finnish Data. 1999.
- A:159. OSMO KUUSI: Expertise in the Future Use of Generic Technologies. Epistemic and Methodological Considerations Concerning Delphi Studies. 1999.
- A:160. ANNUKKA JYRÄMÄ: Contemporary Art markets: Structure and Practices. A Study on Art Galleries in Finland, Sweden, France, and Great Britain. 1999.
- A:161. HARRI J. SEPPÄNEN: Discretionary Disclosure and External Financing: Evidence from a Relationship Financing Environment. 1999.
- A:162. VILLE AALTO-SETÄLÄ: Economies of Scale, Product Differentiation, and Market Power. 1999.

- A:163. MIKA GABRIELSSON: Sales Channel Strategies for International Expansion. The Case of Large Companies in The European PC Industry. 1999.
- A:164. PASI SORJONEN: Essays on Dividends and Taxes. 2000.
- A:165. KARI LOHIVESI: Managerial and Organisational Mechanisms for Corporate Failure. Ekomen Group Case. 2000.
- A:166. KARLO KAUKO: The Microeconomics of Innovation: Oligopoly Theoretic Analyses with Applications to Banking and Patenting. 2000.
- A:167. SAKU SALO: Information Technology Enabled Change. Dramatic Improvement and Perceived Success. 2000.
- A:168. MATTI KUKKONEN: Capital Gains Taxation and Realization Behaviour: Evidence from Finnish Panel Data. 2000.
- A:169. PEIK GRANLUND: Rättsliga utvärderingsstudier i USA och Norden – orsaker till skiljaktigheter mellan studierna. 2000.
- A:170. MARTTI NYBERG: Interaction Between the Economy and Politics in Finland. A Study on Popularity of Parties and Political Business Cycles. 2000.
- A:171. TARJA JORO: Incorporating Preference Information in Data Envelopment Analysis. 2000.
- A:172. MARKO LINDROOS: Cooperation and Conflicts in High Seas Fisheries. 2000.
- A:173. KIMMO LAHTI-NUUTTILA: Geneeriset ympäristöstrategiat ja Suomen paperiteollisuuden ympäristökilpailukyvn edellytykset. 2000. ISBN 951-791-473-3.
- A:174. SAIJA KATILA: Moraalijärjestyksen rajaama tila: maanviljelijä-yrittäjäperheiden selviytymisstrategiat. 2000. ISBN 951-791-475-X.
- A:175. AIJA LEIPONEN: Essays in the Economics of Knowledge: Innovation, Collaboration, and Organizational Complementarities. 2000. ISBN 951-791-478-4.
- A:176. MIKA VEHNÄMÄKI: Political Elite's Ideology, Economic Policy and Regional Economic Development in Ghana. 2000. ISBN 951-791-484-9.
- A:177. TOIVO KOSKI: Success Potential of a Venture Capital Investment – A Model to Simulate Venture Capitalists' Perception Using Fuzzy Set Theory. 2000. ISBN 951-791-487-3.
- A:178. EVA HEISKANEN: Translations of an Environmental Technique: Institutionalization of the Life Cycle Approach in Business, Policy and Research Networks. 2000. ISBN 951-791-488-1.
- A:179. SAMI TORSTILA: Essays on Gross Spreads in Initial Public Offerings. 2000. ISBN 951-791-492-X.
- A:180. LIISA LINTUNEN: Who is the Winner Entrepreneur? An Epistemological Study of the Schumpeterian Entrepreneur. 2000. ISBN 951-791-498-9.
- A:181. KARI INKINEN: Diffuusio ja fuusio. Osuuskauppainnovaation levinneisyys ja sen dynamiikka 1901 - 1998. Alueellisesti tulostuva näkökulma suomalaisen osuuskauppatoiminnan kehitykseen ja sisällön muutokseen. 2000. ISBN 951-791-505-5.

