



VAASAN YLIOPISTO

MINNIE KONTKANEN

Operation Mode Choice and Efficiency
in the Context of Perceived Uncertainty

Case of Finnish Firms in Asia

ACTA WASAENSIA

No. 165

Business Administration 68
Marketing

UNIVERSITAS WASAENSIS 2006

CONTENT

FIGURES	6
TABLES	6
ABSTRACT	8
1. INTRODUCTION	9
1.1. Background of the study	9
1.2. Research questions and the objectives of the study	10
1.3. Scope and limitations of the study	12
1.4. Positioning and contribution of the study	14
1.5. Definition of main concepts in the study	27
1.6. Structure of the study	28
2. MANAGERIAL PERCEPTION OF UNCERTAINTY	30
2.1. Conceptual context of uncertainty	30
2.1.1. Definition and focus of uncertainty	30
2.1.2. Elements of uncertainty concept in the context of international operation mode choice	36
2.2. Conceptual framework of formation of managerial perception of uncertainty	44
2.2.1. Experience types and their impact on perceived uncertainty components	45
2.2.2. Dependence types and their impact on perceived uncertainty components	52
2.2.3. Risk-seeking attitude and its impact on perceived uncertainty components	54
2.2.4. Volatility and its impact on perceived uncertainty components	58
2.2.5. Summary	60

3. INTERNATIONAL OPERATION MODE CHOICE AND EFFICIENCY	62
3.1. Adaptation and control capabilities of international operation modes	62
3.2. Adaptation and control efficiency	70
3.3. Conceptual framework of efficient international operation mode choice	72
3.4. Summary of the theoretical framework	77
4. EMPIRICAL RESEARCH DESIGN	80
4.1. Mixed method strategy	80
4.2. Quantitative study	82
4.2.1. Data collection	82
4.2.2. Structural modelling approach with PLS method	85
4.2.3. Measures	93
4.2.4. Reliability and validity	104
4.3. Qualitative study	107
4.3.1. Choice of cases	107
4.3.2. Data collection and analysis	108
4.3.3. Evaluation of the quality	110
5. RESULTS	112
5.1. Description of the sample	112
5.2. The research model	116
5.2.1. Quality of the measurement model	117
5.2.2. Quality of the structural model	121
5.3. Uncertainty specific structural models	127
5.3.1. Formation of managerial perception of political uncertainty and its implication on an efficient operation mode choice	128
5.3.2. Formation of managerial perception of socio-cultural uncertainty and its implication on an efficient operation mode choice	132
5.3.3. Formation of managerial perception of competition uncertainty and its implication on an efficient operation mode choice	136

ACTA WASAENSIA

5.3.4. Formation of managerial perception of demand uncertainty and its implication on an efficient operation mode choice	139
5.3.5. Formation of managerial perception of behavioural uncertainty and its implication on an efficient operation mode choice	142
5.4. Summary of the results based on quantitative analysis	144
5.5. Results based on the six cases	149
5.5.1. Licensing	149
5.5.2. Joint ventures	158
5.5.3. Wholly owned subsidiaries	167
5.6. Integration of the results and development of the propositions	173
5.6.1. Formation of managerial perception of uncertainty	173
5.6.2. Perceived uncertainty and operation mode choice	185
5.6.3. Operation mode choice and efficiency	187
6. SUMMARY AND CONCLUSIONS OF THE STUDY	187
6.1. Major findings of the study	192
6.2. Theoretical contribution and managerial implications	200
6.3. Limitations and suggestions for future research	204
ACKNOWLEDGEMENTS	207
REFERENCES	208
APPENDICES	222

FIGURES

Figure 1.	Focus of the study compared to prior studies	24
Figure 2.	Definitions of uncertainty and country risk found in operation mode studies	33
Figure 3.	Elements of uncertainty	42
Figure 4.	Elements of uncertainty considered in the study	44
Figure 5.	Summary of the formation of managerial perception of uncertainty	61
Figure 6.	The classification of operation modes according to focus and degree of control	65
Figure 7.	The conceptual model	79
Figure 8.	Sequential explanatory strategy applied in the study	82
Figure 9.	Reflective and formative models	87
Figure 10.	Path loadings, R ² values and variable significance levels	126
Figure 11.	The basic model in the context of political and legal uncertainty	129
Figure 12.	The modified model in the context of political and legal uncertainty	131
Figure 13.	The basic model in the context of socio-cultural uncertainty	134
Figure 14.	The modified model in the context of socio-cultural uncertainty	135
Figure 15.	The basic model in the context of competitive uncertainty	137
Figure 16.	The modified model in the context of competitive uncertainty	138
Figure 17.	The basic model in the context of demand uncertainty	140
Figure 18.	The modified model in the context of demand uncertainty	141
Figure 19.	The basic model in the context of behavioural uncertainty	143
Figure 20.	The modified model in the context of behavioural uncertainty	144
Figure 21.	Formation of managerial perception of political and legal uncertainty	195
Figure 22.	Formation of managerial perception of socio-cultural uncertainty	195
Figure 23.	Formation of managerial perception of competition related uncertainty	196
Figure 24.	Formation of managerial perception of demand uncertainty	197
Figure 25.	Formation of managerial perception of behavioural uncertainty	197
Figure 26.	Revised model of the relationship between perceived uncertainty components, operation mode choice and efficiency	200

TABLES

Table 1.	Categories of uncertainty	38
Table 2.	Comparison of the views of internalisation approach, organisation-environment interface literature and transaction cost approach	39
Table 3.	Characteristics influencing risk behaviour	56
Table 4.	Environmental state dimensions and perceived uncertainty	56

ACTA WASAENSIA

Table 5.	Control mechanisms	67
Table 6.	Classification according to hierarchical control dimensions	69
Table 7.	Classification of operation modes according to control mechanisms and adaptation styles	70
Table 8.	Selected types of costs and their definitions	72
Table 9.	Comparison of PLS and CBSEM	86
Table 10.	Item measuring general international experience	95
Table 11.	Items measuring target country institutional experience	96
Table 12.	Items measuring dependence of entering firm	97
Table 13.	Items measuring dependence of local firm	97
Table 14.	Items measuring risk seeking attitude	98
Table 15.	Items measuring perceived volatility of political & legal environment	98
Table 16.	Item measuring perceived volatility of socio-cultural environment	98
Table 17.	Items measuring perceived volatility of demand environment.	98
Table 18.	Items measuring perceived volatility of competitive environment	99
Table 19.	Items measuring perceived political and legal uncertainty	100
Table 20.	Items measuring perceived socio-cultural uncertainty	100
Table 21.	Items measuring perceived competitive uncertainty	101
Table 22.	Items measuring perceived demand uncertainty	101
Table 23.	Items measuring perceived behavioural uncertainty	102
Table 24.	Items measuring adaptation efficiency	103
Table 25.	Items measuring control efficiency	104
Table 26.	Distribution of the number of employees at the time of the entry	113
Table 27.	Distribution of the firm's turnover at the time of the entry	113
Table 28.	The industry distribution of the sample firms	113
Table 29.	Distribution of operation modes and target countries	114
Table 30.	Starting year of the operation	115
Table 31.	Distribution of the level of ownership in investment modes	116
Table 32.	Distribution of the type of operation	116
Table 33.	Indicator loadings, cross loadings and composite reliability for reflective variables	120
Table 34.	AVE values for reflective latent constructs.	120
Table 35.	Correlations among reflective construct scores (AVE in diagonals)	121
Table 36.	R ² values of each structural equation	122
Table 37.	Quality of each structural equation	122
Table 38.	Summary of the hypotheses tested in the study	145
Table 39.	Summary of the propositions leading to the developed model	190

ABSTRACT

Minnie Kontkanen (2006). Operation mode choice and efficiency in the context of perceived uncertainty. Case of Finnish firms in Asia. *Acta Wasaensia* No. 165, 262 p.

International markets can be described as a volatile, highly competitive and complex environment, which requires foreign firms entering or operating in it to constantly observe and analyse their surroundings in order to be able to make decisions and choices, which most efficiently can cope with a world of unpredictable changes. One of these strategic choices is the operation mode decision, on which the study is focusing.

The overall research question of the study is: How is the managerial perception of uncertainty formed and how the perceived uncertainty components affect an international operation mode choice and efficiency? Accordingly, the purpose is to identify some of the mechanisms through which international operation mode choice influences efficiency to cope with uncertainty. Thus, the study highlights the importance of operation mode choice as a potential method to cope with uncertainty.

The conceptual framework of the study is based on transaction cost approach, which is complemented to some extent by discussion in organizational learning theories, theories focusing on organization-environment interface and risk behavior. As a result of the theoretical discussion, a structural model including potential antecedents of perceived uncertainty, different uncertainty types and their influence on operation mode choice and the link between operation mode and efficiency was developed.

The sample of the study consisted of 60 Finnish firms having licensing, joint venture or wholly owned subsidiary operations in Asia. Firstly, a questionnaire was used to collect data from the managers. The quantitative data was analysed by using the structural modeling approach with PLS estimation technique. First the developed structural model was tested. This was followed by a more detailed exploration of the structural relations in five uncertainty specific models. Thirdly, more qualitative type of data was collected through six interviews. The firms selected for interviews were representing the three operation modes focused on the study. Thus, interviews were made with two firms having licensing as an operation mode, two firms having a joint venture as an operation mode and two firms having a wholly owned subsidiary as an operation mode.

The results of the study suggest that the role of experience in influencing the level of perceived uncertainty varies based on the type of experience and type of uncertainty. Thus the general argument that there is negative relationship between experience and uncertainty, without specifying the types, is not accurate enough. The most influencing factors on the operation mode choice were perceived socio-cultural, demand and behavioural uncertainty. Results about the role of operation mode in adaptation and control efficiencies indicate that there are indeed some differences in their capabilities to receive information, to adapt to changing environment and to control the foreign operations.

Minnie Kontkanen, Department of Marketing. University of Vaasa, P.O. Box 700, FI-65101 Vaasa, Finland

Key words: Perceived uncertainty, operation mode, efficiency

1. INTRODUCTION

1.1. Background of the study

Entering and operating in international markets force a firm to encounter markets which vary in their intensity of competition, cultural characteristics, institutional environments, technological development and in other respects. These differences may lead to an increase in uncertainty because firms are unaware of what is going to happen in these markets in the future. However, firms cannot avoid entering into international markets, but are forced to find ways to cope with uncertainty. Thus, the critical question which firms are facing is: How to cope with international uncertainty?

A great number of possibilities exist to cope with uncertainty ranging from financial arrangements to different strategic responses. Mascarenhas (1982) identified avoidance, prediction, control, flexibility and insurance to be the main methods to reduce uncertainty and a decade later Miller (1992) added co-operation and imitation as potential strategic responses to uncertainty. Both scholars also recognised several possible methods through which firms have tried to achieve these strategic responses.

Operation mode choice was considered as one of the methods of coping with uncertainty (Mascarenhas 1982; Miller 1992). There are a great number of operation modes to choose from, ranging from exporting to different co-operative arrangements (including eg. franchising, licensing, management contracts and subcontracting, joint ventures) and wholly owned subsidiaries. Because operation mode choice has been said to be one of the most important decisions managers are facing when entering into international markets (see eg. Masten 1993; Li & Tamer 1995), its role in coping with uncertainty becomes essential. However, in spite of the fact that in different research areas the importance of uncertainty in decision-making has been recognised, its influence in operation mode choice context has so far received only minor interest.

The relationship between uncertainty and operation mode choice can be regarded as quite complicated when taking into account that in addition to disturbances in foreign markets the capabilities of firms to operate in foreign markets may differ eg. depending on the level of knowledge and experience. This leads to the fact that a firm may experience different levels of uncertainty depending on the market in question, but differences in the level of uncertainty may also be found between firms entering or already operating in the same or similar kind of markets depending on their internal factors. Therefore, perceived uncertainty and its role in operation mode choice becomes an interesting phenomenon for a more detailed analysis.

Although studying the relationship between uncertainty and international operation mode choice increases our understanding of firm behaviour, the ultimate question that managers are interested in is “what implications does it have on performance?” Thus, from the managerial point of view the interesting question related to uncertainty and operation mode choice is that whether the operation modes differ in their ability to cope with uncertainty efficiently. Thus, increasing the understanding of the relationship between uncertainty, operation mode choice and efficiency demands more attention.

1.2. Research questions and the objectives of the study

The overall research question of the study is: *How is the managerial perception of uncertainty formed and how the perceived uncertainty components affect an international operation mode choice and efficiency?*

More specific research questions are:

1. How do experience, risk-seeking attitude, dependence and volatility influence managerial perception of uncertainty?
2. What is the impact of managers' perceived uncertainty on international operation mode choice?
3. Does an operation mode that aligns with managers perception of uncertainty provide better efficiency?

The overall purpose of the study is thus to identify some of the mechanisms through which an international operation mode choice influences the efficiency to cope with uncertainty.

In order to answer the research questions and to achieve the purpose four objectives are set. The first objective of the study is to review and analyse research in transaction cost approach (TCA), in organisation literature focusing on organisation-environment interface and learning theory about uncertainty concept. In addition, organisational research on risk behaviour is explored. This is done in order 1) to identify elements of uncertainty concept relevant for an international operation mode choice, 2) to identify dimensions in experience, risk-seeking attitude, dependence and volatility that are assumed to be relevant for the formation of managerial perception of uncertainty and 3) to develop hypotheses about the relationship between the before mentioned dimensions and managerial perception of uncertainty.

The second objective is to review and analyse discussion on efficiency consideration conducted in transaction cost literature and discussion of performance in international operation mode studies. This is done in order 1) to understand what is meant by efficiency in the context of uncertainty and 2) to generate a set of hypotheses linking uncertainty components and operation mode choice with efficiency. Operation modes included in the study are licensing, joint venture and wholly owned subsidiary.

The third objective is to empirically test the hypotheses in the context of Finnish firms' international operation mode choices in Asian markets, which includes countries of Southeastern Asia, India, China, South-Korea and Japan. The empirical part consists of operationalising the concepts, designing the research instrument, identifying a suitable sample, designing and carrying out the data collection and using quantitative methods to statistically test the hypotheses. In addition, more qualitative type of data is collected in order to confirm and clarify the results based on quantitative analysis.

The fourth objective is to present conclusions regarding the significance, reliability and validity of the results of the study, to discuss the theoretical and practical implications of the findings and to present suggestions for future research.

1.3. Scope and limitations of the study

The conceptual framework of the study is based on the transaction cost approach, which is complemented to some extent by discussion in organisational learning theories, theories focusing on organisation-environment interface and risk behaviour. In TCA, transactions are argued to differ according to three dimensions: asset specificity, uncertainty and frequency. Of these dimensions asset specificity and uncertainty can be a source of the following governance problems: safeguarding, adaptation and performance evaluation. It is also argued that the different governance structures differ in their cost and competence to handle different transactions. So the choice of governance structure is based on the minimisation of transaction costs, which are caused by governance problems (see eg. Williamson 1975; 1985; 1991). TCA relies on three behavioural assumptions, which are bounded rationality, opportunism and risk neutrality (Williamson 1985). According to Simon, bounded rationality is defined as “human behaviour that is intendedly rational but only limitedly so” (Williamson 1975:21). Drawing on Williamson (1975) opportunism is defined as “self-interest” seeking with guile”. Thus opportunistic behaviour involves making false or empty threats and promises in order to receive individual advantage.

In the study the behavioural assumptions of bounded rationality and opportunism are accepted as such and they are understood according to the definitions presented above. However, the assumption of risk neutrality raises some questions. Firms are not alike and there are differences in the ways firms are willing to take risks. Chiles and McMacin (1996) have argued that sometimes contradictory empirical results could be resolved by incorporating a range of risk propensity into the model. Williamson (1985) also recognises the questions related to the assumption of risk neutrality by admitting

that the assumption ignores the risk attitudes of managers, which for some purposes can be of utmost importance. In this study the risk-seeking attitude is incorporated to the TCA model.

In TCA it is specifically acknowledged that the efficiency of different operation modes depends on the characteristics of transactions, different uncertainty components in this study, and it is argued that the most efficient operation mode is the one that minimises transaction costs. **As the main focus of the study is the influence of perceived uncertainty components on operation mode choice and efficiency, the transaction cost approach is considered to be a suitable framework for the research problem.** However, it has been criticised in prior studies that the transaction cost approach may not provide the best performing mode choice because of focusing only on cost minimisation (see eg. Brouthers 2002). We can agree with the critics. TC approach should not be used as a framework to study the relationship between operation mode choice and firm performance in general. TC logic is based on the efficiency to adapt, monitor and safeguard and, therefore the performance measures used should also reflect these things. Unfortunately, this has not generally been the case. In this research we specifically focus on the efficiency to adapt and control and thus an operation mode minimising the adaptation and control costs is considered to be the most efficient one. In this study licensing (LI), joint venture (JV) and wholly owned subsidiary (WOS) represent the different operation modes.

The unit of analysis in original TCA is transaction, which means that characteristics of different transactions of the same firm are treated in isolation. This has been one of the reasons TCA has been criticised. The critics have argued that "focusing on the characteristics of isolated transactions can be insufficient to explain the scope of the firm", because prior "transactions and governance choices influence the governance mechanisms that it can adopt in future periods" (Argyres & Liebeskind 1999:49). Therefore, the history of prior experience is also considered to be important and incorporated in the framework. In order to do that, ideas from organisational learning theory are applied to some extent. Specifically the discussion conducted by Johanson

and Vahlne (1977) about the role of experiential knowledge in internationalisation process approach is drawn on.

In spite of using a modified TC framework by incorporating both risk propensity and prior experience, the conceptual framework still has some limitations. The study applies a narrow view on operation mode choice by focusing only on cost minimisation and may for that reason not offer a comprehensive view of the complex operation mode choice decision (see eg. Madhok 1997). In addition, as the focus is on the efficiency to cope with uncertainty, we are considering only the adaptation and control efficiencies of different operation modes and not taking into account other efficiency aspects. Only licensing, joint venture and wholly owned subsidiary are considered in the study, which also sets some limits to the study.

A few empirical limitations are also recognised. Firstly, the study concentrates on Finnish firms' international operation mode choices into Asian markets. Thus, the results may not be generalisable to the choices of firms from other countries or entries into other target countries. Secondly, the study relies on retrospective data collected at one point of time and thus relies on the memory of the managers describing the situation several years ago.

1.4. Positioning and contribution of the study

Operation mode studies can be roughly divided into two areas: 1) those concentrating on the factors influencing the firm decision of operation mode choice and 2) those mainly interested in performance implications of different operation modes. Most of the studies have focused on the first area and as a result number of affecting factors have been identified. Much less attention has been drawn on the performance implications of different operation modes.

Numerous theoretical approaches and conceptual frameworks have been used to study the operation mode choice and its performance implications from a different but still overlapping point of view. Andersen (1997) evaluated the used approaches and argued that the most important ones were transaction cost approach, OLI-approach, incremental approach and organisational capability approach. In addition, there are several other approaches, which have been applied in operation mode studies. In their extensive review, Datta, Herrmann and Rasheed (2002) identified monopolistic advantages, resource-based view, internalisation, strategic behaviour, bargaining and eclectic approaches. The approaches differ in their behavioural assumptions, unit of analysis, decision criterion of operation mode choice, explanatory factors for operation mode choice and assumptions about performance implications of operation modes. In the following, more detail description of the main features of the transaction cost, internalisation, OLI and organisational capability approaches is conducted. However, the assumptions of other approaches related to operation mode phenomenon are only shortly presented.