- A:182. ARI HYYTINEN: Essays on Bank Screening and Market Power in Loan Markets. 2000. ISBN 951-791-506-3.
- A:183. PIRJA HEISKANEN: On Decentralized Computation of Pareto-optimal Solutions in Multi-party Negotiations. 2000. ISBN 951-791-512-8.
- A:184. JUKKA VESALA: Technological Transformation and Retail Banking Competition: Implications and Measurement. 2001. ISBN 951-791-518-7.
- A:185. JOHANNA MOISANDER: Representation of Green Consumerism: A Constructionist Critique. 2001. ISBN 951-791-602-7.
- A:186. JUHANI VAIVIO: Non-financial Measurement in an Organizational Context. Three Perspectives. 2001. ISBN 951-791-604-3.
- A:187. ARJA JUNTUNEN: Audience Members' Goals of Media Use and Processing of Advertisements. 2001. ISBN 951-791-608-6.
- A:188. TIMO KUOSMANEN: The Role of Production Assumptions in Data Envelopment Analysis. 2001. ISBN 951-791-610-8.
- A:189. ISMO TEIKARI: Poisson Mixture Sampling in Controlling the Distribution of Response Burden in Longitudinal and Cross Section Business Surveys. 2001. ISBN 951-791-611-6.
- A:190. LIISA ROHWEDER: Ympäristökasvatus ammattikorkeakoulussa. Opetussuunnitelma-teoreettisen mallin kehittäminen liiketalouden koulutukseen. 2001. ISBN 951-791-613-2.
- A:191. PEKKA SULAMAA: Essays in Deregulated Finnish and Nordic Electricity Markets. 2001. ISBN 951-791-617-5.
- A:192. SUSAN MERILÄINEN: Changing Gendered Practices: A PAR Project within an Academic Work Community. 2001. ISBN 951-791-640-X.
- A:193. A. MAARIT I. KALLIO: Studies on Competition in the Finnish Wood Market. 2001. ISBN 951-791-643-4.
- A:194. KALEVI EURO: Locational Changes of Headquarters of Multinational Corporations. A Theoretical Study on The Motives and Reasons for Relocating Finnish Divisional Headquarters Abroad. 2001. ISBN 951-791-646-9.

#### A-SARJA: MUITA JULKAISUJA - OTHER PUBLICATIONS

"Kari olisko sulla hetki aikaa...". 1995. ISBN 951-702-886-5.

Väitöskirjojen tiivistelmät 1991 - 1995. 1996. ISBN 951-791-021-5.

Tainion majakka. Havaintoja Riston signaaleista tutkijayhteisölle. 1997. ISBN 951-791-241-2.

UOLEVI LEHTINEN – HANNU SERISTÖ (edit.): Perspectives on Internationalization. 1999. ISBN 951-791-418-0.

JARI HEIKKI KUUSISTO: The Determinants of Service Capability in Small Manufacturing Firms. 2000. ISBN 951-791-510-1.

Väitöskirjojen tiivistelmät 1996-2001. Helsingin kauppakorkeakoulun 12. promootion juhlaulkaisu. 2001. ISBN 951-791-617-5.