The transaction cost approach (TCA) is based mainly on two behavioural assumptions: bounded rationality and opportunism. Bounded rationality is defined according to Simon as “human behaviour that is intendedly rational but only limitedly so” (Williamson 1975:21). By this it is meant that although human actors try to act rationally they are limited in knowledge, foresight and skill to do so. Thus, the importance of both parts of the definition, intension and limitation, are stressed. The second important behavioural assumption, opportunism, is the strongest form of self-interest orientation. It is defined as “self-interest seeking with guile”. Thus, opportunistic behaviour involves making false or empty threats and promises in order to receive individual advantage. It includes both active and passive and ex-ante and ex-post types of deceit. Opportunism has also been described as a moral hazard and agency. TCA also employs a third behavioural assumption, risk neutrality, which is counterfactual in nature and rarely referred to. (Williamson 1985; 1989:139). It is argued that transactions should be the unit of analysis. Transactions differ in three following dimensions: 1) asset specificity, 2) uncertainty and 3) frequency. From these dimensions asset specificity and uncertainty can be a source of governance problems.

Also the different governance structures, operation modes, are argued to differ in their cost and competence to handle different transactions. So the choice of governance structure is based on the minimisation of transaction cost, which is caused by governance problems (see eg. Williamson 1975; 1985; 1991). Thus, the decision criterion for operation mode choice is efficiency and the influencing factors are asset specificity, uncertainty and frequency.

Closely related to the TCA is *the internalisation approach*, which was first launched by Buckley and Casson (1976). The approach integrates elements from industrial organisation and international economics (Rugman 1982). The approach was further developed by Buckley and Casson (1981, 1996), Rugman (1981) and Buckley (1983) among others. Their motivation to develop the internalisation theory was to explain and predict the huge growth of MNEs during the post-war period, because they thought that the present theories of production and trade were unable to do so (Buckley & Casson 1976:32). According to the approach, the choice between external and internal market depends on the relative size of benefits over costs and thus it is suggested that internalising a market in an intermediate good is undertaken if the benefits outweigh the costs (Buckley & Casson 1976:33). Therefore, according to the internalisation approach, a rational decision maker will choose an operation mode which maximises profit and thus the model predicts the choice of the most efficient operation mode in a specific situation. However, Buckley (1983) also acknowledged the highly relevant role of bounded rationality to entrepreneurial decision-making. The profit is the result of three components, which all need to be taken into account. These are 1) the basic gains of collaboration, 2) benefits of internalisation and 3) costs of internalisation. A great number of nation-, region-, industry- and firm-specific factors have effect on these benefits and costs. The factors needed to be taken into account vary according to the specific situation. (Buckley & Casson 1996.) Thus the operation mode decision depends on the interplay of the four groups of explanatory factors.

The *OLI-approach* represents the most often used eclectic approach in operation mode choice studies. The approach integrates economic theories of the determinants of foreign direct investment and foreign activities of multinational enterprise. The

operation mode choice is explained through a firm's ownership-specific (O) advantages, location-specific (L) advantages and internalisation (I) advantages over firms of other nationalities. Operation mode choice is then based on a firm's possession of the three before mentioned advantages. The decision criterion is a trade-off between return, risk, control and resources. (Dunning 1993; 2000.)

According to Madhok (1997) the *organizational capability perspective* is theoretically and intellectually rooted in the behavioural theory and evolutionary theory of the firm. It is based on one behavioural assumption, bounded rationality. Thus, human behaviour is seen intendedly rational but only limitedly so. A firm is seen as "a bundle of static and transferable resources, which are transferred into capabilities through dynamic and interactive firm-specific processes where individual skills, organization and technology are inextricably woven together" (Madhok 1997). The effectiveness of capability transfer is argued to determine operation mode choice. This means that a firm should choose an operation mode that can best transfer its resources or capabilities from the home country to the host country. Thus, the value of the transferred resources and capabilities should be maximised in order to create the desired competitive advantage. (Erramilli, Agarwall & Dev 2002). Accordingly, firm's existing resources and capabilities and the requirements of the operational context are argued to affect the choice of most appropriate operation mode. Similar arguments have been advanced by *resource-based view theorists* (see eg. Ekeledo & Sivakumar 1998; Sharma & Erramilli 2004).

More dynamic models are represented by the *incremental approach*, which is mainly interested in explaining the internationalisation process of the firm. However, operation mode choice is seen as one important part of the internationalisation process and therefore also this approach needs to be considered. According to Andersen (1993) the most famous stage-models are the Uppsala Internationalisation model and the Innovation-Related Internationalisation models. In addition, the model by Luostarinen (1970,1979) is worthwhile to take into account. In Uppsala model and Luostarinen's model operation mode choices are explained by the extent that a firm has knowledge about markets and operations (see eg. Johanson & Wiedersheim-Paul 1975; Luostarinen

1970; 1979; Johanson & Vahlne 1977) and decision criterion is the trade-offs between growth and risk (Andersen 1997). In innovation-related models operation mode choices are explained by changes in attitudinal and behavioural commitment of firm's managers (Bilkey & Tesar 1977).

Based on the monopolistic advantages approach the choice of operation mode is influenced by the nature of proprietary advantage that a firm possesses. Bargaining theory, on the other hand, focuses on how the relative bargaining powers of the multinationals and host countries determine the terms of entry. Strategic behaviour approach is based on the premise that competitive advantage arises from resources that contribute to a firm's relative advantage over other firms for a certain period. (Datta et al. 2002.)

Thus, theoretical approaches offer a wide range of criteria for operation mode choices and their performance implications ranging from cost-minimising and stock of knowledge to capability building. The most often used theoretical framework in operation mode choice studies is clearly *TCA*. It has been used to explain the choice between investment modes (see e.g. Gatignon and Anderson 1988; Hennart 1991, Hu & Chen 1993; Makino & Neupert 2000; Brouthers & Brouthers 2003; Zhao, Luo & Suh 2004), the choice between export modes (see e.g. Klein, Frazier & Roth 1990), the choice between export, co-operative and investment modes (see eg. Robertson & Gatignon 1998; Meyer 2001) and the choice between contractual and investment modes (Erramilli & Rao 1993; Shane 1994; Brouthers & Nakos 2004). *OLI approach* has been applied by Agarwall and Ramaswami 1992, Pan 1996, Driscoll and Paliwoda 1997, Padmanabhan and Cho 1999 and Brouthers, Brouthers and Werner (2001), among others. *Organisational capability perspective* has been used to study the choice between export modes (see eg. Burgel & Murray 2000) and the choice between co-operative modes (see e.g. Erramilli, Agarwal & Dev 2002) and *resource-based view* has been applied by Ekeledo and Sivakumar (2004) and Brown, Dev and Zhou (2003) to explain the choice between full and shared control modes. *Internationalisation approach* has been used in Arora and Fosfuri (2000) and Luostarinen (1979), among others. *Institutional perspective* was applied in Davis, Desai and Francis (2000) and in Yiu and

Makino (2002). Brouthers (1995) applied *risk-strategy framework* to explain the operation mode choice, Davidson and McFetridge (1985) used the theory of the firm and Erramilli, Agarwal and Kim (1997) applied ideas from FDI theory.

Many of the approaches have received criticism by focusing only on one aspect and as a response to the criticism many studies have integrated several theoretical approaches to study operation mode choice in a more comprehensive way. TCA has been combined with organisation theory and international corporate strategy literature (see eg. Osborn & Baughn 1990), with environmental and global strategic factors (Kim & Hwang 1992), with mergers and acquisitions theory, theory of the growth of the firm, capital market imperfections (Hennart & Park 1993), with agency theory (Fladmoe-Lindqvist & Jacque 1995; Contractor & Kundu 1998), with bargaining power (Palenzuela & Bobillo 1999), with institutional theories (Delios & Beamish 1999; Lu 2002), with location-specific factors (Pan & Tse 2000) with OLI (Tsai & Cheng 2002) and with other variables previously used to predict operation mode choice (Brouthers 2002; Brouthers, Brouthers & Werner 2003). In addition, Padmanabhan and Cho (1996) combine TCA and OLI approaches with bargaining power model and Luo (2001) adds organisational capability perspective to the before mentioned approaches. Bell (1996) integrates TCA, internalisation approach, resource-based view and strategic behaviour, Aulakh and Kotabe (1997) combine TCA, organisational capability perspective and strategic factors into a contingency model and Delios and Henisz (2000) integrate TCA, internalisation approach and organisational capability perspective. TCA, bargaining power theory and organisational capability perspective is integrated in Deng (2003).

OLI approach is integrated with isomorphic perspective (Harzing 2002) and with strategic factors (Randoy and Dibrell 2002). Organisational capability perspective has been combined with internalisation approach and competitive strategy (Madhok 1993), with agency framework and corporate knowledge (Contractor and Kundu 1998). A contingency approach has been used to explain operation mode choice in Ekeledo and Sivakumar (1998), in Brouthers, Brouthers and Werner (2002) and in Brouthers and Brouthers (2001). In addition, in some studies no clear theoretical approach can be identified (see e.g. Koguth Singh 1988; Erramilli 1992; Erramilli & D'Souza 1995; Tse,

Pan & Au 1997; Tihanyi, Griffith & Russell 2005). As a result, a number of factors influencing the choice of operation mode have been empirically studied.

Operation mode studies focusing on exploring the influence of operation mode on performance have received less interest. Starting from the 1990's some studies have tried to find an answer for that problem. Different types of international operation modes have been compared in prior studies. Most of the studies have focused on comparing different ownership structures, some have explored the potential performance differences of establishment modes and some have included both the ownership structures and establishment mode in the study. In addition, comparison between collaborative and non-collaborative modes has been conducted, as well as comparison between operation modes classified into categories of market mode, intermediate and hierarchical mode.

Studies comparing ownership structures have often explored the performance differences between wholly owned subsidiary (WOS) and joint ventures (JV). Some have found no significant performance differences between the modes (Chan 1995), while some found that only majority JVs had positive influence on performance but WOS, minority and equal ownership JVs had no significant effect (Zhao & Luo 2002). Chowdhury (1992), on the other hand, found that depending on the performance measure either JV or WOS improved performance. In addition, results from Larimo (1993) indicate that performance was better in WOS than in JV, although the performance difference was not statistically very significant.

Studies comparing the direct influence of JVs and establishment modes of acquisitions and greenfields have in general suggested that greenfield investments outperform acquisitions (see eg. Shaver 1998; Nitsch et al. 1996; Li 1995). However, Anand and Delios (1997) found that the industry in which the operation mode was made, had an important moderating influence on performance implications of acquisitions and joint ventures, but not so much for the greenfield investments. Nitsch et al. (1996) compared JV performance to acquisitions and greenfields and found that JVs outperformed acquisitions, but found no significant differences between JVs and greenfield

investments. Makino and Beamish (1998) compared the financial profitability of majority, co-owned and minority JVs and found no conspicuous differences. However, some differences were found when the survival of JV types were compared. Majority JVs seemed to have the highest survival rate, while no significant difference was found between minority and co-owned JVs.

Shrader (2001) explored the performance differences between collaborative modes, including both licensing and joint ventures, and non-collaborative modes, including exporting, sales subsidiary and WOS. Shrader did not find any direct relationship between the modes and performance, but when incorporating the knowledge type as a moderating variable, some performance differences were found. The results indicated that the use of collaboration mode, in the case of technological knowledge would decrease performance, while in the case of marketing knowledge the use of collaborative mode would influence positively on performance.

Aulakh and Kotabe (1997) studied the performance of export modes and compared market, intermediate and hierarchical modes. They found no significant differences in performance for firms choosing different types of export modes. Similar kind of results were found in Nakos et al. (2002), in which market-based non-equity operation modes and hierarchical operation modes did not have direct influence on performance. Brouthers et al. (1999) compared the performance differences of WOS, JV, licensing and franchising and exporting. Results revealed that operation mode did not have direct influence on performance except in the case of WOS. Use of WOS seemed to increase the satisfaction with performance.

Based on the results from the reviewed studies it is difficult, perhaps even impossible, to make unambiguous conclusions about potential performance differences of different operation modes. It is difficult because the results are inconsistent. In some studies there are significant performance differences between operation modes while in other studies no difference is found. In addition, the found performance differences can be contradictory. For example some results suggest that WOS perform better than JV and some suggest just the opposite.

There may be several reasons for the inconsistent results. First of all, theoretical frameworks used in the studies differ. Nitsch, Beamish & Makino (1996), Shrader (2001) and Brouthers and Nakos (2004) have used TCA in their study. OLI framework has been applied by Brouthers, Brouthers and Werner (1999, 2001) and organisational capability framework by Delios and Beamish (2001). On top, a combination of different theoretical approaches has been used to explain the potential performance differences of operation modes. TCA has been combined with institutional and cultural variables and with other variables previously used to predict performance (see eg. Brouthers 2002; Brouthers, Brouthers & Werner 2003), with resource-based view (see eg. Zhao and Luo 2002) and with strategic choice literature (see e.g. Chowhury 1992). Anand and Delios (1997), on the other hand, combined internationalisation process view with resource-based view, Li (1995) used different theories in international strategy and Woodcock, Beamish and Makino (1994) applied eclectic approach and contingency theory. Aulakh and Kotabe (1997) and Rasheed (2005) argued using a contingency model. In addition, there are studies, in which no clear theoretical framework can be identified (see eg. Shaver 1998; Pan, Li & Tse 1999; Pan & Chi 1999; Brouthers, Brouthers & Werner 2000). The frameworks used differ in their arguments and explanations for potential performance differences. Thus, the focus is on different issues. In TCA the focus is on cost minimisation, but in the organisational development approach the focus is on capability development. Although both cost minimisation and capability development may have an effect on performance, they influence through different mechanisms. Thus, the use of different theoretical frameworks may partly explain the inconsistent results.

Secondly, in most of the studies, it has assumed that certain operation modes would outperform the others no matter of the context. The exception for the general view was eg. a study by Anand and Delios (1997), in which it was noticed that depending on the sector in which the firm was operating, the influence of operation mode on performance differed. It was found that in the retail sector, acquisitions performed better than greenfields, but the opposite outcome was found in the wholesale sector. Thus different operation modes may perform well in different situations. Shaver (1998) argued that “empirical models that do not account for self-selection and regress performance measures on strategy choice variables are potentially misspecified and their conclusions

incorrect". By this it is meant that a certain operation mode may outperform some other operation mode in a specific context, but may do worse in some other context. Thus, he argues that operation mode choice affects survival, but the effect is not universal. Brouthers and Nakos (2004), Brouthers (2002), Brouthers et al. (1999, 2000) and Shrader (2001) came to the same conclusion. In all of these studies, it was argued that the firms that choose a foreign operation mode according to the framework suggested in the study, would perform better than the firms whose mode choice could not be predicted by the model. However, the theoretical frameworks used in the study differ. The studies give support to the idea that in order to really understand the relationship between operation mode and performance, the context factors also need to be taken into account. Including context into analysis could also help in explaining contradictory results of prior studies.

Thirdly, different studies have compared the performance of different types of operation modes and so the results are not comparable. Some studies have included WOS and JV in the same group and compared their performance to licensing (see eg. Nakos et al. 2002), although WOS and JV represents quite different types of modes. Another interesting fact is the comparison of acquisitions, greenfield investments and joint ventures. Mode of establishment and ownership structure are two different things and thus the relevance to compare these two aspects of foreign direct investments is questionable and the results can be misleading.

Fourthly, performance has been studied quite narrowly, concentrating eg. on growth rate, financial profitability or merely survival or failure of operation mode (see eg. Woodcock et al 1994; Chan 1995; Li 1995; Park & Russo 1996). However, the exit of operations is not always a sign of failure, especially not in the case of joint ventures, nor is a continued presence on the market a sign of good performance, although in several cases this has been the case. Lately, however, a few studies have used several financial and non-financial variables to measure performance (see eg. Brouthers et al. 2000; Brouthers 2002). This multidimensional type of measurement is clearly a step forward in the development of performance measure. However, the used measurements should be coherent with the theoretical arguments the research is based on. This means that if

eg. transaction cost approach is used as a framework then the performance measures should reflect the efficiency to adapt, monitor and safeguard. Nevertheless, this has not been the case in most of the operation mode – performance studies.

The study is positioned between the two research areas identified in operation mode choice literature. By this we mean that both the operation mode and the context factors are taken into account simultaneously in studying the performance implications. The difference of the study compared to the focus on prior operation mode studies is presented in Figure 1.

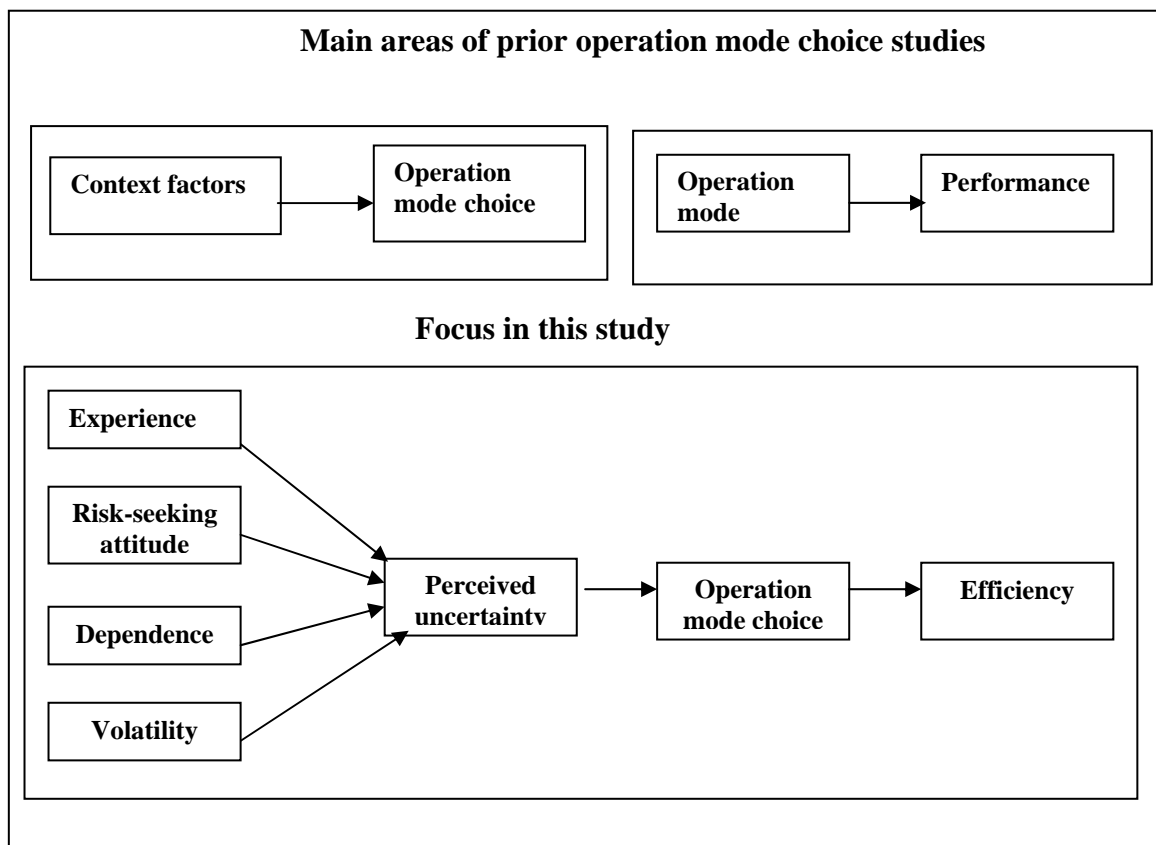


Figure 1. Focus of the study compared to prior studies.

By taking into account the indirect influence of context factors through operation mode choice on performance, it is explicitly recognised *that a certain operation mode can not outperform other operation modes in every situation, but rather that the performance implications of an operation mode are dependent on the context factors, perception of*

uncertainty in this study. By performance we here mean the potential efficiency differences which an operation mode may have, and, thus we do not consider the influence of the operation mode on market share, growth rates or financial profitability. What we mean by efficiency is explained in more detail in Chapter 3.2.

Context factors are understood to be the factors which in prior studies have been considered to influence operation mode choice. As it became evident from the discussion earlier in the chapter, a great number of potential factors influencing operation mode choice have been studied. However, what was interesting to find out was the *limited number of studies focusing on the influence of uncertainty on operation mode choice.* The limited number of studies is surprising, first of all, when we consider the environment that firms entering and operating in foreign markets are facing today. Firms are experiencing more and more uncertainty. Differences in culture, intensity of competition, technological developments, volatility in general and the lack of knowledge or experience are some of the factors causing this uncertainty. However, in spite of the perceived uncertainty, most of the firms cannot avoid entering into international markets, but are forced to find ways to cope with it. One way to cope with uncertainty could be the choice of an appropriate operation mode and thus the role of uncertainty in operation mode choice is considered to be an important aspect to study. Secondly, in organisational research it has been found that uncertainty has important influence in decision-making strengthening the need to study the relationship between uncertainty and operation mode choice.

Although there are a few studies that claim that they have studied the influence of uncertainty, most of them have in fact studied the influence of country risk or socio-cultural distance. In addition, there are studies in which the influence of a certain factor on operation mode choice has been explained through its influence on decreasing or increasing uncertainty that a firm is facing. (see eg. Klein et al. 1990; Erramilli & D'Souza 1995; Aulakh & Kotabe 1997). In these cases the influence of uncertainty has not been explicitly studied. In addition, in prior studies uncertainty has been understood in many ways, which give support to the argument made by several scholars (eg. Klein et al. 1990; Aulakh & Kotabe 1997; Brouthers et al. 2000) that uncertainty is actually a

multidimensional concept, in which different dimensions may have opposing effects or no effect at all on operation mode choice decision. This leads to the conclusion that there is a need for *identifying the different dimensions and elements of the uncertainty concept in order to analyse their influence on the operation mode choice decision*. Although some progress has been achieved in developing the concept of uncertainty into more multidimensional direction (see Miller 1992, 1993), most studies have focused entirely on environmental uncertainty and have not simultaneously taken into account uncertainty related to behavioural aspects. Also the developments have not been used in operation mode choice context (with few exceptions see Sutcliffe & Zaheer 1998; Brouthers et al. 2000, 2002). Thus, it is believed that by focusing specifically on how perceived uncertainty influences international operation mode choice, will contribute both theoretically and practically to international operation mode choice literature.

There are several reasons which may cause differences in the way firms perceive the level of uncertainty. Familiarity of the target country or partner, level of cultural distance between home and target country, competence and character of firm management are some of those factors suggested in prior studies (see eg. Miller 1992; Kulkarni 2001). Although it has been acknowledged in several studies that the differences in the level of firms' perceived uncertainty may vary depending on a combination of influencing factors, their influence on the level of perceived uncertainty has not been studied. Rather, the focus has been on their direct influence on operation mode choice. So *clear evidence as to which factors affect perceived uncertainty and how, is still lacking*. In this study the influence of internal and external factors on the level of perceived uncertainty is explored and, therefore, an attempt has been made to offer a contribution to the above-mentioned discussion.

It is also hoped to contribute through modifying the original TC framework by incorporating risk seeking attitude and history into the model and using measures which are coherent with the theoretical arguments, thus offering a more realistic framework for operation mode choice and efficiency analysis.

1.5. Definition of the main concepts of the study

In this chapter the key concepts of the study are shortly defined. More detailed discussion is conducted in the chapters three and four.

Perceived uncertainty is understood to represent the unpredictability of the future state of a specific component. Specific uncertainty components included in the study can be divided into environmental uncertainty components and behavioural uncertainty component. The environmental uncertainty components are political & legal, socio-cultural, competition and demand uncertainty. Political and legal uncertainty focuses on the unpredictability of the political power structure and the unpredictability of future laws and regulations related to the operation of foreign firms. Uncertainty about the socio-cultural environment represents simply the unpredictability of the future state of social environment. Competition uncertainty reflects the unpredictability of the future state of competition in the business area of the entering firm, and demand uncertainty the unpredictability of the future demand for the product of entering firm. Perceived behavioural uncertainty is understood to represent the unpredictability of opportunistic behaviour of the potential partner. (Williamson 1985, 1989; Miller 1992; Werner Brouthers and Brouthers 1996.)

Experience is understood to represent a firm's experiential knowledge of both general and specific type of knowledge (Johanson & Vahlne 1977). The following four types of experiences are identified: general international experience, target country business experience, target country institutional experience and international co-operation experience. General international experience is understood to represent the geographical spread of the international activities of the firm (Erramilli 1991). Target country business experience, on the other hand, is defined as the experience of doing business in the target country. Target country institutional experience is defined as the experience accumulated from prior contacts with target country institutions (Eriksson, Johanson, Majkgård & Sharma 1997; 2000). International co-operation experience is defined as experience accumulated from prior familiarity in different relationships between

individual firms in different countries (Davidson & McFetridge 1985; Robertson & Gatignon 1998; Das & Teng 1996).

Risk-seeking attitude is considered to be one of the characteristics influencing risk behaviour. It refers to the general likelihood to behave in a more or less risky way (Sitkin & Pablo 1992).

Dependence is understood, according to TCA, to be a foreseeable condition representing the impossibility or difficulty to replace the potential partner (Williamson 1975, 1985, 1996).

Volatility represents the degree of changes in the environment (Luo 2001). The focus in the study is on volatility in political and legal environment, in socio-cultural environment, in competition environment and in demand environment.

International operation mode is considered to be an institutional arrangement that makes the entry of a company's products, technology, human skills, management or other resources into a foreign country possible (Root 1994; Gatignon & Anderson 1988). In this study we focus on licensing, joint ventures and wholly owned subsidiaries.

Efficiency is suggested to be achieved when transaction costs are minimised. The focus is on the efficiency to adapt and control and thus minimising adaptation and control costs is considered to be efficient (Williamson 1975, 1985, 1991).

1.6. Structure of the study

In this section, the overall structure and progress of the study is discussed. The study begins with an introductory chapter, in which background information is presented in order to first introduce the reader to the study area. Setting the objectives for the study,

positioning the study among other studies in operation mode choice and performance area, suggesting the possible contribution for the study and presenting the definition of main concepts of the study follow this. In the second chapter, conceptual foundations for uncertainty concept are analysed. This is done first by reviewing and comparing the views of TCA and organisational approaches about uncertainty, in order to identify the relevant elements of uncertainty concept in operation mode context. This is followed by the analysis of possible factors causing uncertainty. The chapter ends with a suggestion of a framework for formation of managerial perception of uncertainty.

In the third chapter, hypotheses about the relationship between individual uncertainty components and an efficient operation mode choice are developed. This is achieved by first analysing the possible mechanisms, which different operation modes may have in coping with uncertainty and classifying licensing, JV and WOS according to these mechanisms. Finally, specific hypotheses about the relationship between different uncertainty components, operation mode choice and efficiency are presented.

Chapter four describes the sources of information, methods of data collection and data analysis and discusses the reliability and validity of the study. The fifth chapter presents the empirical results of the study, integrates the quantitative and qualitative results and develops propositions based on the findings. The last chapter introduces the major findings of the study, discusses the theoretical and practical contribution of the study and presents limitations of the study and suggestions for future research.

2. MANAGERIAL PERCEPTION OF UNCERTAINTY

In this chapter the conceptual foundations for uncertainty concept are identified and analysed based on prior operation mode choice studies and the theoretical discussion conducted in transaction cost approach, organisation-environment interface literature and internationalisation approach. Based on the analyses, the elements of uncertainty on which this study focuses on, are selected and a framework for formation of managerial perception of uncertainty is developed.

2.1. Conceptual context of uncertainty

In the following, studies exploring the influence of uncertainty or country risk on operation mode choice will be analysed. Focus is on studies, in which uncertainty has received more attention or the way uncertainty has been treated reflects well the general way it has been treated in other studies. Studies focusing on the influence of country risk are included because the definition and treatment of uncertainty and country risk in operation mode choice studies are sometimes overlapping. In addition, theoretical discussion related to the definition of uncertainty conducted in transaction cost approach, organisation-environment literature and internationalisation approach.

2.1.1. Definition and focus of uncertainty

Definitions of uncertainty are sometimes difficult to find in the studies. It seems that the concept of uncertainty is regarded so well known that there is no need to specify what is meant by it in the study. However, a more detailed look at the way uncertainty has been operationalised more or less reveals what has been meant if the actual definition is missing. The most often used definitions of uncertainty are the lack of knowledge

(Kulkarni 2001; Sutcliffe & Zaheer 1998), the unpredictability of the future of different factors or the unpredictability of changes of some factors (Brouthers et al. 2002; Kulkarni & Herriot 1999; Aulakh & Kotabe 1997; Erramilli & D'Souza 1995), variations or volatility of different factors (Kulkarni 2001; Robertson & Gatignon 1998; Erramilli & D'Souza 1995; Klein et al. 1990), instability (Erramilli & D'Souza 1995), improvements in something (Robertson & Gatignon 1998), diversity (Klein et al. 1990), the difficulty of observing and measuring the adherence of transacting parties (Robertson & Gatignon 1998) and the difficulty of measuring performance (Madhok 1993).

Although the list may seem to be long, these definitions can be classified into four main groups. The lack of knowledge and inability to know what is going to happen to some factor in the future, here called *1) unpredictability*, clearly represent the same thing and can be categorised under the same group. Variation, volatility, instability and improvements in something are all focused on *2) changes* and therefore can be grouped under the same category. *3) Diversity*, reflecting the number of uncertainty components (Klein et al 1990), on the other hand, constitutes its own group. The fourth group includes the *4) difficulty of observing and measuring the adherence and performance of transacting partners*. These four groups obviously represent quite different things, but are used to define the same concept in different studies. Very often uncertainty is defined to represent both unpredictability and volatility, but in spite of having quite different meanings an attempt to separate their individual influences has not been made but rather, their aggregated influence have been studied (see eg. Luo 2001; Robertson & Gatignon 1998; Sutcliffe & Zaheer 1998; Erramilli & D'Souza 1995). Because there are so many differences in the way uncertainty has been understood, it is obvious that the results are not comparable as such. Rather the different meanings must be noticed and the results should be analysed based on the definitions.

Several definitions for country risk also exist. Some of the definitions found are *1) uncertainty* of returns (Arora & Fosfuri 2000), political and economic risk (Delios & Beamish 1999), environmental *2) volatility* (Contractor & Kundu 1998), the extent to which the firm perceives *3) unpredictability* in various environmental factors (Driscoll

& Paliwoda 1997; Bell 1996), 4) *stability* (Driscoll & Paliwoda 1997) and host government intervention in foreign business activities, especially those which cannot be anticipated (Madhok 1993).

Delios & Beamish (1999) and Bell (1996) used the country risk score by Euromoney to operationalise country risk. In order to be able to evaluate the equivalence between definition and the actual operationalisation, first a closer look at the methodology for obtaining the score is conducted. Euromoney's overall country risk score comprises of nine categories, most of which are related to the economic risks. Even the political risk category is defined as "risk of non-payments or non-servicing of payment for goods, or services, loans, trade-related finance and dividends, and the non-repatriation of capital" (Euromoney 2003) and represent quite narrow view of political risk. The other eight categories are economic performance, debt indicators, debt in default or rescheduled, credit ratings, access to bank finance, access to short-term finance, access to capital markets and discount on forfeiting. Studies using only this index for measuring country risk clearly focus on economic risks and only to some extent political risks. Therefore, although Delios & Beamish (1999) did not give any clear definition what they meant by political and economic risk, using the risk score by Euromoney gives more detailed picture of their view of risk and thus the focus in their study can be argued to be on economic risks.

Contrasting Bell's (1996) definition and operationalisation it is easy to notice that perceived stability has been studied, but that is not the case with unpredictability. Euromoney's country risk score focusing on economic and political risks complements perceived country risk measures. Contractor & Kundu (1998) on the other hand see that environmental uncertainty, which is understood as volatility, forms one part of country risk. However, they also focus on political and economic environment and measure it by combining political and economic risk rating from Fros and Sullivan's international risk guide.

In some studies country risk has been left without any clear definition (see eg. Delios & Beamish 1999; Kim & Hwang 1992), but operationalisation reveals that the interest has

been on general stability and on political and economic risks. Country risk has also been called as investment risk (Agarwall & Ramaswami 1992) or performance risk (Das & Teng 1996). Agarwal and Ramaswami (1992) defined investment risk to represent host government interference with different aspects in the host country and Das and Teng (1996) understood performance risk to represent uncertainty about future states of nature. Although there is variety in the definitions of country risk, when comparing the definition and the actual operationalisations, it becomes evident that in most of the studies the interest has been in fact on the stability of political and economic environment in the target country and the risk of government constraining operations of foreign firms in some way.

Comparing the definitions of uncertainty and country risk, it is easy to recognise some overlapping as you can see in Figure 2. Unpredictability, volatility and stability have been common definitions for both concepts. Concepts have also been defined with the help of the other concept as in Arora and Fosfuri (2000) country risk is defined by uncertainty and in Aulakh and Kotabe (1997) uncertainty is defined by country risk. However, as it was argued above, the actual operationalisation of country risk revealed that the focus has been strongly on the stability of the environment, but in the case of uncertainty greater variation in definitions was found.

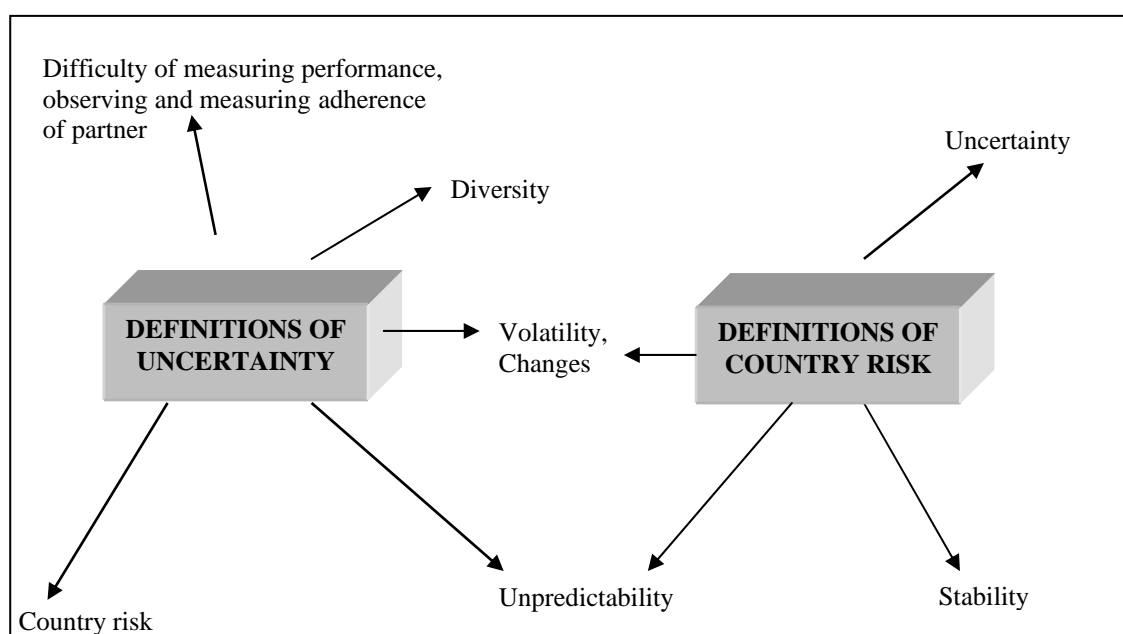


Figure 2. Definitions of uncertainty and country risk found in operation mode studies.

When contrasting the focus of uncertainty and country risk, one notices that in the case of country risk both objective and perceived measures have been used, in which neither of them seems to be more common, but in the case of uncertainty perceived measures were dominating.

Similarities in definitions of uncertainty and country risk explain partly why country risk has been understood to represent uncertainty. However, although the two concepts are related they represent different things and therefore they need to be separated from each other by clear definitions. According to Knight (1921) risk is a situation in which the probabilities of alternative outcomes are known. Uncertainty, on the other hand, is unmeasurable. (Aharoni 1999.)

The focus of uncertainty has been clearly on perceived uncertainty. The exception is the study by Erramilli and D'Souza (1995), in which country risk was used as a measure of environmental uncertainty and low and high-risk countries were identified based on a classification system developed by Goodnow and Hansz in 1972. In this classification system political instability, economic fluctuations, currency changes, labour disputes and infrastructure difficulties were seen to contribute to the unpredictability. However, it well represents the problems, which may be related to using the objective uncertainty instead of perceived uncertainty. Unavoidably then it is not the uncertainty that is studied, but rather the factors that may have influence on the level of perceived uncertainty. This is also one factor that increases the need for one to be careful in interpreting the results. The focus of country risk has been both objective (see eg. Contractor & Kundu 1998; Delios & Beamish 1999; Arora & Fosfori 2000) and perceived (see eg. Kim & Hwang 1992; Madhok 1993; Bell 1996) and thus we can see clear difference between the focus of uncertainty and country risk.

Because of the great variety in definitions of uncertainty, and in its related concept country risk, that was found in operation mode choice studies there is a need to shed some light for a proper definition of uncertainty. Some theories may offer some tools for that. In the following, the internationalisation approach, organisational-interface

approach and transaction cost approach are reviewed in order to find out how they have understood uncertainty.

Internationalisation approach was included in the study, because in its models uncertainty and knowledge are central concepts in explaining foreign operation mode and market decisions. Organisation-environment interface literature, on the other hand, was selected, because in organisation theory literature uncertainty has been a central concept (Downey & Slocum 1975; Milliken 1987) and its importance in decision-making has also been recognised. Therefore, it may offer valuable tools for identifying the relevant uncertainty types and shed some light to the relationship between experience and uncertainty. Also in transaction cost approach (TCA) uncertainty has had a strong role in explaining operation mode choices and thus it complements the views in internationalisation and organisation approaches.

The three approaches, internationalisation approach, organisation-environment interface literature and TCA, have surprisingly similar views about the definition of uncertainty. However, some unclarity can also be found in all approaches. In some models in internationalisation approach uncertainty has not been clearly defined but it has rather been related “to the stock of knowledge affected by the flow of information and experience” (Luostarinen 1989:42-43). However, eg. in Uppsala model uncertainty has been understood to represent the “decision makers’ perceived lack of ability to estimate the present and future market and market-influencing factors” (Johanson & Vahlne 1977) offering thus a more clear definition. In organisation literature the reasons for uncertainty and the definition of uncertainty are sometimes overlapping and therefore uncertainty has been defined to represent the lack of knowledge, which is at the same time understood to cause uncertainty (Lawrence & Lorsch 1967; Duncan 1972; Downey & Slocum 1975). In later studies this dilemma is however solved and unpredictability has become the most often used definition (Miles & Snow 1978; Milliken 1987; Miller 1992). Also in TCA the definition lacks clarity, because uncertainty is still quite strongly linked to complexity. However, both unpredictability and complexity have been used to define uncertainty (Williamson 1975). Thus, according to these theoretical

approaches, the definition of uncertainty seems to be clear and unambiguous and uncertainty can be understood to represent unpredictability.

2.1.2. Elements of uncertainty concept in the context of international operation mode choice

Uncertainty has a strong role in internationalisation theories, especially in so called stage-models developed mainly by Nordic researchers (Johanson & Wiedersheim-Paul 1975; Johanson & Vahlne 1977; Luostarinen 1970, 1979). As was already mentioned, according to Uppsala model uncertainty is understood as market uncertainty “that is the decision-makers’ perceived lack of ability to estimate the present and future market and market influencing factors” (Johanson & Vahlne 1977). The authors believe that market uncertainty is reduced through increase in interaction and integration with the market environment – steps such as increase in communication with customers, establishment of new service activities or in the extreme cases, the take-over or merger. Thus, market knowledge is believed to reduce market uncertainty. In addition, structural changes in market conditions are believed to influence the level of market uncertainty. According to Luostarinen (1979) “uncertainty is related to the stock of knowledge affected by the flow of information and experience”. Ignorance related to existence and qualifications of product, operation and market alternatives and to the outcomes of these alternatives is identified.