#### B-SARJA: TUTKIMUKSIA - RESEARCH REPORTS

- B:16. JUKKA KALLIO – TIMO SAARINEN – SAKU SALO – MARKKU TINNILÄ: Palvelujen kehittäminen tietotekniikan avulla. Case Vientiluotto. 1999.
- B:17. TUIJA NIKKO – PIRKKO NUOLIJÄRVI (toim.): Talous ja kieli III. Seminaari 9. - 10.5.1996. Helsingin kauppakorkeakoulu. 1999.
- B:18. ANJA HEINEMANN: Mediavalinnan laadulliset kriteerit mediasuunnittelussa. Kirjallisuuskatsaus ja mediaympäristökijöiden vaikutusmallin suunnittelu. 1999.
- B:19. HANS MÄNTYLÄ: Ympäristöjohtamisen muotoutuminen suomalaisessa metsäkonsernissa. Case Metsä-Serla. 1999.
- B:20. RAJARAM BALIGA – TIMO SANTALAINEN: Telecommunications in Transition: The US Experience. 1999.
- B:21. NIILLO HOME: Kyläkauppaan vai marketiin - maaseutuasiakkaat ostopaikkaa valitsemassa. Rural consumers' patronage behavior – a Summary. 1999.
- B:22. RIITTA KOSONEN – ASTA SALMI (eds.): Institutions and Post-Socialist Transition. 1999.
- B:23. LIISA UUSITALO – HENNA KAMENSKY (toim.): Mainonta muuttaa muotoaan. Esimerkkejä suomalaisen mainonnan sisällön muutoksista. 1999.
- B:24. RISTO Y. JUURMAA – EERO W. ARTTO: Performance and International Competitiveness of Listed Metal and Telecommunication Industry Groups 1990 - 1998. Finland vs Sweden and Germany. 1999.
- B:25. EERO W. ARTTO – RISTO Y. JUURMAA: Performance and International Competitiveness of Listed Paper Industry Groups 1990 - 1998. Finland vs Sweden, Canada and USA. 1999.
- B:26. MIA-RIITTA POUTIAINEN – SINIKKA VANHALA (toim.): Henkilöstön kehittäminen - avain osaamisen kartuttamiseen yrityksessä. 1999.
- B:27. ANU H. BASK: Third Party Relationships in Logistics Services. 1999.
- B:28. THOMAS RIMMLER – TIMO MÄÄTTÄ: Energiapuuskenaarioiden kansantaloudelliset vaikutukset. Analyysi numeerisella yleisen tasapainon mallilla.
- B:29. RISTO WALDEN – SEPPO IKÄHEIMO – RAIMO IMMONEN: Työsuhdeoptiojärjestelmien verotus. 2000.
- B:30. EERO W. ARTTO - RISTO Y. JUURMAA: Performance and International Competitiveness of Listed Paper Industry Groups 1991-1999. Finland vs Sweden, Canada and USA. 2000.



- B:31. HEIDI MOISIO – ANNUKKA JYRÄMÄ: Helsingin kulttuurikaupunkisäätiön ja tuotantoyhtiöiden välinen yhteistyö. 2001. ISBN 951-791-607-8.
- B:32. KRISTIINA KORHONEN: Role of government intervention in foreign direct investment: Case of South Korea. 2001. ISBN 951-791-620-5.
- B:33. MINNA SÖDERQVIST: The Internationalisation and Strategic Planning of Higher-Education Institutions. An Analysis of Finnish EPS Strategies. 2001. ISBN 951-791-623-X.
- B:34. KATJA LEPPÄLÄ – HANNA PÄIVIÖ: Kauppatieteiden opiskelijoiden moraalijärjestys: Narratiivinen tutkimus kolmen eri pääaineen opiskelusta Helsingin kauppakorkeakoulussa. 2001. ISBN 951-791-629-9.
- B:35. EERO W. ARTTO: Performance and International Competitiveness of Listed Paper Industry Groups 1992-2000. Finland vs Sweden, Canada and USA. 2001. ISBN 951-791-635-3.
- B:36. ARJA KALMARI – JOHANNA MARKKANEN: Erektiohäiriölääke Viagran saama julkisuus Suomessa vuosina 1998 - 2000. 2001. ISBN 951-791-647-7

#### E-SARJA: SELVITYKSIÄ - REPORTS AND CATALOGUES

- E:99. Research Catalogue 1999-2000. 2000.