Williamson (1985, 1989) acknowledges that uncertainties differ in their origins and recognises three types of uncertainties. Two of them, the primary and secondary uncertainty, are adopted from the classification made by Koopmans. **Primary uncertainty** is understood to be “state-contingent kind arising from random acts of nature and unpredictable changes in consumer’s preferences” (Williamson 1985:57). **Secondary uncertainty** on the other hand is seen to arise “from lack of communication, meaning that decision makers don’t have the possibilities to find out the concurrent decisions and plans made by others” (Williamson 1985:57). This classification is,

however, criticised by Williamson for being insufficient because of lacking behavioural issues on uncertainty. Therefore, the third type of uncertainty, *behavioural uncertainty*, also called as the strategic kind of uncertainty, is included to the classifications. It is considered to be present when there is dependence between partners and it is understood as strategic nondisclosure, disguise or distortion of information and therefore it is seen attributable to opportunism. However, Williamson stresses that one cannot know beforehand if behavioural uncertainty exists, although knowledge about the general propensity of a population to behave opportunistically would be available. Therefore behavioural uncertainty should be only dealt with unique events. In addition, it is argued that the behavioural kind of uncertainty will cause problems only when exogenous disturbances also exist, which gives the possibility for partners to adapt and change contracts unilaterally (Williamson 1985:57–58; 1989:143–144).

In addition to offering a clear definition of uncertainty, later studies in organisation literature also contributed by recognising different types of uncertainties (see Milliken 1987) and identifying different uncertainty components (see Miller 1992, 1993). Milliken (1987) recognised three types of uncertainties: state, effect and response uncertainties. What is meant by state uncertainty is that one does not understand how components of the environment might be changing eg. the inability to predict the future behaviour of a key competitor. Effect uncertainty represents an inability to predict what the nature of the impact of a future state of the environment or environmental change will be on the organisation. Response uncertainty, on the other hand, is defined as a lack of knowledge of response options and/or an inability to predict the likely consequences of a response choice. The types of uncertainty are believed to differ based on the type of information a decision-maker perceives to be lacking. However, similar types of uncertainties can be found already in earlier studies (see eg. Lawrence & Lorsch 1967; Duncan 1972; Downey & Slocum 1975), in which differentiation between unpredictability of the future environment, impact of future on organisation and consequences of specific decisions were recognised. The difference is that Milliken (1987) was the first one who argued that these different types should be treated separately from each other and not as an aggregated concept and, believed that

differentiating the uncertainty types might help to clarify the contradictory results of prior studies.

In addition to differentiating between the types of uncertainty, Miles' and Snow's (1978) and Miller's (1992) identification of different components of uncertainty adds an interesting aspect to the uncertainty concept, by stressing that it is not only the type of uncertainty that matters but also the components of the environment. Miles and Snow (1978) recognised six components in the industrial organisation's environment representing raw material suppliers, competitors, customers, financial suppliers, governmental regulatory agencies and labour unions. Miller (1992), on the other hand, classified uncertainty into three categories: 1) general environmental, 2) industry and 3) firm-specific variables, which each have a number of uncertain components (see Table 1), thus offering an even more detailed identification of uncertainty components. Miller argues that the strength in his framework is that it facilitates explicit recognition of tradeoffs between exposures to various uncertainties. A reduction of uncertainty in one component may result an increased exposure to another uncertainty.

Table 1. Categories of uncertainty (Miller 1992).

General environment uncertainties	Industry uncertainties	Firm uncertainties
Political uncertainty	Input market uncertainty	Operating uncertainties
Policy uncertainty	Product market uncertainty	Liability uncertainties
Macro-economic uncertainty	Competitive uncertainty	R&D uncertainty
Social uncertainty		Credit uncertainty
Natural uncertainty		Behavioural uncertainty

Later Miller (1993) tested his integrated framework, but unfortunately included only the country and industry level uncertainties. Miller concluded by arguing that competitive, input and market demand uncertainties are, in fact, firm and investment-specific and for that reason country-level assessments need to be supplemented by firm and investment-specific risk considerations toward input, product market demand and competitive uncertainties. Werner et al. (1996) empirically tested and developed further Miller's framework. In general, they found support for the framework.

Based on the review presented above, similarities and differences can be found in the uncertainty types identified in the three approaches as it can be seen in Table 2. Both in internationalisation approach, organisation literature and TCA, a state-contingent kind of uncertainty has been recognised representing uncertainty about how the components of environment might be changing. In organisation literature, two other types recognised are uncertainty about how future changes in the environment will influence the organisation, called effect uncertainty and uncertainty about the consequences of firm choices, called response uncertainty (Milliken 1987). Also Luostarinen (1979) identifies in his internationalisation process model response uncertainty. However, in TCA, in addition to the state-contingent kind of uncertainty, the other two types are uncertainty about decisions and plans made by others, called secondary uncertainty, and uncertainty about strategic nondisclosure, disguise or distortion of information, called behavioural or strategic uncertainty (Williamson 1985, 1989). These types represent a quite different view from the one found in organisation literature. However, the advantage of the typology of TCA is the recognition of uncertainty types specifically related to partners and other actors, thus offering a wider picture of uncertainty types than in internationalisation and organisation literature, which mainly focus on market and environmental uncertainties.

Table 2. Comparison of the views of internationalisation approach, organisation-environment interface literature and transaction cost approach.

	Internationalisation approach	Organisation-environment interface literature	Transaction cost approach
Types of uncertainty	State, response	State, effect, response	Primary = state, secondary, behavioural
Components / forms of uncertainty	Market uncertainty	Suppliers, competitors, customers, governmental regulatory agencies, labour unions, macro economic, social and natural environment, R & D	Nature, consumers, partners
Origins of uncertainty	Lack of information / knowledge / experience Structural changes in the market	Lack of information or lack of knowledge, complexity, dynamism	Random acts of nature, lack of communication, dependence, bounded rationality

Specifying the possible different uncertainty components, studies in the organisation area have contributed more compared to internationalisation and TCA. Numerous components or targets of uncertainty have been recognised ranging from general political, social and economic environment to special uncertainty components related to industry and individual firms (Miles & Snow 1978; Miller 1992). However, the main focus in organisation theories has been almost entirely on specifying the components in the environment. In internationalisation approach the focus has been on target market uncertainty. Thus potential different uncertainty components have not been explicitly identified. Although in TCA the identification of components in the environment has not been the main focus, it contributes in also recognising partners and other actors as components of uncertainty.

The arguments about the origins of perceived uncertainty also differ quite a lot. In both internationalisation approach and organisation literature the main reason for perceived uncertainty is argued to be the lack of information or knowledge or experience. In addition, Johanson and Vahlne (1977) identify structural change as a potential origin of uncertainty. However, in earlier studies based on organisation literature environmental characteristics were also assumed to have influence on the level of perceived uncertainty. In TCA more influencing factors, which are also simultaneously linked to the different uncertainty types, are recognised. Random acts of nature, lack of communication and dependence are seen to be the main origins for uncertainty thus giving a broader view for the reasons of uncertainty. However, also in TCA, it is acknowledged that there are different uncertainty types, which are caused by different types of knowledge shortages. (Williamson 1975, 1985, 1989.) Internationalisation approach contributes by making the difference, on one hand, between objective and experiential knowledge, and on the other hand, between general and specific knowledge (Johanson & Vahlne 1977).

Some confusion has been found between the definitions and origins of uncertainty. Uncertainty has been defined eg. as volatility, but at the same time volatility has been believed to cause uncertainty. A clear differentiation between the definitions and origins of uncertainty is therefore needed. Although in theory, different components, types and

origins of uncertainty have been recognised, they have not been properly applied in the context of an operation mode choice. Based on the theories there is a possibility to identify a great number of uncertainty components, but in operation mode choice studies the main focus has been on environmental components and from those especially on political, economic and legal components (see eg. Erramilli & D'Souza 1995; Aulakh & Kotabe 1997; Luo 2001). More specific uncertainty components, critical to operation mode choice decision, should therefore be identified.

Based on the analysis of operation mode choice studies we can agree with other studies that uncertainty is a complex concept, in which multiple dimensions can be found and should be taken into account. However, in prior studies multidimensionality has been understood to represent either the different dimensions of the environment like volatility and complexity or the different components of environment like macro-economic and political factors of the environment. This all leads to the conclusion that clear definitions of different elements of uncertainty are needed.

Focusing on only one of these aspects is not believed to be sufficient to understand the role of uncertainty. Instead it is argued that both views should be taken into account simultaneously in order to increase the understanding of uncertainty and its role in the context of operation mode choice. In fact, based on both the theoretical discussion conducted in TCA and in organization-environment interface, internationalisation approaches and the empirical studies conducted in the context of operation mode choice, it is argued that the four recognised elements of uncertainty (see Figure 3) should be clearly differentiated from each other and taken into account in order to analyse the influence of uncertainty on efficient operation mode choice. Focus, definition, origins, components and types of uncertainties are argued to represent these aspects. Depending on the combination of the aspects the efficiency of operation modes may differ.

As is evident from earlier discussion, the focus of uncertainty can be either objective or perceived. Great variety in potential origins of uncertainty, representing the factors causing uncertainty, can be found ranging from lack of knowledge, lack of

communication and bounded rationality to dependence, complexity and dynamism. Thus, the general approach found in earlier studies to understand volatility as a dimension of uncertainty and therefore also treating them as direct measures of uncertainty is rejected. Instead, volatility is understood to represent factors, which may cause uncertainty and, therefore, they are included in the potential origins of uncertainty.

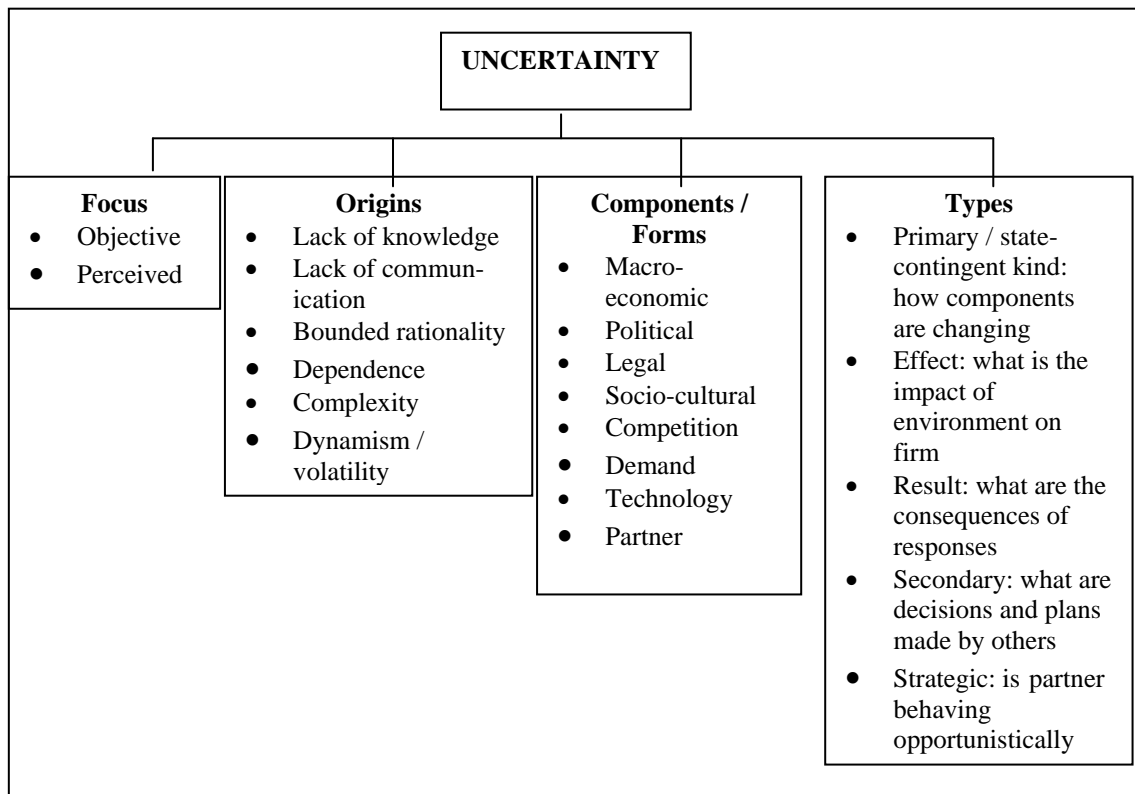


Figure 3. Elements of uncertainty.

By components we mean the individual targets or factors, toward which managers may perceive different levels of uncertainty. Thus, instead of treating the whole environment as a single entity it is seen as comprising several individual components, of which the relevant ones need to be taken into account. Components identified in prior studies have mostly focused on target country environmental factors like the macro-economic, political and legal environment and only to some extent on the socio-cultural, competitive, demand, technological and partner environment. Uncertainty types, on the other hand, should be clearly differentiated from uncertainty components and origins of

uncertainty, which has not been properly conducted in earlier studies. Therefore, based on TCA and organisation-environment and internationalisation approaches state-contingent kind, effect, response, secondary and behavioural uncertainties are understood to represent the uncertainty types.

Although we recognise the importance of all the elements of uncertainty mentioned above, it is not possible in a single study to analyse all the possible combinations and their roles in the context of operation mode choice. Therefore, some choices about the focus, origins, components and types of uncertainty need to be made. As it was already mentioned in the objectives of the study, the focus of this research is on perceived uncertainty. Lack of experiential knowledge, dependence, risk-seeking attitude and volatility are chosen for further analysis to represent the origins of uncertainty and thus explain the potential differences in perceived uncertainty components. Although the importance of all the aforementioned uncertainty types is also recognised, the main interest of this study lies in state-contingent kind of uncertainty, here called primary uncertainty, and in behavioural kind of uncertainty. Therefore, the effect uncertainty and the result uncertainty are excluded from further analysis. All the components mentioned in figure 3, excluding macro-economic and technology, are argued to be important in the target country environment and are therefore taken into account in this study. The technology component of uncertainty was excluded, because it is believed that uncertainty related to eg. technology standards and intellectual property rights is part of political and legal component. The combination of the origins, focus, types and components of uncertainty chosen for this study is presented in Figure 4.

Perceived primary uncertainty is understood to represent the unpredictability of the future state of a specific component mentioned in the list. Components of primary uncertainty are focused on target country level components. **1) Political & legal uncertainty** focuses on the unpredictability of the political power structure and the unpredictability of future laws and regulations related to the operation of foreign firms. Uncertainty about the **2) socio-cultural environment** simply represents the unpredictability of the future state of social environment. **3) Competition uncertainty** reflects the unpredictability of future state of competition in the business area of the

entering firm and 4) *demand uncertainty* the unpredictability of the future demand for the product of entering firm. Perceived 5) *behavioural uncertainty* on the other hand is related only to the potential partners in target country level and is thus understood to represent the unpredictability of opportunistic behaviour of a potential partner.

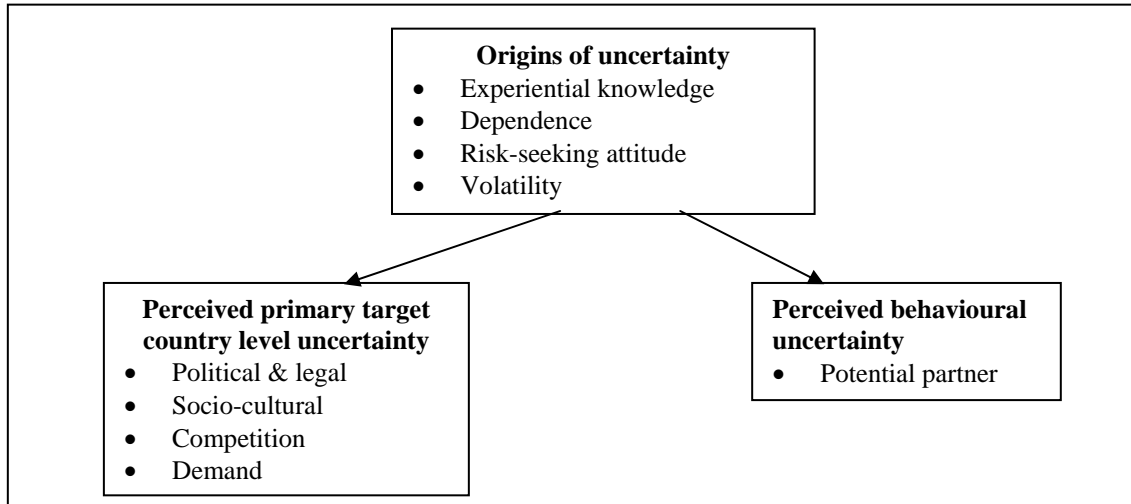


Figure 4. Elements of uncertainty considered in the study.

2.2. Conceptual framework for formation of managerial perception of uncertainty

Differences in the way firms perceive the level of uncertainty may be caused by various reasons eg. because of the familiarity of the target country or partner, level of cultural distance between home and target country, competence and character of firm management etc. (Miller 1992; Kulkarni 2001). In this chapter we will focus on the role of experiential knowledge, dependence, risk-seeking attitude and volatility. Experiential knowledge and dependence have been chosen for the study because they are the most often stated factors to cause uncertainty both in TCA and in the organisational approach. Uncertainty being quite closely related to risk, the risk-seeking attitude of the firm is also included, in order to offer more realistic view of factors influencing the perceived level of uncertainty. In addition, volatility is included in the analysis because it is one of the most often studied environmental characteristics related to uncertainty.

2.2.1. Experience types and their impact on perceived uncertainty concept

In the discussion conducted in Chapter 2.1.2., it became clear that lack of information or lack of experiential knowledge is the most common factor argued to cause uncertainty. This argument about the negative relationship between experiential knowledge, also called as experience, and uncertainty is often offered as a theoretical explanation for the relationship between experience and operation mode choice. Thus the focus in operation mode choice studies has been on understanding the direct relationship between experience and operation mode choice instead of the possible indirect influence through the level of uncertainty. Therefore, before getting into the discussion of possible linkages between experiential knowledge and uncertainty, some findings of the influence of experience on operation mode choice are considered useful to review and analyse.

Most of the empirical research has supported the view that increased experience will increase the use of a more integrated operation mode (see eg. Agarwall & Ramaswami 1992; Bell 1996; Aulakh & Kotabe 1997; Contractor & Kundu 1998; Delios & Beamish 1999; Arora & Fosfuri 2000), but support has also been found for the negative relationship (see eg. Wu 1993) and for no relationship (see eg. Driscoll & Paliwoda 1997). Among others Erramilli (1991) and Madhok (1996) have attempted to explain these contradictory results suggesting that instead of a linear relationship, a U-shaped curve exists to describe the relationship between international experience and operation mode. However, in spite of the common argument of existence of a U-shaped relationship in Erramilli (1991) and Madhok (1996), different operation modes are suggested to be chosen in these studies as a consequence of increase in international experience.

Erramilli (1991) found that in the early stages when the firm has little or no international experience, it prefers high degrees of control. After getting operational experience in international markets, firms will have greater acceptance for co-operative arrangements and in later stages of international evolution, the increase in international

experience will again lead toward greater integration. Madhok (1996), on the other hand, based on the results of 14 cases, argued that lack of experience will lead to the formation of collaborations in the beginning of the internationalisation process. In times with increased experience that are still only partly internationalised, subsidiaries are preferred and in the later stages of the internationalisation process, collaborative arrangements are again formed. Thus, the main results in these two models are opposite. Therefore, although the main idea that the contradictory results found in prior studies can be explained by the different time frames adopted in different researches, is similar in both models, no clear conclusions can be stated about the relationship between experience and operation mode choice.

The contradictory results found in prior studies give further support for the approach adopted in this study. That is, instead of studying the direct relationship between experience and operation mode choice the focus should be put on exploring the relationship between experience and uncertainty. This is considered to be extremely important, because as it was found in the discussion conducted earlier, there are various types of uncertainties but also different types of experience. This leads to the fact that some knowledge type may have influence on a certain uncertainty component but it may have no influence on some other component. Thus, the relationship between experience and uncertainty can be expected to be quite complicated, and merely relying on the general argument that there is a negative relationship between experience and uncertainty, without specifying what kind of experience or what kind of uncertainty is talked about, may not be accurate enough.

In order to analyse the possibly quite complicated relationship between experience and uncertainty, firstly different knowledge types need to be identified. In the internationalisation process approach, knowledge has an important role in explaining the development of the internationalisation process and thus also the operation mode choice decision. Although there are numerous studies on the internationalisation process, roughly divided into so called stage-models (Johanson & Wiedersheim 1975; Luostarinen 1970, 1979; Johanson & Vahlne 1977) and innovation-related internationalisation models resulting in quite different models in their outlook,

congruence regarding information needs and the acquisition of information has been found (Leonidou & Katsikeas 1996). The common way to classify knowledge is on one hand to make the difference between objective and experiential knowledge and on the other hand between general and specific knowledge. Objective knowledge can be taught but experiential knowledge can only be learned through personal experience. Johanson and Vahlne (1977) argued that experiential knowledge is the critical one, because it cannot be acquired as easily as objective knowledge. Luostarinen (1979), on the other hand, does not explicitly state whether it is experience or information, which is the critical type of knowledge for reducing the amount of uncertainty.

General and specific knowledge can be regarded as components of experiential knowledge. General knowledge, also called operational knowledge is knowledge, which can be transferred from one country to another and consist of information about marketing methods and common characteristics of certain types of customers. Market specific knowledge, on the other hand, cannot be transferred between countries and it represents knowledge about the characteristics of a specific national market eg. business climate and cultural patterns (Johanson & Vahlne 1977). In addition, Luostarinen (1970, 1979) distinguishes between the target market and firm level experience. Target market level experience is accumulated from the knowledge flows in a particular target country. However, firm level experience is accumulated from all international business operations of the firm. Thus, “the skills and knowledge in the company increases through accumulation of experience and information during the internationalisation process” (Luostarinen 1979:194).

What is then the relationship between experience and uncertainty? Based on Uppsala model gaining market knowledge acquired with experience will reduce the market uncertainty when market conditions are fairly stable and heterogeneous. If market conditions are very unstable, experience cannot be expected to lead to decreased uncertainty and if market conditions are very homogeneous, experience is probably not a necessary requirement for market knowledge. Market uncertainty can also decline as a consequence of a competitive or political stabilisation of market conditions. Market uncertainty can be expected to rise as a consequence of experience in a dynamic

environment, showing that original perception of the market was too simple. (Johanson & Vahlne 1977). According to Luostarinen (1979) “through increase in experience and information company learns to know that there exist alternatives. The major problems and opportunities related to their use and also to the characteristics of international business environment become more familiar. All of this reduces the amount of operation uncertainty.”

The role of experience has also been emphasised in other operation mode studies and thus the focus has been either on general international experience (see eg. Erramilli 1991; Agarwal & Ramaswami 1992; Wu 1993; Aulakh & Kotabe 1997; Contractor & Kundu 1998) or on market-specific experiential knowledge, usually called target country experience (Bell 1996; Arora & Fosfuri 2000; Luo 2001). Although the author agrees that general international experience and target country experience can play an important role in reducing the uncertainty level, they may still be too broad as concepts. Especially target country experience can be considered to be quite a broad concept, taking into account the uncertainty types and components chosen for the study. Luo and Peng (1999), on the other hand, emphasises the distinction between intensity of experience and diversity of experience in the target country. Intensity of experience is understood to represent the length of operation and diversity of experience is understood to represent the breadth of business activities in the target country. Additionally, in prior research the increase in the number of years, projects and variation of operation modes were seen to increase the target country experience (vrt. Johanson & Vahlne 1977; Arora & Fosfuri 2000; Luo 2001). This type of experience will be called target country business experience.

Another type of experience, which is considered to be important in relation to the uncertainty types chosen to this study, is the target country institutional experience or knowledge about the institutions as mentioned by Eriksson et al. (1997, 2000). They define institutional knowledge as knowledge, which is focused on the experiential knowledge of government, institutional framework, rules, norms and values. Eriksson et al. (1997) considered institutional knowledge to accumulate from operating in several countries and thus institutional knowledge can be related to the general international

experience. However, in this study the special focus is on target country institutions and on the experience accumulated from prior contacts with politicians, government officials and other influential actors in the target country. Thus, although institutional knowledge is not used the way Eriksson et al. (1997) define it, it is useful in that respect that it puts special focus on prior knowledge of government, institutional framework, rules, norms and values.

Explicit recognition of international co-operation level experience (see eg. Davidson & McFetridge 1985; Robertson & Gatignon 1998; Das & Teng 1996) also offers a valuable addition to the group of different types of experiences. It is accumulated from prior experience in different relationships between individual firms in different countries. Thus, the general international experience, target country business experience, target country institutional experience and international co-operation experience, represent the different experience types in this study. In the following an attempt is made to explicitly analyse the relationship between these experience types and the different uncertainty types and components.

General international experience can be accumulated from different countries and from using different operation modes. However, here the emphasis is merely on the geographical scope of countries, in which the firm has had prior operations including exporting, different kind of co-operative agreements and foreign direct investments. Thus, it is assumed that an increase in the geographical scope of countries also increases the firm's general international experience. Being present in foreign markets puts the firm in a position in which it also has to face international competition. Competitors can be from the target country or they can be from other countries. Being forced to compete in international markets gives the firm a possibility to get to know its main competitors producing the same product or a substitute and thus also their way of doing business. Some of these competitors may already be present in the target country, and knowing their way of doing business will probably give some kind of certainty how these firms are also behaving in the target country. The entering firm can also with some certainty assess the likelihood of other international competitors entering the same target country. Thus, although the entering firm may not be familiar with the domestic competitors in

the target country before entry, it probably has an idea about the future state of competition related to international players, based on the firm's experience achieved from other foreign markets.

H1: General international experience will have a negative relationship with perceived competitive uncertainty in the target country.

Target country business experience accumulated from doing business in the target country is assumed to have influence on several uncertainty components in the target country. By doing business we mean prior experience achieved through exporting, licensing other co-operative modes, JVs and subsidiary operations. Subsidiaries may be either representative offices, sales units, purchasing units or manufacturing units. Doing business on the market makes it possible to learn through personal experience eg. about the culture, customs, possible conflicts between people in power and the ordinary people. It also creates better understanding of the general atmosphere or attitude toward the firm and its products than in the case of merely relying on objective type of knowledge. It enables the firm to learn more about both the domestic competitors and international competitors who are present on the market and thus helps in evaluating the possible future state of competition. Thus, we suggest that,

H2a: Target country business experience will have a negative relationship with perceived socio-cultural uncertainty in the target country.

H2b: Target country business experience will have a negative relationship with perceived competitive uncertainty in the target country.

H2c: Target country business experience will have a negative relationship with perceived demand uncertainty in the target country.

However, doing business in the target market does not mean that a firm would have created a good working relationship or more important, good communication channels to politicians, government officials and other interest group members, in other words having **target country institutional experience**. These contacts are considered to be especially important in relation to perceived political and legal uncertainty. Being regularly in touch with politicians in the target country provides the possibility to

receive inside information about what is going on behind the curtains. Information may contain hints about future changes in the political power structure or, what is even more important, hints about the possible changes in laws and regulations, which may influence the operations of the firm. Thus, we suggest that,

H3: *Target country institutional experience will have a negative relationship with the perceived level of political and legal uncertainty in the target country.*

By *international co-operation experience* we here mean prior international partnering experience. It can be accumulated through working together with an international partner, which can be an international supplier, licensee, franchisee JV partner etc. Co-operation experience is considered to be an important influencing factor on partner related uncertainty, which is represented by behavioural uncertainty. Although the internationalisation approach studies contribute in recognising the link between experiential market-specific knowledge and market uncertainty, the influence on other uncertainty types is not recognised. Clearly, the possible link to behavioural uncertainty needs to be explored.

One of the first studies, which tried to link experience with partner related uncertainty, was by Anderson and Gatignon (1986). They suggested that a lack of international experience constitute internal uncertainty because the firm cannot accurately assess its partner's performance by readily available output measures. However, international experience was understood to represent the general accumulated experience and internal uncertainty focuses only on uncertainty about performance assessment, also offering quite a narrow view of other uncertainty types.

A factor often related to the possible mitigation of behavioural uncertainty is trust, which on the other hand is believed to be accumulated from repeated alliances among the same partners (see eg. Parkhe 1993; Gulati 1995; Chi & McGuire. 1996; Das & Teng 1996). Thus, in order to reduce behavioural uncertainty, prior co-operation should exist between the potential partner and the entering firm. However, it is suggested that it is not necessary to have prior co-operation with the same partner. It is considered to be

more important to have prior international co-operation experience with any international firm. Thus, we suggest that

H4: International co-operation experience will have a negative relationship with perceived behavioural uncertainty.

2.2.2. Dependence types and their impact on perceived uncertainty concept

Williamson (1985:58) argues that strategic kind of uncertainty is present when there is dependence between partners. However, in order to better understand how dependence influences perceived strategic uncertainty, we have to agree on what we mean by dependence. According to TCA, which works out of the far-sighted contracting perspective, dependency is considered to be a foreseeable condition. It is also "deliberately incurred and supported with safeguards" (Williamson 1996:25) when asset-specificity involved can be regarded cost-effective. Less dependency is always considered better than more, but "deliberate recourse to asset specificity will be undertaken in the degree to which net benefits can be projected" (Williamson 1996:25). The ability to mitigate hazards by crafting ex-ante credible commitments influences the evaluation of net benefits. Thus, the dependency, asset specificity and safeguards are all related to each other. An increase in asset specificity increases the dependence, which is attempted to overcome by creating confidence into the relationship through different safeguarding mechanisms (Williamson 1996:24-25). This is an almost opposite view from the one applied in the resource dependence approach, in which power has a central role in explaining dependence. It works out of a myopic perspective and therefore it is assumed that a dependence situation can not be anticipated and the dependent party never wants it. That social actor, who possesses a resource which is critical for the other firm, has the power and therefore it is believed that the dependent party is at the mercy of the other. Dependence is thus understood to represent a situation, in which the possible partner has the possession of the resource, which is critical for the other firm (Groenewegen & Vromen 1996; Williamson 1996).

The general argument in TCA that a firm making asset specific investments becomes dependent on the possible partner firm, has been supported by Heide and John (1988) and Joshi and Stump (1999) among others. This is explained by the fact that investment of transaction specific assets on the relationship makes the replacement of the partner, who has acquired the invested assets, difficult or at least costly. Therefore in the TCA-based discussion, *dependence is mainly understood to represent the impossibility or difficulty to replace the partner*. Although there are other reasons, which may cause dependence between partners, the role of asset specific investments is considered especially important when discussing the link between dependence and perceived strategic uncertainty. According to Heide and John (1988) these other reasons should be clearly differentiated from the dependence arising from asset specific investments because they might have different outcomes for the relationship.

Williamson (1975, 1985) opened the way to differentiate between two dependence types with his discussion about the simple hostage model and the extended reciprocal hostage exchange. In a simple hostage model only one party makes a commitment, but in the extended reciprocal hostage exchange there is reciprocal trade, in which both parties are making commitments to the relationship. Commitments are seen to be present when transaction specific assets have been made by one of the partners or by both of them. Heide (1994) explicitly recognises two types of dependencies in inter-firm relationships: unilateral and symmetric. Unilateral dependence refers to a situation, in which only one partner is dependent on the other, and symmetric dependence to a situation, in which both parties experience dependence. Obviously the unilateral dependence can be experienced by either the entering firm or by the possible foreign partner firm. These two situations on the other hand, have different implications to the perceived strategic uncertainty experienced by the entering firm.

Although transaction specific assets are argued to have such an important role in creating dependence between partners, in this study that relationship is not taken into account. Rather, we take as given that different kinds of compositions of specific assets cause different dependence types. The focus in this study is on the following two dependence types: dependence by entering firm and dependence by the local firm. This

differentiation between the two dependence types is important in understanding the relationship between dependence and perceived behavioural uncertainty.

In the case of dependence by entering firm, the entering firm is dependent on the local firm and so replacing the local firm with some other firm would become difficult. This creates possibilities for the local firm to make use of the assets invested by entering firm seeking to fulfil only its own interests without taking care of the interests of the entering firm and thus behaving opportunistically. Therefore, we can expect that a unilateral dependence by the entering firm has a positive influence on the level of perceived strategic uncertainty experienced by the entering firm. The situation is totally opposite in the case of dependence by the local partner. In that case the local partner has the fear that the entering firm may behave opportunistically increasing its perceived level of strategic uncertainty. However, from the entering firm's point of view, this will decrease the possibility of the local partner behaving opportunistically, because it cannot replace the entering firm without costs. Thus, the level of perceived behavioral uncertainty experienced by the entering firm can be expected to decrease. As a summary, the hypotheses related to different dependence types and perceived strategic uncertainty can be expressed in the following way

H5a: Local firm's dependence on the entering firm will have a negative influence on the entering firm's perceived behavioural uncertainty.

H5b: Entering firm's dependence on the local firm will have a positive influence on the entering firm's perceived behavioural uncertainty.

2.2.3. Risk-seeking attitude and its impact on perceived uncertainty components

The original TCA employs the assumption of risk neutrality. By employing this assumption Williamson believes that the core efficiency features are then more easily recognised than when risk aversion assumptions are employed. It is also believed that parties aim to craft structures with superior risk-bearing properties, if the penalties for incapacity to bear risk are great. Therefore, risk attitudes are not considered to have any

effect on decision making. The assumption is upheld especially in the case when focus is on intermediate product markets, because the risk neutrality assumption is assumed to be a close approximation. In spite of these arguments, the assumption of risk neutrality raises some questions. This is also recognised by Williamson himself when he admits that the assumption ignores the risk attitudes of managers, which for some purposes can be of utmost importance (Williamson 1985:388–389).

Firms are not alike and there are differences in the way firms are willing to take risks, which will also reflect directly on decision-making behaviour. Chiles and McMacin (1996) among others recognise that managers' risk preferences may vary in addition to risk neutrality from risk aversion to risk seeking. They argue that sometimes the contradictory results found in empirical studies using TCA could be resolved by incorporating a range of risk preferences into the model. This discussion is related to the research stream on risk behaviour, where an extensive amount of studies has been conducted. In an excellent review by Sitkin and Pablo (1992) they found three groups of factors, which were most often offered to explain a decision maker's more or less risky response to a problem. The main groups are the following: 1) characteristics of individual decision-maker, 2) characteristics of the organisational context and 3) characteristics of the problem itself. As can be seen in Table 3, nine factors, belonging to the main groups, have been generally argued to directly influence risk behaviour. From these, the most interesting ones, considering the focus in this study, are risk preferences, risk propensity and risk perception, all belonging to the group of characteristics of the individual decision maker. Risk preferences are understood to represent the general desire to pursue or avoid risks and risk propensity refers to the general likelihood to behave in a more or less risky way. Risk perceptions on the other hand are the decision maker's assessment of the risk inherent in a situation. However, Sitkin and Pablo (1992) differs compared to prior studies by arguing that not all the factors mentioned will directly influence risk behaviour, but rather indirectly through the mediating mechanisms of risk propensity and risk perception. Thus, risk propensity and risk perception are assumed to directly influence risk behaviour while the other seven factors are argued to have an indirect influence.

Table3. Characteristics influencing risk behaviour.

Characteristics of the individual decision maker	Characteristics of the organisational context	Characteristics of the problem itself
Risk preference	Group composition	Problem familiarity
Risk propensity	Cultural risk values	Problem framing
Risk perception	Leader risk orientation	
	Organisational control systems	

Although we agree on that risk propensity and the perception of the risk will directly influence on risky decision making behaviour, an argument put forward by Sitkin and Pablo (1992) that risk propensity also influences indirectly through risk perception is considered interesting. A similar kind of argument is presented by Kulkarni (2001), who argues that differences in the firm's perceptions of the level of uncertainty are caused mainly because of firm's different risk preferences toward different uncertainty types. Kulkarni (2001) specifically discusses why there are differences across firm's risk preferences toward competitive and behavioural uncertainty. The differences are explained mainly by firm-level and industry-level factors. He argues that the management of some companies may exhibit greater entrepreneurial drive and willingness to face competitive uncertainty than others and firms in industries with high demand and technological volatility are accustomed to taking more risks.

The differences in risk preferences in behavioural uncertainty, on the other hand, are explained by the fact that transacting parties may be familiar with one another and their reputation. In addition, codification of knowledge may be easier in certainty industries exhibiting a higher level of trust. The difference between these studies is that Sitkin and Pablo focus on risk propensity and Kulkarni on risk preferences. The difference between these two concepts is minor. As it was already mentioned above, risk propensity deals with the likelihood to behave more or less in a risky way and risk preferences are understood to describe the general desire to pursue or avoid risk. Both studies were however conceptual and no empirical support for the argument was offered until Sitkin and Weingart (1995) explored the relationship. They found that an individual's tendency to take risks, risk propensity, had negative influence on the individual's assessment of how risky a situation is. This means that the more a decision-maker is willing to take risks, the less risky he or she will perceive the situation and vice

versa. Although the study was focusing on risk behaviour, a similar relationship is expected to be found between risk-seeking attitude and perceived uncertainty.

As well as risk preferences, risk-seeking attitude can also be divided into two opposite risk behaving tendencies: risk-avoiding and risk-seeking. The risk avoiding party will always prefer a certain profit to the prospect of fluctuating profits. Being risk-seeking, a party will always prefer a fluctuating profit to the prospect of certain profits, provided the expected average of the fluctuating profit is greater than the expected value of the certain profit (Chiles & McMackin 1996). Although we have differentiated between perceived environmental and behavioural uncertainty, no difference is expected to exist between risk-seeking attitude and the different uncertainty types. Therefore, we assume that

H6a: The entering firm's risk seeking attitude will have a negative relationship with perceived political and legal uncertainty.

H6b: The entering firm's risk seeking attitude will have a negative relationship with perceived socio-cultural uncertainty.

H6c: The entering firm's risk seeking attitude will have a negative relationship with perceived competitive uncertainty.

H6d: The entering firm's risk seeking attitude will have a negative relationship with perceived demand uncertainty.

H6e: The entering firm's risk seeking attitude will have a negative relationship with perceived behavioural uncertainty.

2.2.4. Volatility and its impact on perceived uncertainty components

One of the most often studied environmental characteristics related to uncertainty is volatility, which is understood to represent the degree of changes in the environment. In many operation mode choice studies, volatility has been treated as representing environmental uncertainty and so in empirical studies uncertainty has been measured by the degree of volatility (see eg. Anderson & Gatignon 1986; Klein et al. 1990; Erramilli

& D'Souza 1995; Robertson & Gatignon 1998). However, using volatility as a measure of uncertainty has been criticised by eg. Milliken (1987). The criticism was based on the argument that although volatility exists it does not mean that there is no knowledge or view about how the possible component is going to change and therefore uncertainty is not automatically present. We can agree with the criticism, but it does not mean that volatility does not play any role in perceived uncertainty. Rather we argue that volatility is one of the possible origins of environmental uncertainty.

In the context of operation mode choice according to our knowledge there are no studies, which have explored the relationship between volatility and perceived uncertainty. Rather, the focus has been on volatility as a measure of uncertainty. However, in organization-environment interface research we can find studies focusing on understanding the link between environmental characteristics and perceived uncertainty. One of the most influential one is the study by Duncan (1972) who identified complexity and dynamism as the two dimensions of environment. The simple-complex dimension was understood to represent the number of factors in the decision unit's environment and the degree of similarity to one another. The static-dynamic dimension on the other hand shows the degree to which the factors of the decision unit's environment remain basically the same over time or are in continuous process of change. They found that depending on the combination of dimensions, a varying level of perceived uncertainty was experienced (see Table 4).

Table 4. Environmental state dimensions and perceived uncertainty (Duncan 1972).