#### W-SARJA: TYÖPAPEREITA - WORKING PAPERS

- W:219. ARTTO LAHTI: Kasvuyrityksen tai voittajayrityksen talousoppi. Tausta-ajatuksia ja yritysesimerkkejä kasvuyritysohjelman pohjaksi. 1999.
- W:220. TEEMU YLIKOSKI: Surfer Expertise as a Determinant of Consumer Internet Search Behavior. 1999.
- W:221. TANJA KIRJAVAINEN: Efficiency of Finnish Senior Secondary Schools: Explaining High and Low Performance with Resources, Environmental, and Organizational Factors. 1999.
- W:222. K.E.KRISTIAN MÖLLER: Business Marketing as "Politics": Identifying and Managing Political Buying Situations. 1999.
- W:223. PEKKA ILMAKUNNAS – MIKA MALIRANTA – JARI VAINIOMÄKI: The Roles of Employer and Employee Characteristics for Plant Productivity. 1999.
- W:224. TIMO KUOSMANEN: Data Envelopment Analysis of Non-Convex Technology: With an Application to Finnish Super League Pesis players. 1999.
- W:225. ANNE ÄYVÄRI: Pienyritysten verkostot. Yritysverkostokoulukunnan ja yrittäjyystutkimuksen verkostokäsitteet. 1999.
- W:226. ELINA OKSANEN: Structure and Characteristics of Network Marketing Businesses. 1999.

- W:227. ANNE ÄYVÄRI – KRISTIAN MÖLLER: Marketing Capability of Small Firms Operating in Networks. 1999.
- W:228. PETRI HALLIKAINEN: Improving the Success of Information Systems by Evaluation - A Learning Approach. 1999.
- W:229. PIRJA HEISKANEN: Generating Pareto-Optimal Boundary Points in Multi-Party Negotiations using Constraint Proposal Method. 1999.
- W:230. TIMO KUOSMANEN – THIERRY POST: Nonparametric Efficiency Analysis Under Uncertainty: A First-Order Stochastic Dominance Approach. 1999.
- W:231. MATTI TUOMINEN – ARTO RAJALA – KRISTIAN MÖLLER – MAI ANTTILA: Innovativeness in Adaptability Interface. 1999.
- W:232. SAMI TORSTILA: Strategic Pricing of IPO Gross Spreads: The European Evidence. 1999.
- W:233. KLAUS KULTTI: About Bargaining Power. 1999.
- W:234. DIRK BERGEMANN – JUUSO VÄLIMÄKI: Strategic Buyers and Privately Observed Prices. 1999.
- W:235. PERTTI HAAPARANTA – MIKKO PUHAKKA: Development Traps: Investing in Patience. 2000.
- W:236. SAMI TORSTILA: What explains the clustering of IPO gross spreads? 2000.
- W:237. VIRPI KRISTIINA TUUNAINEN (edit.): Proceedings of The Second Electronic Grocery Shopping (EGS) Workshop. In connection with The 20<sup>th</sup> Anniversary International Conference on Information Systems (ICIS). 2000.
- W:238. HANNU SERISTÖ: Industry Liberalization and Privatization in Small and Open Economies – Research Avenues for Studying the European Airline Industry. 2000.
- W:239. ANU H. BASK – JARI JUGA: Selective Integration in supply Chain Management. 2000.
- W:240. TARJA JORO – PEKKA KORHONEN – STANLEY ZIONTS: An Interactive Approach to Improve Estimates of Value Efficiency in Data Envelopment Analysis. 2000.
- W:241. PEKKA KORHONEN – MIKULAS LUPTACIK: Eco-Efficiency Analysis of Power Plants: An Extension of Data Envelopment Analysis. 2000.
- W:242. HANNU SERISTÖ: Alliance Objectives in Strategy framework – the Case of Multipartner Alliances in the Airline Industry. 2000.
- W:243. OLLI TAHVONEN – SEPPO SALO: On Faustmann Rotation and Normal Forest Convergence. 2000.
- W:244. PIRJA HEISKANEN: An Application of a Constraint Proposal Method in a Transboundary Air Pollution Negotiation. 2000.
- W:245. SAMI TORSTILA: What Determines the Distribution of Fees within the IPO Syndicate? 2000.
- W:246. MARJA-LIISA KINTURI – LIISA UUSITALO: Advertising in Finland – A Overview. 2000.