	Simple	Complex
Static	Low perceived uncertainty	Low perceived uncertainty
Dynamic	Moderately high perceived uncertainty	High perceived uncertainty

The most interesting finding was that no significant difference in the amount of perceived uncertainty was found between static-simple and static-complex dimensions. However, between dynamic-simple and dynamic-complex there was a difference, indicating that the degree of change in the environment is the most important factor influencing the level of perceived uncertainty. Similar kinds of dimensions were recognised by Klein et al. (1990) when environmental uncertainty was classified into

volatility and diversity dimensions. Diversity was then defined as “the extent to which there are multiple sources of uncertainty in the environment” (Klein et al. 1990:200). However, both volatility and diversity were treated as direct measures of uncertainty and no relationship between environmental characteristics and perceived uncertainty was studied.

A direct application of the research by Duncan (1972) in operation mode choice context should, however, be avoided because the research was conducted in a different context and no separation between the internal and the external environment was made. In addition, environmental dimensions explained 70% of the variance in perceived uncertainty while the rest of the variance was argued to be explained by the organisational type. However, the findings give support for the argument presented above that volatility is a major factor among several others, which may influence the degree of perceived uncertainty. In addition, according to Bourgeois (1985) previous empirical research has shown that the volatility explains more variance in perceived uncertainty than does complexity at the business level of strategic decision making. Thus, it is argued that

H7a: *Political and legal volatility will have a positive relationship with perceived political and legal uncertainty.*

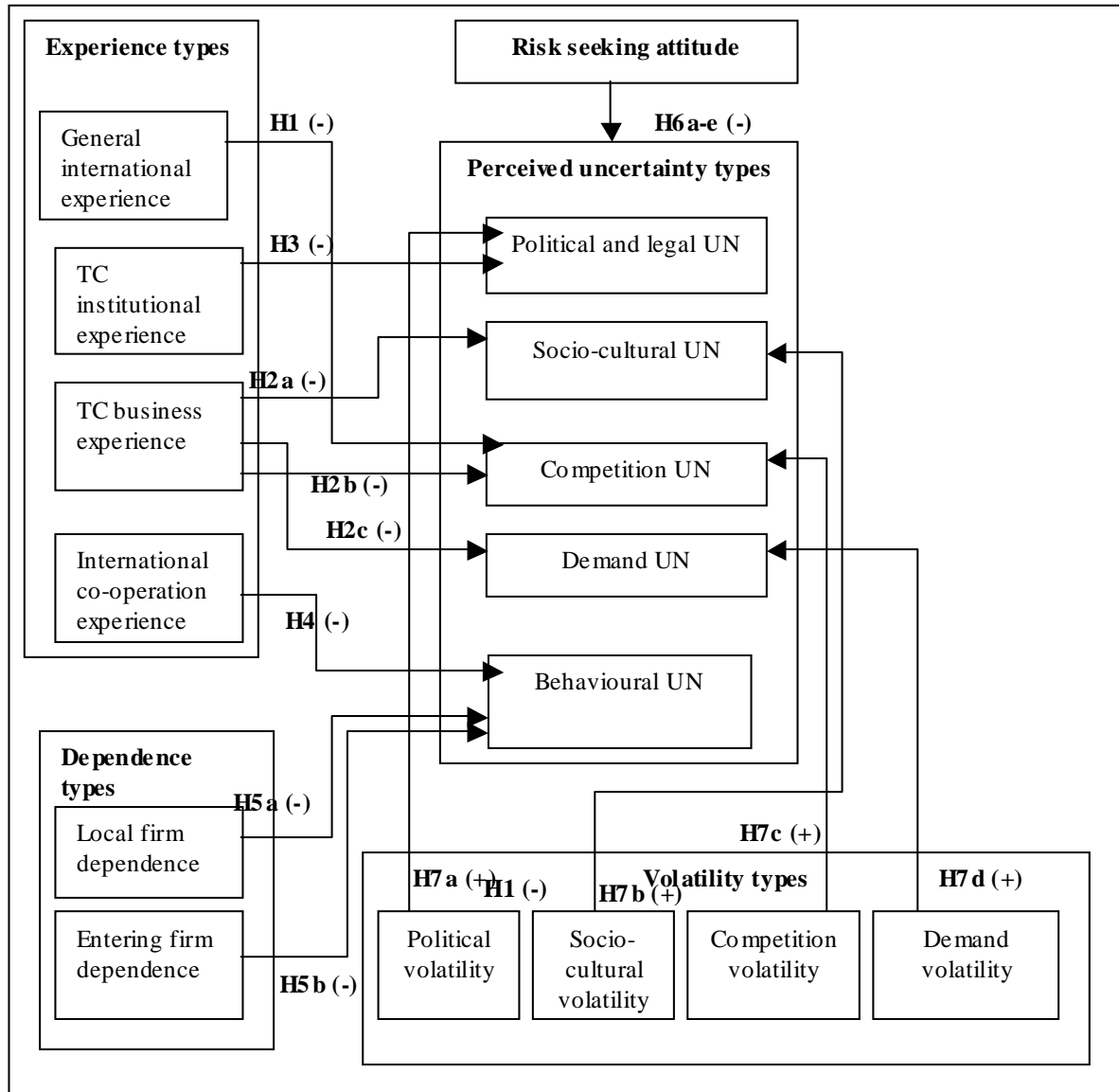
H7b: *Socio-cultural volatility will have a positive relationship with perceived socio-cultural uncertainty.*

H7c: *Competitive volatility will have a positive relationship with perceived competitive uncertainty.*

H7d: *Demand volatility will have a positive relationship with perceived demand uncertainty.*

2.2.5. Summary

A summary of the developed model of formation for managerial perception of uncertainty is presented in Figure 5. It was suggested that experience, dependence, risk-seeking attitude and volatility influence the level of perceived uncertainties. Four experience types were identified. The list of experience types used in the study does not cover all possible experience types, rather they are argued to be the most important ones related to the specific uncertainty types chosen for the study. In the beginning of the chapter prior studies were criticised of relying too strongly on the general assumption of a negative relationship between experience and uncertainty. However, the main point here is not to suggest that both negative and positive relationships can be found between the concepts, but rather that certain experience types may reduce the perceived level of uncertainty types and components, but it may have no influence on some other uncertainty type and component. Two dependence types were identified. Local firm dependence was argued to decrease perceived behavioural uncertainty and entering firm dependence was argued to increase perceived behavioural uncertainty. Risk-seeking attitude, on the other hand, was argued to have negative relationship with all five uncertainty types. Four volatility types, 1) political & legal, 2) socio-cultural, 3) competition and 4) demand volatility, were identified. It was suggested that each of the volatility type would increase their respective uncertainty type.



Note: TC= Target country, UN = Uncertainty

Figure 5. Summary of the formation of managerial perception of uncertainty.

3. INTERNATIONAL OPERATION MODE CHOICE AND EFFICIENCY

In order to be able to analyse the possible efficiency consequences of operation mode choices in the context of specific perceived uncertainty component, the capabilities of specific operation modes in coping with uncertainty need to be evaluated and thus the chapter starts with this subject. This is followed by a discussion related to efficiency considerations in which different types of transaction costs relating to adaptation and control are identified. Finally, a detailed analysis about the possible relationships between individual uncertainty components and operation mode based on efficiency criteria is conducted. The chapter ends with a summary of the developed theoretical framework.

3.1. Adaptation and control capabilities of international operation modes

There is a great number of possibilities to cope with uncertainty ranging from financial arrangements to different strategic responses. Mascarenhas (1982) identifies avoidance, prediction, control, flexibility and insurance to be the main methods to reduce uncertainty and a decade later Miller (1992) suggested five potential strategic responses to uncertainty. These are avoidance, control, co-operation, imitation and flexibility. Both Mascarenhas and Miller also recognise several possible methods, through which firms have tried to achieve either avoidance, prediction, control, flexibility, co-operation, imitation or insurance. Operation mode choice is considered as one of these potential methods. Thus, we recognise that there are several methods, in addition to choosing a specific operation mode, which may be useful in coping with uncertainty. However, in this study we only focus on the role of operation mode choice.

TCA stresses the role of adaptability and control as important methods in coping with uncertainty (Williamson 1991:280). Therefore, a more detailed discussion about adaptation and control on a general level is first conducted. In operation mode choice

studies the use of the adaptation concept has been rare and the focus has been more often on flexibility. The two concepts have often been used interchangeably, but here it is argued that they represent quite different aspects and therefore it is considered to be important to recognise the difference between flexibility and adaptation. Especially in strategic management literature flexibility has often been understood as a possibility to withdraw from markets with least possible costs and therefore it has been strongly linked to the level of resource commitment (see eg. Anderson & Gatignon 1986; Hill, Hwang & Kim 1990; Driscoll & Paliwoda 1997; Aulakh & Kotabe 1997). Resource commitment on the other hand has been, in addition to the degree of control, one of the most often used factors to classify operation modes. Thus licensing, JV and WOS represent the increasing level of resource commitment, but at the same time the decreasing level of flexibility. However, although it is acknowledged that an operation mode requiring the least amount of resources may be a valuable tool for minimising risks by the possibility to exit more easily from foreign markets, the focus in this study is to explore the possibilities of different operation modes to adapt to changing circumstances without leaving the market or changing the operation mode and therefore the focus is on adaptability.

The other important method to cope with uncertainty, control, has often been connected with performance or the success of operations. However, Geringer and Hebert (1989) criticised prior studies for their narrow focus on studying the influence of only one specific control dimension rather than taking all dimensions into account. Through exploring the role of control on the performance and the success of international joint ventures, they identified the following three control dimensions: focus of control, extent of control and control mechanisms. These dimensions were considered complementary and interdependent and therefore all of them were argued to influence performance. An explicit identification of the dimensions suggested that the study of the influence of control on performance is more complex than it perhaps was earlier realised. In order to find out if these control dimensions offer valuable tools for classifying operation modes, a more detailed analysis of them is conducted.

The focus of control was understood as the area over which control is obtained (Geringer & Hebert 1989). Most often the focus of control has been divided into strategic and operational control (see eg. Kim & Hwang 1992; Driscoll & Paliwoda 1997), but some studies have differentiated between operational and marketing control (Agarwall & Ramaswami 1992) and between control over foreign production and marketing activities (Erramilli & Rao 1993). In addition to these rough classifications, also more detailed categorisations have been conducted. One of these studies is by Contractor and Kundu (1998), in which four different control areas are identified. These are 1) daily operational and quality control, 2) control over physical assets or over the real estate and its attendant risk, 3) control over the tacit expertise embedded in the routines of the firm and 4) control over the codified assets such as global reservation system and the firm's internationally recognised brand name. Thus, the focus of control can be divided to represent a great number of areas.

The second control dimension, degree of control, has been one of the most often used dimensions to classify operation modes. Ownership level has been most often linked to the degree of control meaning that the greater the equity share the greater also is the degree of control. Although it has been realised for a long time that other factors also influence the extent of control, still the classification of operation modes according to the degree of control continues to be based on the level of ownership. However, the results from the latest studies (see eg. Child & Yan 1999; Yan & Gray 2001) imply that depending on whether it is a question of equity share or non-capital resourcing, it increases either the amount of strategic control or operational control. To put it more clearly, equity share can be an indicator of the degree of control, but only with the case of strategic control. Operational control, on the other hand is mainly achieved through non-capital resourcing. However, Yan and Gray (2001) found that in the case of an international joint venture, the partner having a higher level of operational control also achieved more of its strategic objectives than the partner with less control. Thus, operational and strategic control can be considered to be interrelated.

In discussions about control mechanisms one of the most influential ones has been considered to be majority ownership, which usually also guarantees the voting control.

However, it is not the only possible control mechanism. In a review by Martinez and Jarillo (1989) a difference between formal and informal mechanisms was made. Geringer and Hebert (1989), on the other hand, refer to Bartlett (1986) who made the difference between context, content and process-oriented control mechanisms and to Schaan (1983) who identified positive and negative control mechanisms. In spite of the identification of different control mechanism groups the main difference is that there are mechanisms, which can be described as formal, structural and bureaucratic and others, which rely more on informal communication and socialisation.

As it has become quite evident from the review above, in spite of the existence of three control dimensions, operation modes have often been classified according to the degree of control. The degree of control, on the other hand, has been linked with the degree of ownership and therefore the ability to control has been considered to be highest in WOS, medium in JV and lowest in licensing. However, the recognition that in addition to ownership level also other control mechanisms may influence the degree of control, raises questions about the importance of classifying operation modes according to the degree of control. The degree of control in the same operation mode may also vary depending on the focus of control. The link between the focus and the degree of control of different operation modes has been explored by eg. Contractor and Kundu (1998).

	Fully owned	Partially owned	Management service	Franchising
Strong control	A,B,C,D	D	D	D
Weak control		A,B,C	A,C	C
Non-existent control			B	A,B

A = daily management & quality control
 B = control over physical assets
 C = control over tacit expertise
 D = control over codified strategic assets

Figure 6. The classification of operation modes according to focus and degree of control (Contractor & Kundu 1998).

As can be seen in Figure 6, the degree of control over codified strategic assets stays high for all studied operation modes ranging from WOSs and JVs to management services and franchising operations and does not decrease based on the ownership level. Thus, to classify operation modes according to the degree of control would require taking into account the complex relationships between the great number of control mechanisms and different areas of focus of control.

Therefore, classifying operation modes according to the degree of control is considered to be too complex to be able to do it unambiguously. In addition, the degree of control is not believed to be the most important dimension in coping with uncertainty. The main difference between different operation modes in relation to uncertainty is argued to be based on control mechanism, because they create the framework through which both control and adaptation is conducted. Thus, control mechanisms and adaptation are considered to be related in a way that certain mechanisms facilitate specific adaptation styles (Williamson 1991).

In Table 5 some examples of formal and informal control mechanisms are presented. It gives a good view about the great number of possibilities that exist to create control. Linking some of the mechanisms to specific operation modes may not be easy, because combinations of formal and informal mechanisms may be used in the same operation mode. In addition, trying to differentiate eg. licensing and WOS based on formal and informal control mechanism is not going to work, because in general both are believed to be dominated by formal mechanisms. Therefore the classification of control mechanisms or control instruments by Williamson (1991:280) into contractual safeguard and administrative control might be a more appropriate way to classify operation modes. Williamson sees that the use of administrative control is weak in market governance, intermediate in hybrids and strong in hierarchy. In hybrids, however, the control instrument is considered to be a mixture of contractual safeguards and administrative apparatus. Williamson also divides adaptation instruments into two groups. The two opposite adaptation styles are autonomous and co-operative adaptation. What is meant by autonomous adaptation (A) is a situation in which each party can respond independently to changes in order to maximise their utility and profits. Co-

operative adaptation (C), on the other hand, refers to a situation in which parties have a long-term bilateral dependency relation with each other, which requires co-ordinated responses to unanticipated disturbances from the parties. Autonomous adaptation is seen strongest in market governance and co-operative adaptation is seen strongest in hierarchy (Williamson 1991: 280–281).

Table 5. Control mechanisms (Schaan 1983; Bartlett 1986; Aulakh & Gencturk 2000).

Formal, negative, bureaucratic	Informal, positive
<ul style="list-style-type: none"> • Process control: monitoring agent’s behaviour • Outcome control: monitoring the results of outcomes • Executive committee • Approval required for specific decisions, plans and budgets, nomination of JVGM • Screening / no objection of parent before ideas or projects are discussed with other parent • Direct interventions, either by top managers or by IJV’s board of directors; bureaucratic, negative • Through reporting relationships or influence on IJV planning and decision making process 	<ul style="list-style-type: none"> • Social control: prevailing social perspectives and patterns of interpersonal interactions • Ability to make specific decisions • Ability to design • Policies and procedures • Ability to set objectives for JVGM • Contracts: management, technology transfer, marketing, supplier • Participation in planning or budgeting process • Parent organisation structure • Reporting structure • Staffing • Training programs • Staff services • Bonus of JVGM tied to parent results • Ability to decide on future promotion of JVGM • Feedback • JVGM participation in parent’s worldwide meetings • Relations with JVGM: phone calls, meetings, visits • Staffing parent with someone with experience with JV • Informal meetings with other parent • Informal and culture-based mechanisms and their essential purpose is to establish an organisational context appropriate for the achievement of parent company objectives

Although Williamson links the control instruments and adaptation styles to market, hybrid and hierarchical governance modes, the operation modes chosen for this study have been often classified according to them in prior studies. Therefore licensing is considered to represent the market governance, joint ventures the hybrids and wholly owned subsidiary the hierarchy mode. Sometimes studies using TCA have also linked

the degree of hierarchy to the degree of control. This has been done eg. in Anderson and Gatignon (1986), which is one of the most often referred study in the discussion of classifying operation modes. They differentiate between high, medium and low-control modes, which also represent the decreasing level of hierarchy. They defend their classification style by referring to Williamson's suggestion about the degree of integration in which progression of integration is seen as the "transference of authority from paper to entities, culminating in the consolidation of authority by one party" (Anderson & Gatignon 1986). Thus, they see that the progression of authority, described by Williamson, also represents the growing degree of control. However, authority does not necessarily guarantee the degree of control, but rather it guarantees the way control is carried out and what kinds of adaptation styles are used.

Also Gulati and Singh (1998) have criticised prior studies with respect to the fact that these do not acknowledge the differences that exist in hierarchical controls across different types of structure and by ignoring the original bases for classifying the governance structure of alliance, which is the degree of hierarchical controls. Gulati and Singh (1998) differentiated contractual alliances, minority investments and joint ventures based on six dimensions of hierarchical control mechanisms. Command structure and authority system, incentive system, standard operating procedures, dispute resolution procedures and non-system pricing system are considered to represent the hierarchical control dimensions. As can be seen in Table 6, contractual alliances, minority equity investments and joint ventures are argued to represent the increasing order of hierarchical controls.

Although it is stated that the typology developed does not rely on the presence of equity as synonymous with hierarchical controls, still the end result is the same: an increase in equity increases the level of hierarchical control and vice versa and therefore one might argue that the classification does not bring anything new to the classification already present in operation mode choice studies. However, the degree of control as such and the degree of hierarchical control are not the same, which leads to the fact that the arguments explaining the choice of operation mode may differ depending on whether they are based on the degree of control or the degree of hierarchical control.

Table 6. Classification according to hierarchical control dimensions (Gulati and Singh 1998).

Dimensions of hierarchical controls	Contractual alliances	Minority investments	Joint ventures
Command structure and authority system	Few if any	Through the presence of an individual from investing firm on the board → some form of command and authority system	Independent → clearly defined rules and responsibilities for each partner Yes
Incentive systems	Few if any	A concern for the value of its equity provides appropriate incentives for the investor	Autonomous unit enables the creation of an incentive system Yes
Standard operating procedures	Few if any	May or may not be. Board representation create a forum in which both partners exchange information and can initiate and ratify decisions on regular basis	Yes
Dispute resolution procedures	Few if any	Resolved through board member intervention	Yes
Non-market pricing systems	Few if any		Yes

Based on the discussion above it is strongly believed that in order to be able to hypothesise about the ability of different operation modes to cope with uncertainty, an appropriate way to classify operation modes should be based on both the control mechanisms and adaptation styles as suggested by Williamson (1991). Therefore, applying the classification of governance modes by Williamson in the operation mode choice context gives the classification seen in Table 7 as a result.

Licensing in its pure form represents strong reliance on contractual safeguards, meaning that the relationship between licensor and licensee is based on written agreement, in which also the penalties in the case of breach of contract are specified. Partners are considered to be independent and free to adapt to changing circumstances in whatever way they prefer without consulting with the partner and thus autonomous adaptations are considered to be high. Wholly owned subsidiaries represent the hierarchical control and adaptation system and, therefore, administrative control systems are considered to be high. Administrative controls like monitoring and career rewards and penalties are

then used. In WOS parties also generally must and do resolve their differences internally, which requires high co-operative adaptation.

Table 7. Classification of operation modes according to control mechanisms and adaptation styles (adapted from Williamson 1991).

Operation mode	Contractual safeguard	Administrative control	Autonomous adaptation	Co-operative adaptation
Licensing	High	Low	High	Low
Joint venture	Medium	Medium	Medium	Medium
Wholly owned subsidiary	Low	High	Low	High

However, differences in the intensity of hierarchical relationships in WOS do exist. Menard (1996, 1997) eg. recognised four types of internal relationships: quasi market, autonomous group, simple hierarchy and complex hierarchy. The classification is based on the degree of human asset specificity and frequency and the types represent an increasing order of hierarchy. Therefore, including all the possible internal organisation types in operation mode choice context in a single category obviously is a simplification of more complex phenomena. However, it is believed that the classification is reliable when the level of hierarchical controls and adaptation styles of WOSs are compared to the level of JVs and licensing. JVs on the other hand can be considered as the most complex operation mode, because identification of control instrument or adaptation style dominant in JVs can not be so clearly specified as in the case of licensing and WOS. Rather JV can be seen to represent both types of control instruments and adaptation styles.

3.2. Adaptation and control efficiency

In this chapter we are interested in exploring adaptation and control efficiency in the context of perceived uncertainty. Efficiency is understood to be achieved by minimising transaction costs (Williamson 1975, 1985) and, therefore, a discussion related to

different types of transaction costs is conducted. Finally, transaction costs relevant to adaptation and control efficiency are identified and chosen for the study.

In the earlier versions of the transaction cost approach, transaction costs were not articulated clearly enough (Rindfleisch & Heide 1997:46). The main emphasis seemed to be on the differentiation between ex-ante and ex-post costs. Williamson (1985:20–22) explained the ex-ante costs to be caused from drafting, negotiating and safeguarding an agreement. Ex-post costs, on the other hand, were understood to include maladaptation costs, haggling costs, set-up and running costs associated with the governance structures and bonding costs of effecting secure commitments. Later, based on their findings from prior studies Rindfleisch and Heide (1997) presented three types of transaction costs, which they believed would increase the understanding of costs. These are costs, which are caused through safeguarding, adaptation and performance evaluation, which all cause both direct costs and opportunity costs. A cost of crafting safeguards refers to direct costs, which are invested in order to discourage potential opportunistic behaviour, and a failure to invest in productive assets was considered to be the opportunity costs of safeguarding. Adaptation to environmental changes, on the other hand, was believed to cause direct communication, negotiation and co-ordination costs and opportunity costs were realised through the failure to adapt, also called as maladaptation. Screening and selection costs together with measurement costs represented the direct costs of performance evaluation and failure to identify appropriate partners and productivity losses through effort adjustments were considered to be the opportunity costs.

Contractor (1990) classified transaction costs into three groups, which differed somewhat from the classification of Rindfleisch and Heide (1997). Costs of negotiating and transferring the information and capability to the other firm and training their personnel formed the first group, opportunity costs of abdicating the market in favour of the licensee or JV corporation comprised the second group, and finally the third group of costs were incurred by the threat of creating a competitor in markets. However, sometimes different terms have been used to represent the same kind of costs. Thus eg. the often used bargaining cost, which is associated with negotiations between transacting parties, represents about the same as negotiation costs. In addition,

monitoring costs, which are related to the guarantee of fulfilment of contractual obligations, can be regarded the same as measurement costs (Dahlström & Nygård 1999). Hennart (1989, 2000) on the other hand stressed the importance to also take into account the internal organisation costs, often called bureaucratic costs, in addition to the market transaction costs. Motivating employees to fully contribute to the firm's goals and collecting information and transmitting it faithfully to superiors is understood to cause internal organisation costs.

A great number of different types of transaction and internal organisation costs were thus identified. In the context of uncertainty we base our discussion of the relative efficiency of different operation modes on the differences in communication / information, negotiation, co-ordination and monitoring costs (see Table 8). These costs are believed to capture the essential differences of operation modes arising from their differing adaptive and control styles. Communication / information costs, negotiation costs and co-ordination costs are believed to be related to adaptation efficiency. Monitoring costs, on the other hand, are linked to control efficiency.

Table 8. Selected types of costs and their definitions.

Types of costs	Definition
Communication / information costs	Arising from collecting information and communication new information
Negotiation costs	Arising from renegotiating agreements
Co-ordination costs	Arising from co-ordinating activities to reflect new circumstances
Monitoring costs	Arising from measuring the performance

3.3. Conceptual framework of efficient international operation mode choice

In this chapter we are interested in exploring whether some operation modes are more efficient in managing perceived uncertainty than others. In the following, specific hypotheses about the relationship between different uncertainty components and operation mode choice are presented. The hypotheses are based on TC logic and, thus, an operation mode minimising transaction costs is considered to be the most efficient

one. Transaction costs included in the study are communication / information, negotiation and co-ordination costs representing the costs related to adaptation efficiency and monitoring costs, which are considered to be relevant for control efficiency.

Perceived political and legal uncertainties are understood to represent the unpredictability of the political power structure and unpredictability of future laws and regulations related to operations of foreign firms, respectively. *Perceived socio-cultural uncertainty*, on the other hand, is understood to represent the unpredictability of the future state of social environment. (Miller 1992; Brouthers 2002.) These two uncertainty components are discussed in the same chapter, because efficiency of operation modes is considered to be the same for both components. In order to reduce political, legal or social uncertainty receiving information about the potential changes in time becomes essential. However, this requires being present on the market. Thus, related to information collection JV and WOS offer the best possibilities to do that and from these JV clearly outperforms WOS because of the existence of a local partner, which may already have well-developed relations to decision makers or have the knowledge of possible problems in the social environment (Beamish & Banks 1987). However, if the potential changes in regulations were so dramatic that they would require eg. changes in the ownership arrangements, co-operative adaptation capabilities or administrative control style, which are present in WOS and JV, do not offer any help. Rather, on the contrary, they would just cause bureaucratic costs, which could not be covered by potential low co-operative or control costs. Also prior studies support that at least in the case of high political uncertainty firms prefer to choose a less integrated operation mode (see eg. Kim & Hwang 1992; Aulakh & Kotabe 1997; Contractor & Kundu 1998). Therefore we suggest that

H8: *The higher the perceived political and legal uncertainty, the more probable it is that a firm chooses a less integrated operation mode.*

H9: *The higher the perceived socio-cultural uncertainty, the more probable it is that a firm chooses a less integrated operation mode.*

Perceived competitive uncertainty is understood to represent the unpredictability of the future state of competition (Miller 1992; Brouthers 2000). Thus, it refers to the inability to know what competitors are planning to do or whether, the intensity of competition is going to change because of new entrants coming to the markets or old ones exiting from the market (Sutcliffe & Zaheer 1998). Attempts are made to collect information about potential competitors and their behaviour increasing the information and communication costs. However, it is believed that the level of these costs is about the same in every operation mode, because the possibilities to receive the information do not differ among them. The difference in operation mode efficiency in the phase of competitive uncertainty is argued to be caused mainly by co-ordination abilities and costs. Unexpected changes in the actions of competitors require quick and co-ordinated adaptations of the foreign firm. In a licensing agreement co-ordination is expected to be the most difficult, in fact the entering firm has almost no possibilities to change its operations and therefore co-ordination costs are increasing. In the case of JVs, both co-ordinated and automatic adaptation styles are present, but because of the need to negotiate with both the JV managers and the local partner before being able to make any decisions, negotiations take more time and thus increase the costs. WOSs on the other hand have a clearly co-ordinated adaptation style based on clear authority relations and changes in strategies and making new decisions are believed to be done in a smoothly fashion and thus with the lowest costs.

Results from prior studies have sometimes showed that competitive uncertainties have influence on the operation mode choice and in some cases that they have no influence. Sutcliffe and Zaheer (1998) found that high competitive uncertainty increased the likelihood to choose a less integrated operation mode while Brouthers et al. (2002) found no significant influence. The results were just the opposite from what was expected. Sutcliffe and Zaheer (1998) assumed that the relationship would be positive, because co-ordination and bargaining costs were believed to be minimised in a more integrated mode. However, in Brouthers et al. (2002) it was assumed that an increase in competitive uncertainty would increase the use of more independent modes like licensing, because the large number of competitors is believed to make entering by an integrated mode less profitable. Thus, prior empirical studies do not offer support for

positive relationship between competitive uncertainty and operation mode choice. However, the empirical studies focused on the operation mode choice and did not test how the choice influences efficiency. The following hypothesis is based on efficiency assumption and the arguments presented earlier and therefore we suggest that

H10: The higher the perceived competitive uncertainty, the more probable it is that a firm chooses a more integrated operation mode.

Perceived demand uncertainty was understood to represent the unpredictability of future demand for the production of entering firm (Miller 1992; Brouthers 2002). In prior studies demand uncertainty has increased the likelihood to choose a more integrated operation mode (see Brouthers 2002; Robertson & Gatignon 1998). These results were in accordance with the original arguments. Brouthers (2002) argued that when demand uncertainty is high both service and manufacturing firms prefer local market knowledge, which is more easily available through more integrated modes. Local market knowledge, on the other hand, is believed to be desired because it would help to make adaptations to the products and develop the communication style towards consumers. However, Madhok (1993) and Kim and Hwang (1992) found that demand uncertainty had no significant influence. Kim and Hwang (1992) suggested that a negative relationship exists, because of the unwillingness of MNCs to invest substantial resources in order to increase its ability to exit the market without incurring costs if demand does not reach a significant level. But in spite of the fact that there sometimes was not any significant evidence found that demand uncertainty had influence on operation mode choice, there is no contradiction in the direction of the influence in those cases when it was found. High demand uncertainty seems to increase the use of more integrated operation mode.

Thus, in order to decrease the demand unpredictability, learning about customers and their perceptions is needed, which on the other hand requires collecting information (Williamson 1985). Information collection is believed to be easiest and fastest in case of JVs, in which a local partner may already have the information or at least they can receive it more easily than a foreign firm can (Beamish & Banks 1987). Collecting this information in a licensing agreement is considered to be difficult, because it would

require being at the market. A WOS on the other hand is present in the local markets, but because of not knowing the markets as well as perhaps the local partner in a JV, the information collection is more difficult. In addition to information collection the coordinated adaptation style also becomes essential in coping with demand uncertainty. Unexpected changes require quick responses, which is assured in WOS. However, comparing the efficiency of JV and WOS, it is believed that WOSs are more efficient, because information is considered to be collected quickly, which also helps in making the decisions and changes to the products. Therefore we suggest that

H11: The higher the perceived demand uncertainty, the more probable it is that a firm chooses a more integrated operation mode.

Perceived behavioural uncertainty is understood to represent the unpredictability of opportunistic behaviour of the potential partner. With low perceived behavioural uncertainty there is no need for elaborated contractual safeguards allowing contracts to be specified more loosely because of the expectation that ex-ante gaps will be dealt with ex-post in a fair manner (Chiles & McMackin 1996). Therefore it is expected that communication and renegotiations are conducted smoothly and information is transferred easily. Without the need for administrative control the costs in the context of low perceived behavioural uncertainty are believed to be lowest in licensing, medium in JV and highest in WOS. However, with high perceived uncertainty in order to control the potential opportunistic behaviour a great amount of contractual safeguards, which are costly, should be conducted in licensing agreements. Also the monitoring of the partner behaviour involves an increasing amount of costs. However, in WOS authority control mechanisms are present, making it possible to control and give orders with less cost than in licensing (Robertson & Gatignon 1998). JVs on the other hand represent an increasing amount of control costs, because the number of relationships to be controlled is greater than in WOS (Woodcock et al. 1994). Therefore we suggest that

H12: The higher the perceived behavioural uncertainty, the more probable it is that a firm chooses a more integrated operation mode.

The four hypotheses about the influence of perceived uncertainty components and operation mode choice were based on TCA logic and thus we argued that firms base their decisions on efficiency considerations. This, of course is not always the case, but also other factors affect. However, we argue that firms, which have made their operation mode choices according to TCA logic, will be able to adapt to unexpected changes and control opportunistic behaviour more efficiently than the ones which have made their choices differently. Adaptation efficiency is considered to be relevant in evaluating the efficiency in the case of political & legal, socio-cultural, competitive and demand uncertainty. On the other hand, control efficiency is relevant in the case of behavioural uncertainty, thus we suggest that

H13: In the context of political, legal, socio-cultural, competitive and demand uncertainty the adaptation efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not.

H14: In the context of behavioural uncertainty, the control efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not.

3.4. Summary of the theoretical framework

In this chapter we summarise the theoretical framework developed in previous chapters taking into account the antecedents of perceived uncertainty, the influence of perceived uncertainty on operation mode choice and the efficiency results of those choices.

In Figure 7, the model is presented. In the case of perceived political & legal uncertainty target country institutional experience and risk-seeking attitude is suggested to have negative influence on the level of perceived political and legal uncertainty, and volatility in political and legal environment is suggested to have a positive influence. The adaptation efficiency is considered to be the most efficient if a less integrated operation mode is chosen in the case of high perceived uncertainty.

In the case of perceived socio-cultural uncertainty, the experience type suggested to influence the perception of uncertainty is suggested to be target country business experience having negative relationship. Volatility in socio-cultural environment is believed to increase the level of perceived uncertainty and risk propensity is believed to decrease the level of perceived uncertainty. Also in this case the adaptation is considered to be the most efficient if a less integrated operation mode is chosen in the case of high perceived uncertainty.

In the case of competitive uncertainty, altogether four factors are proposed to impact perceived uncertainty. Both general international experience and target country business experience representing two experience types and volatility in demand environment and risk propensity are considered to have influence on perceived uncertainty level. Adaptation efficiency is suggested to be highest if a more integrated operation mode is chosen in the case of high uncertainty.

Perceived demand uncertainty is suggested to be influenced by the same factors than in the case of socio-cultural uncertainty. Thus target country business experience, volatility in competitive environment and risk propensity are proposed to impact on the level of perceived uncertainty. The most efficient adaptation is believed to be achieved through the use of a more integrated operation mode in the case of high perceived uncertainty.

Perceived behavioural uncertainty differs from other uncertainties in a couple of ways. First of all dependence, international co-operation experience and risk propensity are proposed to influence on the level of perceived behavioural uncertainty. Secondly, the efficiency consideration focuses on control efficiency instead of adaptation efficiency. Thus control efficiency is considered to be highest if a more integrated operation mode is chosen in the case of high uncertainty.

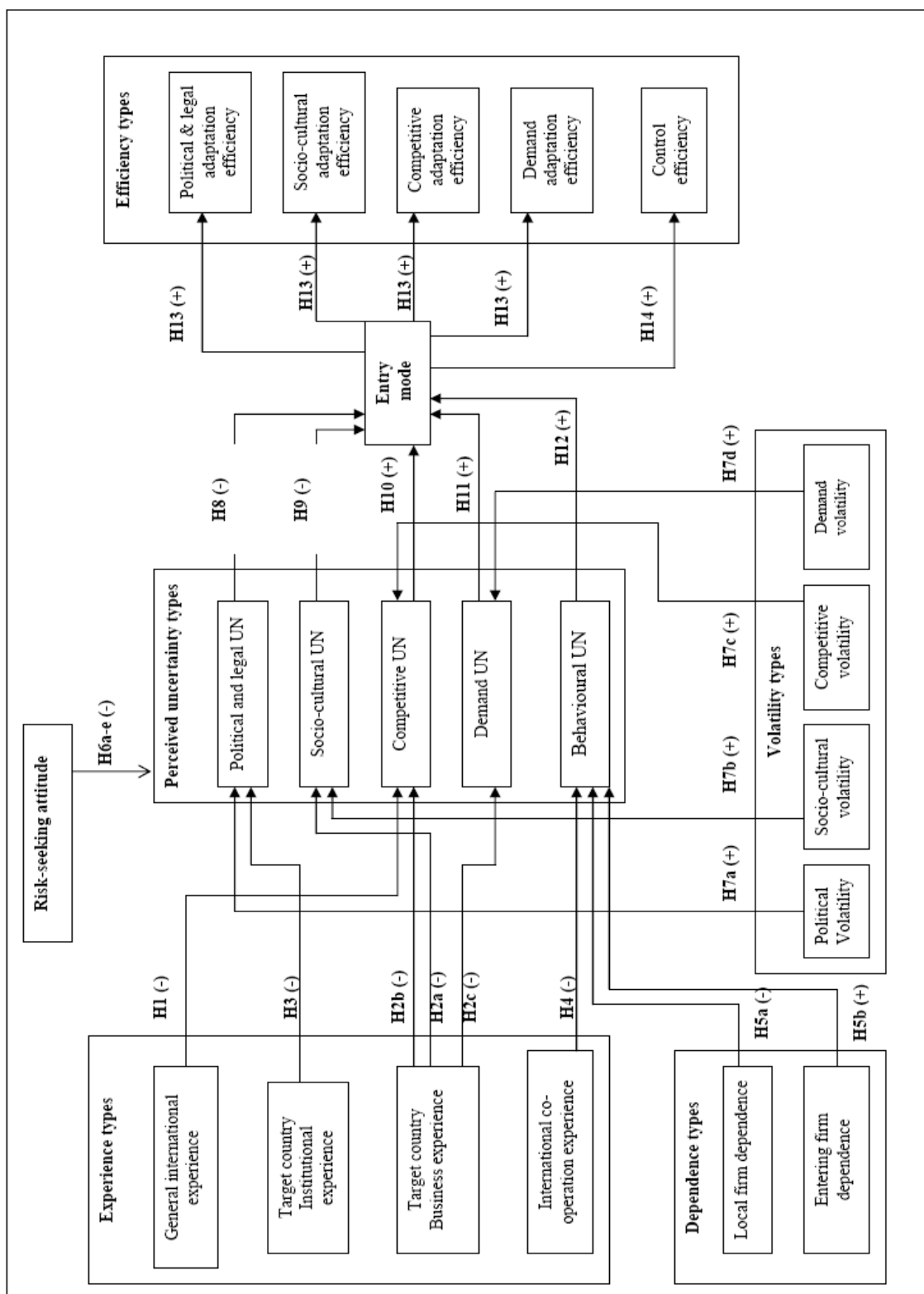


Figure 7. The conceptual model

4. EMPIRICAL RESEARCH DESIGN

In this chapter the empirical research design of the study is presented. The chapter consists of a description of the mixed method strategy, quantitative research method and qualitative research method applied in the study.

4.1. Mixed method strategy

According to several authors (see eg. Jick 1979:135; Creswell 2003:211) there is a distinct tradition in research methods that advocates the use of multiple methods. A number of terms are used for this approach such as convergent methodology, multimethod / multitrait, convergent validation, triangulation, integrating, synthesis and quantitative and qualitative methods. Lately, however, the writings use the term mixed methods. (Jick 1979; Creswell 2003). Creswell (2003:18) defines the mixed method approach as “one in which the researcher tends to base knowledge claims on pragmatic grounds”. Mixed methods “focuses on collecting and analysing both quantitative and qualitative data in a single study” (Creswell 2003:210).

Depending on 1) the implementation sequence, 2) priority, and 3) the integration stage of quantitative and qualitative data collection and data analysis and 4) the role of theoretical perspective in the study, six alternative strategies of mixed methods have been identified. In 1) *sequential explanatory strategy* quantitative data collection and analysis is conducted first, followed by qualitative data collection and analysis. Priority is given to quantitative data and the methods are integrated during the interpretation phase of the study. It may or may not have a specific theoretical perspective. 2) *Sequential exploratory strategy* is also conducted in two phases and the findings of these phases are integrated during the interpretation phase. In contrast to the previous strategy, this model is characterised by an initial phase of qualitative data collection and analyses followed by quantitative data collection and analysis. The priority is given to qualitative data. In addition, this strategy may or may not also be implemented within a prescribed theoretical perspective. 3) *Sequential transformative strategy* also has two distinct data collection phases, but in this design either method may be used first and the

priority may be given to either quantitative or qualitative method or even to both. Additionally, the integration is done in interpretation phase and the strategy has a theoretical perspective to guide the study. In **4) concurrent triangulation strategy** quantitative and qualitative data are collected simultaneously. Preferably, the priority is equal between the two methods, but the priority may be given to either the quantitative or qualitative approach. In addition, the integration is done during the interpretation phase. Also in **5) concurrent nested strategy** both types of data are collected simultaneously. However, one of the methods has a priority and, thus, it guides the study. The integration of the two methods takes place already in the data analysis phase. Additionally, the strategy may or may not have a guiding theoretical perspective. The last option for a mixed method strategy is **6) concurrent transformative strategy**. In this strategy the two types of data are collected simultaneously and may have equal or unequal priority. In most of the cases the integration is done during the data analysis phase, but it can also take place in the interpretation phase. However, the most distinctive feature of concurrent transformative strategy is that it is guided by the researcher's use of a specific theoretical perspective. (Creswell 2003:209–219).