- W:247. JUHANI VAIVIO: Accounting and Knowledge Creation: The Case for "Provocative" Management Accounting. 2000.
- W:248. ARTO LAHTI: Creative Entrepreneurship and New Economy. The Challenge of the Nordic It Cluster. 2000.
- W:249. MATTI LISKI – PETER M. KORT – ANDREAS NOVAK: Increasing Returns and Cycles in Fishing. 2000.
- W:250. MATTI LISKI: Thin versus Thick CO<sub>2</sub> Market. (running head: CO<sub>2</sub> Market). 2000.
- W:251. MATTI LISKI: Taxing Average Emissions to Overcome the Shutdown Problem. 2000.
- W:252. MATTI LISKI – JUHA VIRRANKOSKI: Project-based CO<sub>2</sub> Trading. 2000. ISBN 951-791-467-9.
- W:253. SEPPO SALO – OLLI TAHVONEN: On Equilibrium Cycles and Normal Forests in Vintage Models for Forest Resources. 2000. ISBN 951-791-468-7.
- W:254. TAPANI KYKKÄNEN: Johdon yritysostot Suomessa. 2000. ISBN 951-791-470-9.
- W:255. KLAUS KULTTI: Comparison of Auctions and Posted Prices in a Finite Random Matching Model. 2000. ISBN 951-791-476-8.
- W:256. KLAUS KULTTI – TUOMAS TAKALO: A Search Model of Intellectual Property Protection. 2000. ISBN 951-791-477-6.
- W:257. MIIA KANKAANPÄÄ – HANNU SERISTÖ: Development of Services in Industrial Markets: A Process Driven by Customer Value. 2000. ISBN 951-791-479-2.
- W:258. MATTI TUOMINEN – ARTO RAJALA – KRISTIAN MÖLLER – MAI ANTILA: Moderating Effects of Internal and External Strategic Postures on the Adaptability - Innovativeness Interplay. 2000. ISBN 951-791-481-4.
- W:259. SEPPO SALO – OLLI TAHVONEN: On the Economics of Forest Vintages. 2000. ISBN 951-791-482-2.
- W:260. JUSSI KARHUNEN – MATTI KELOHARJU: Shareownership in Finland 2000. 2000. ISBN 951-791-483-0.
- W:261. LEENA KERKELÄ – JANNE NIEMI – RISTO VAITTINEN: Renegotiating the Lome Convention - Trade Policy Schemes and Their Effects for African Regions. 2000. ISBN 951-791-485-7.
- W:262. MATTI LISKI: Should ERUs be Tradable? 2000. ISBN 951-791-486-5.
- W:263. MARKKU KAUSTIA: Can Loss Aversion Move the Market? Evidence from IPO Trading Volume. 2000. ISBN 951-791-489-X.
- W:264. OTTO TOIVANEN – PETRI NIININEN: Investment, R&D, Subsidies and Credit Constraints. 2000. ISBN 951-791-490-3.
- W:265. ARI HYYTINEN – OTTO TOIVANEN: Vertical Differentiation, Asymmetric information and Endogenous Bank Screening. 2000. ISBN 951-791-491-X.

- W:266. MARJA-LIISA KAKKURI-KNUUTILA – EERO VAARA: Reconciliation of Modernist and Postmodernist Standpoints in Management Studies: Towards Reflective Realism? 2000. ISBN 951-791-493-8.
- W:267. JANNE TIENARI – EERO VAARA – RISTO SÄNTTI: Pride and Prejudice. Construction of Metaphors in a Merger Across National Boundaries. 2000. ISBN 951-791-494-6.
- W:268. EERO VAARA: Towards Critical International Business Studies? Three Perspectives on International Mergers and Acquisitions. 2000. ISBN 951-791-495-4.
- W:269. MIRJALIISA CHARLES – HELENA KANGASHARJU (Eds.): New Orientations and Developments. Business Communication Research and Teaching Working Papers. 2000. ISBN 951-791-496-2.
- W:270. LAURENS CHERCHYE – TIMO KUOSMANEN – THIERRY POST: Why Convexify? An Assessment of Convexity Axioms in DEA. 2000. ISBN 951-791-499-7.
- W:271. SEPPO SALO – OLLI TAHVONEN: Economics of Forest Vintages with Multiple Land Classes. 2000. ISBN 951-791-500-4.
- W:272. LASSE NIEMI: Tilintarkastusmarkkinoiden rakenne ja toiminta. 2000. ISBN 951-791-503-9.
- W:273. SAMI JÄRVINEN – JANNE SAARIKKO: Suomalaisten piensijoittajien käsityksiä indeksilainoista. 2000. ISBN 951-791-504-7.
- W:274. ERLING ANDERSEN – CEES ROOS – TAMÁS TERLAKY: On Implementing a Primal-dual Interior-point Method for Conic Quadratic Optimization. 2000. ISBN 951-791-509-8.
- W:275. JOHANNA MOISANDER – LIISA UUSITALO: Motivation and Social Contingency of Environmental Consumer Choices. 2001. ISBN 951-791-516-0.
- W:276. MIRJAMI FAGERSTRÖM: Suhdemarkkinoinnin hyödyntäminen kuluttajatuotteiden markkinoinnissa. Kuluttajasuhdemarkkinoinnin tutkimuksen kirjallisuusanalyysi. 2001. ISBN 951-791-518-7.
- W:277. JUHANI VAIVIO: "Provocative" Non-Financial Measures in Knowledge Creation. 2001. ISBN 951-791-603-5.
- W:278. HANNU KIVIJÄRVI – MARKKU KUULA: A Finnish Forest Sector Model. 2001. ISBN 951-791-606-X.
- W:279. VIRPI KRISTIINA TUUNAINEN (Edit.): Proceedings of The Third Electronic Grocery Shopping (EGS) Workshop. Brisbane, Australia, December 13, 2000. In Connection with The 21st International Conference on Information Systems (ICIS). 2001. ISBN 951-791-609-4.
- W:280. JUSSI V. KOIVISTO: Conceptualising Cross-Cultural Organisations: Cultural Crossing with its Locus, Modus And Focus. 2001. ISBN 951-791-612-4.
- W:281. JUKKA KALLIO – TIMO SAARINEN – MARKKU TINNILÄ: Efficient Change Strategies-matching Drivers and Tracers in Change Projects. 2001. ISBN 951-791-614-0.

- W:282. JUKKA KALLIO – TIMO SAARINEN – MARKKU TINNILÄ – VIRPITUUNAINEN: Elektronisen kaupankäynnin vaikutukset kaupan ja palveluiden arvoketjuihin, liiketoimintaprosesseihin ja työtehtäviin. 2001. ISBN 951-791-615-9.
- W:283. TIMO KUOSMANEN: Stochastic Dominance Efficiency Tests Under Diversification. 2001. ISBN 951-791-618-3.
- W:284. EERO KIVIMÄKI: Yritysstrategian mittaus. Strategia-analyysien luotettavuus ja käyttökelpoisuus kilpailukyvyyn, laadun- ja pienyrityksen näkökulmista. 2001. ISBN 951-791-619-1.
- W:285. INKERI HIRVENSALO – TERO LAUSALA: Foreign Direct Investments in the Russian Territories of the Barents Region. 2001. ISBN 951-791-621-3.
- W:286. SEPPO SALO – OLLI TAHVONEN: Optimal Evolution of Forest Age-Classes and Land Allocation Between Forestry and Agriculture. 2001. ISBN: 951-791-622-1.
- W:287. TARU LEHTONEN: In Search of Efficiency – Norddrg Based Pricing and Case-Mix Accounting. 2001. ISBN 951-791-625-6.
- W:288. JUSSI V. KOIVISTO – MATTI LAMPINEN: Crossing National and Corporate Cultures. In-Depth Analysis of the Cross-Cultural Organisation in the Integration of a Finnish Firm's Acquisition Case in Hong Kong. 2001. ISBN 951-791-627-2.
- W:289. ANU H. BASK – JARI JUGA – JOUNI LAINE: Evolution of Container Transport: Services, Management and Technologies. 2001. ISBN 951-791-631-0.
- W:290. MATTI LISKI – ANNE TOPPINEN: Stochastic versus Deterministic Trends in Carbon Dioxide Time Series. 2001. ISBN 951-791-632-9.
- W:291. MATTI LISKI: Market Opening in Search Equilibrium: Should Licences to Pollute be Tradable? 2001. ISBN 951-791-633-7.
- W:292. MATTI LISKI – OLLI TAHVONEN: Can Carbon Tax Eat Opec's Rents? 2001. ISBN 951-791-634-5.
- W:293. PEKKA KORHONEN – MIKKO SYRJÄNEN: Resource Allocation Based on Efficiency Analysis. 2001. ISBN 951-791-636-1.
- W:294. BIRGIT KLEYMANN: A Resource Dependence Perspective on Multilateral Alliances. The Case of the Airline Industry. 2001. ISBN 951-791-637-X.
- W:295. JUSSI V. KOIVISTO – MATTI LAMPINEN: Acquisition of Strategic Technology through International Corporate M&A in Finnish High Technology Sectors. 2001. ISBN 951-791-638-8.
- W:296. PERTTI HAAPARANTA – LEENA KERKELÄ – MATTI LISKI – TONI RIIPINEN – PEKKA SULAMAA: Climate Change Policies, World Markets and Finland - Simulation Results. 2001. ISBN 951-791-639-6.
- W:297. MAARIT KALLIO – MARKKU KALLIO: Nonparametric Models for Evaluating Economic Efficiency and Imperfect Competition – with an Application to Competition in the Forest Sector. 2001. ISBN 951-791-641-8.

W:298. TOMI DAHLBERG – JENS HØRLÜCK: Internet Hype Overreaction - And What We Can Learn from it. 2001. ISBN 951-791-642-6.

W:299. ANTTI SÄÄSKILAHTI: Epäjatkuvuuden hallinta. 2001. ISBN 951-791-644-2.

W:300. VELI-PEKKA HEIKKINEN: Timber Harvesting Decisions Based On Multi-period Stochastic Portfolio Optimisation. 2001. ISBN 951-791-645-0.

Y-SARJA: HELSINKI SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION.  
CENTRE FOR INTERNATIONAL BUSINESS RESEARCH. CIBR RESEARCH PAPERS

Y:6. MIKA GABRIELSSON – V. H. MANEK KIRPALANI – REIJO LUOSTARINEN: Multiple Channel Strategies in the European PC Industry. 2001. ISBN 951-791-628-0.

Z-SARJA: HELSINKI SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION.  
CENTRE FOR INTERNATIONAL BUSINESS RESEARCH. CIBR WORKING PAPERS

Z:8. CLARA CARDONE-RIPORTELLA - MARÍA JOSÉ ÁLVAREZ-GIL – NORA LADO-COUSTÉ - VIVECA SASI: Going International: Are Financial Service Companies Following Manufacturing Firms? The Case of Finnish and Spanish Banks and Insurance Companies. 2000. ISBN 951-791-454-7.

Kaikkia Helsingin kauppakorkeakoulun julkaisusarjassa ilmestyneitä julkaisuja voi tilata osoitteella:

KY-Palvelu Oy  
Kirjakauppa  
Runeberginkatu 14-16  
00100 Helsinki  
Puh. (09) 4313 8310, fax (09) 495 617  
Sähköposti: kirjak@kyypari.hkkk.fi

Helsingin kauppakorkeakoulu  
Julkaisutoimittaja  
PL 1210  
00101 Helsinki  
Puh. (09) 4313 8579, fax (09) 4313 8305  
Sähköposti: julkaisu@hkkk.fi

All the publications can be ordered from

Helsinki School of Economics and Business Administration  
Publications officer  
P.O.Box 1210  
FIN-00101 Helsinki  
Phone +358-9-4313 8579, fax +358-9-4313 8305  
E-mail: julkaisu@hkkk.fi