In this research *the sequential explanatory strategy was applied*. Thus, the collection of quantitative and qualitative types of data was done in different phases. First, quantitative data was collected by using questionnaires. This was followed by the analysis of the quantitative data using the structural modelling approach with PLS method. First, the developed structural model was tested. However, several of the hypotheses suggested in the theoretical discussion were not supported. Thus, in order to explore in more detail the relationship between antecedents of perceived uncertainty, perceived uncertainty, entry mode choice and efficiency, the structural relations in five uncertainty contexts were explored. However, there were still some unanswered questions. Thus, in order to increase the understanding, but also to improve the reliability and validity of the study, six cases were selected for a more detailed analysis. Thus, qualitative data on these six cases was collected through interviews. This was followed by case analysis in which questionnaire based data and data based on interviews were used. As a result, the priority was given to quantitative data. In addition, the integration of quantitative and

qualitative data analysis was done during the interpretation phase. The process of research strategy is visualised in Figure 8.

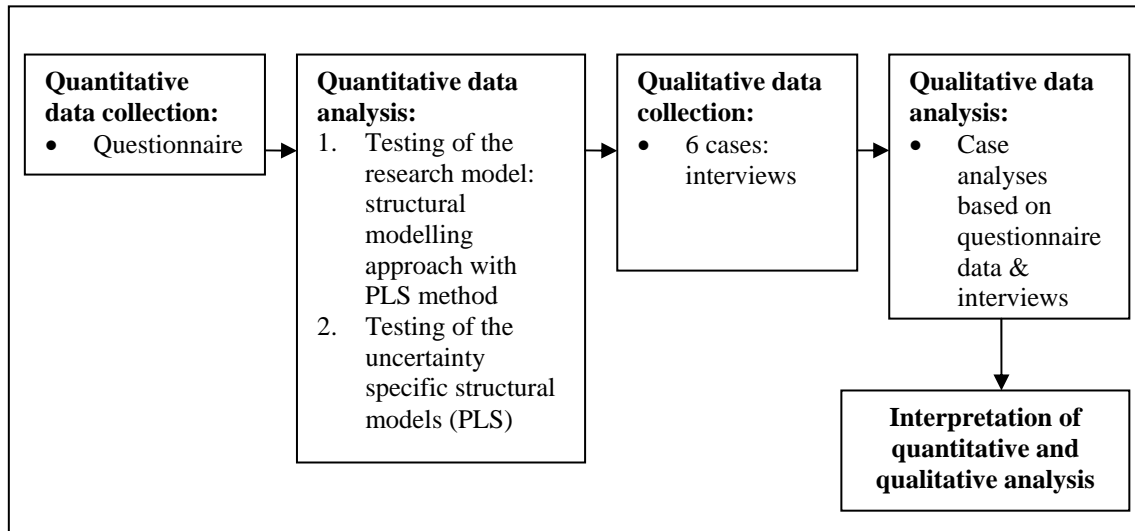


Figure 8. Sequential explanatory strategy applied in the study.

Because sequential explanatory strategy is applied in this research, the remaining discussion on the research methods also follows that structure. Therefore, the quantitative method is discussed first, followed by the qualitative method.

4.2. Quantitative study

In this chapter the quantitative research method of the study is presented. The chapter consists of a description of the data collection, applied statistical methods, measurement operationalisations and discussion of reliability and validity.

4.2.1. Data collection

In this section the data collection is described based on the population, questionnaire and pilot test and the data gathering process and response patterns.

Population

The target population of the study consists of Finnish firms having licensing, joint venture or wholly owned subsidiary operations in Asia operating in different sectors.

Information about the firms was obtained from FINPRO, which is an organisation helping Finnish companies enter the international market by providing services, support and information. The information contained the names of the firm and manager, entered country and selected entry mode classified into two groups: licensing and subsidiary. Sometimes more specific information about the nature of subsidiary was available and thus some operations were classified as sales offices. However, in most of the cases no detailed information about the subsidiary operation was available. Although the data lacked some important information and it was realised that it could also suffer from problems such as recording errors, the database was believed to provide the best available starting point for carrying out a survey. The total number of firms based on the data-base from FINPRO was 111 and the number of cases was 305. From the cases 56 were licensing operations and the rest 249 represented either joint ventures or wholly owned subsidiaries.

Questionnaire and pilot test

A 7-page questionnaire was designed based on the review of the literature. Questions related to 1) background information 2) perceived uncertainty components, 3) experiential knowledge, 4) dependence, 5) risk-seeking attitude, 6) volatility, 7) adaptation and control costs were formed. Three questionnaires were designed; one for each entry mode. Although the main questions were the same in all three forms, some background information varied depending on the entry mode in question. In order to shorten the questionnaire and to make it more specific a decision was made to develop three different versions. The original Finnish version of the questionnaire is presented in Appendix 1. The same questions are presented in English, in Section 4.2.3.

As a pilot test, firstly five colleagues were asked to check the questionnaire. They were asked to give feedback on the wording and format of the questionnaire. Some modifications related to both wording and format was made in order to make the questionnaire more understandable and easier to fill in. After the modifications were done two managers from different firms were asked to fill in the questionnaire. The managers were asked to give feedback on the content, wording, format and concepts of

the questionnaire. The main effect was that in some questions more detailed instructions were added in order to clarify the terms used in the question.

Data gathering process and response pattern

Prior to sending the questionnaires firms were contacted by phone in order to check if the information from FINPRO was correct, to identify the right managers to respond to the questionnaire, to motivate managers to answer the questionnaire and to receive some background information. The criterion used to define a suitable respondent was the following: the person should have been involved both in the original entry mode decision and the operation after the entry. That was considered critical in order to get reliable information. Information received through phone calls decreased the amount of potential cases to 119. Reason for this was that some of the information was not correct, meaning that the actual *entry had not ever taken place* (10) or the *entry mode used was different* (60) than reported in the data-base and not suitable for this research. Entry modes that were deleted from the sample divided into the following groups: representative offices (46 cases), export or import (9 cases) and management services (5 cases). On top, some of the operations were actually *implemented by foreign firms* (6 cases) and were now listed in the data-base under the Finnish firms name as a result of acquisitions and mergers. Also in some cases of larger Finnish firms, the *foreign subsidiary had actually been responsible* (5 cases) in planning and implementing the entry into an Asian country. In addition, in some cases (15) the subsidiaries in Asia had been sold and were not part of the firm's operation any more. Also when the nature of operation was clearly focused on something else than manufacturing or marketing, the cases were excluded from the sample (42). In some cases the person(s) able to answer the questions was (were) no longer employed by the firm and therefore no suitable persons to answer the questions were available or the entry had taken place decades ago and thus the questions were considered too difficult to answer reliably (18). In addition, in some cases the information had been presented twice. This was the case with large corporations with different strategic business units, whose operations were listed as separate although in practice they were operating as a single case (6).

The questionnaires were sent in March 2003 to the managers identified by phone calls or by other sources. The first round resulted in 18 filled questionnaires. The questionnaires were re-sent in May 2003 to those who had not yet returned it. The second round resulted in 6 filled questionnaires. Thus there were 24 answered questionnaires. An attempt was made to contact managers by phone or e-mail in June 2003 to remind them of the questionnaires and to suggest the possibility to answer the questionnaire on the phone or with the presence of researcher. Because of the difficulties to get in touch with the people and their refusal to answer the questions, only six more filled questionnaires were received. Thus the total number of returned questionnaires was 30. In spring 2005, third attempt was made to contact managers by phone and ask them to take part in the study. Additional 30 filled questionnaires were received. Thus the total number returned questionnaires was 60 of out of 119 and thus the response rate was 50 %.

4.2.2. Structural modelling approach with PLS method

Choice of structural modelling approach

Structural equation modelling (SEM) techniques has been described as a second-generation multivariate technique in which two traditions are coupled. Thus SEM is understood to consist of both an econometric perspective focusing on prediction and a psychometric emphasis that models concepts as latent variables that are indirectly inferred from multiple observed measures. In general, it has been stated that the advantage of SEM-based techniques over first-generation techniques is the greater flexibility for the interplay between theory and data. This means that the researcher has the flexibility to model relationships among multiple predictor and criterion variables, to construct unobservable latent variables, to model errors in measurements for observed variables and to statistically test a priori substantive / theoretical and measurement assumptions against empirical data. (Chin 1998:295; Chin & Newsted 1999:307–308).

Structural equation approach can be applied by using different methods. The most often used method is covariance-based structural equation modelling (CBSEM), on which also well-known software such as LISREL and AMOS are based. One of the alternative

techniques is a method of partial least square (PLS), developed by Wold's. (Fornell & Bookstein 1982:440). The choice of an appropriate method depends on the assumptions about data, theory, and the ties between unobservable variables and indicators (Chin & Newsted 1999). In order to justify the choice of method applied in this study, the main differences of PLS and CBSEM related to their objectives, approach, assumptions, parameter estimates, latent variable scores, epistemic relationship between a latent variable and its measures, implications, model complexity and sample size will be discussed (see Table 9).

Table 9. Comparison of PLS and CBSEM (Chin & Newsted 1999).

Criterion	PLS	CBSEM
Objective	Prediction oriented	Parameter oriented
Approach	Variance based	Covariance based
Assumptions	Predictor specification (non-parametric)	Typically multivariate normal distribution and independent observations (parametric)
Parameter estimates	Consistent as indicators and sample size increase (i.e. consistency at large)	Consistent
Latent variable scores	Explicitly estimated	Indeterminate
Epistemic relationship between a latent variable and its measures	Formative or reflective mode	Reflective mode
Implications	Optimal for prediction accuracy	Optimal for parameter accuracy
Model complexity	Large complexity (eg. 100 constructs and 1000 indicators)	Small to moderate complexity (eg. less than 100 indicators)
Sample size	Power analysis based on the portion of the model with the largest number of predictors. Minimal recommendations range from 30 to 100 cases.	Ideally based on power analysis of specific model – minimal recommendations range from 200 to 800.

Chin (1998) argues that there is philosophical distinction between the two approaches. PLS approach is considered to be more suitable for application and prediction and CBSEM for theory testing and further development. Thus, the objective in covariance-based procedures is to obtain optimal parameter accuracy. However, in order to obtain consistent parameter estimates, the data needs to follow a specific multivariate distribution and observations have to be independent. On the contrary, the variance-based approach of PLS shifts the orientation to component-based predictive modelling. PLS is also a distribution-free approach. In PLS approach the latent variable scores are explicitly estimated and thus the scores are determinate. In covariance-based approach

there is an inherent indeterminacy, so the case values for the latent variables are never obtained. Thus, there is no possibility to predict the observed variables. (Fornell & Bookstein 1982; Chin 1998.)

The two approaches also differ in the epistemic relationship between a latent variable and its measures. There are two possibilities to model the relationship: the reflective way and the formative way. Covariance-based analysis usually require reflective indicators, but PLS can apply both types of indicators. (Chin 1998). The basic difference in reflective and formative models is the assumed direction of causality between the latent construct and the observed variables. In the reflective model, the latent construct causes the variance of observed measure and in the formative model, the measures cause the latent construct. (Jarvis, Mackenzie & Podsakoff 2003). The difference between reflective and formative models can be seen in Figure 9.

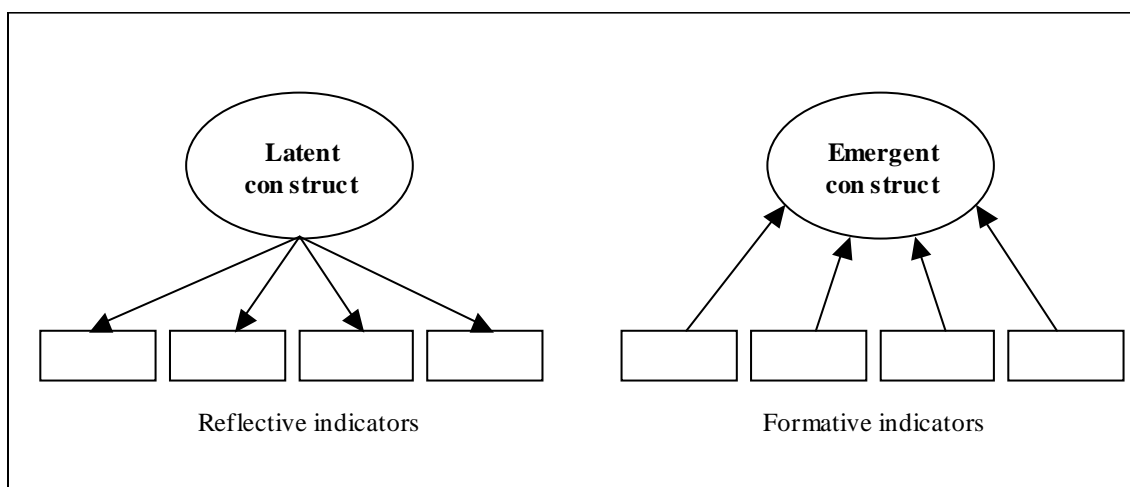


Figure 9. Reflective and formative models (adapted from Jarvis et al. 2003:201).

PLS can also handle much larger and complex models than the covariance-based approach, with many latent variables and indicators. In addition, the sample size requirements in PLS are minimal relative to CBSEM.

In this study PLS approach is chosen over CBSEM. The reasons for choosing the structural modeling approach with PLS method will be discussed in the following sections. Firstly, the objective of the study supports the choice of PLS method. The

objective in this study is both theory testing and prediction. This is so because part of the structural model, which is under investigation, is based on a strong theory but part of it on a weak theory.

Secondly, the small sample size ($n=60$) restricts the use of covariance-based method. Small samples in CBSEM can lead to poor parameter estimates and model test statistics. In addition, there is potential for Type II error, whereby a poor model can still falsely achieve an adequate model fit. Although statistical testing with sample size as low as 100 has been conducted by using LISREL or AMOS, it is, however, recommended that the sample size should be at least 200. In this study the sample size is 60, which prevents the use of covariance-based method. In PLS the minimal sample size requirement is ten times the greater of the following: 1) the latent variable with the largest number of formative indicators or 2) the dependent latent variable with the largest number of independent latent variables influencing it (Chin 1998:311). In the study, the largest number of formative indicators is 6 and the largest number of independent latent variables on one dependent latent variable is 5. Thus, the sample size requirement for the structural model under investigation is 60 (10×6), which is fulfilled and supports the use of PLS method in the study. Another data-related reason to choose PLS method is the danger that the data may not follow multivariate normal distribution assumption, which is required in covariance-based method.

Finally, the last reason to support the choice of PLS method over CBSEM is the epistemic relationship between a latent variable and its measures. The study applies both reflective and formative indicators in the measurement of latent variables and therefore PLS is considered to be more suitable for this study. Thus, the objective of the study, the properties of data and the ties between unobservable variables and indicators support the application of PLS method over CBSEM in the study.

Formal specification of the Partial Least Squares model

The latent variable path models in PLS consist of three sets of relations: 1) structural or inner model, which specifies the relationships between latent variables; 2) the measurement or outer model, which specifies the relationship between the observed

variables, often also called manifest variables, and the latent variables and 3) the weight relations upon which case values for the latent variables can be estimated. (Chin & Newsted 1999:321.)

Structural model consists of both exogenous and endogenous variables. Exogenous variable is a latent variable, which never appears as a dependent variable. On the other hand, endogenous variable is the dependent variable. The causality model must be a causal chain meaning that there should be no loop in the causality model. It is assumed that each latent variable is a linear function of its predictors and that there are no linear relationship between the predictors and the residual. (Chin & Newsted 1999:321; Chatelin, Vinzi & Tenenhaus 2002:6.)

The measurement model defines how each block of indicators relates to its latent variable. As was discussed earlier, there are two ways to model indicators to its latent variable: reflective way and formative way. In the reflective way each latent variable is indirectly observable by a set of manifest variables and each manifest variable is related to its latent variable by simple regression. In the formative way it is assumed that the latent variable is generated by its own manifest variable and thus the latent variable is a linear function of manifest variables and is based on multiple regression. (Chin & Newsted 1999:322-323; Chatelin et al. 2002:5.)

The PLS algorithm follows a three-stage process with each stage used to obtain different estimates. In the first stage the weight estimates are obtained through an iterative procedure. As a starting point, the algorithm does an initial outside approximation estimation of the latent variables by summing the indicators in each block with equal weights. The weights, in each iteration, are scaled to obtain unit variance for the latent variable scores over the N cases in the sample. Using the estimated scores for each latent variable as given, an inside estimate of the latent variables is performed. This is followed by outside approximations in which latent variable estimates from the inside approximation are used. Depending on the type of indicators either simple or multiple regressions are performed. In the case of reflective indicators simple regression is performed and in the case of formative indicators

multiple regression is performed. The resulted coefficients are then used as new weights for an outside approximation of each latent variable. In the second stage, the path relations are estimated by ordinary least squares regressions and thus estimates both for the inner model and the outer model are provided. In the third stage the means and location parameters for the indicators and latent variables are estimated. (Chin & Newsted 1999:315–321.)

Model evaluation

Although PLS estimates the measurement model and structural model at the same time, the models are usually analysed and interpreted in two stages. The measurement model is assessed first, followed by the assessment of the structural model. This is done in order to ensure that the construct measures are reliable and valid before conclusions about the relationship between constructs are being made. (Hulland 1999). In the following, the tools for assessing both the measurement model and structural model will be presented.

It has been recommended that the assessment of the measurement model can be conducted by looking at 1) indicator loadings, 2) composite reliability, 3) indicator cross-loadings, 4) AVE (Average Variance Extracted) analysis and 5) weights. (Chin 1998:320-321; Hulland 1999; Gefen & Straub 2000.)

Indicator loadings should be interpreted as principle component loadings within the context of the model (Sääksjärvi 2004:56). Indicator loadings can be used in estimating individual item reliability. The loading for all reflective indicators should exceed 0.55. Formative indicators need not have high internal consistency, nor do they need to be correlated (Hulland 1999; Bollen & Lennox 1991).

Composite reliability (pc) describes the internal consistency of a given block of indicators. Unlike Cronbach's alpha, it does not assume that all indicators are equally weighted, but takes into account the PLS weight (i.e. the standardized regression weight) of each one. Another measure suggested to be used in estimating reliability of latent variable score is ***Average variance extracted (AVE)***. AVE measures the amount

of variance relative to the amount due to measurement error that an LV component captures from its indicators. AVE is considered to be a more conservative measure than composite reliability. It is recommended that AVE should be greater than 0.5, meaning that 50% or more variance of the indicators should be accounted for. AVE analysis can also be used to evaluate the discriminant validity of the measurement model. It will be tested to see if the *square root of every AVE* (one for each latent construct) is much larger than any correlation among any pair of latent constructs. However, guidelines as to how much larger AVE should be are not available. Discriminant validity can also be evaluated by looking at the *indicator cross-loadings*. Each latent variable should share more variance with its own block of indicators than with other latent variable indicators, in order to demonstrate discriminant validity. Established thresholds do not yet exist for loadings. However, all the loadings of the measurement items on their assigned latent variables should be an order of magnitude larger than any other loading. (Chin 1998; Hulland 1998; Gefen & Straub 2000.)

According to Chin (1998), traditional parametric-based techniques for significance testing / evaluation would not be appropriate in PLS method, because PLS doesn't make any distributional assumptions in its procedure for estimating parameters. Instead, it is suggested that tests, which are consistent with the distribution-free / predictive approach of PLS, should be used. Thus, the evaluation of PLS models should apply prediction-oriented measures that are also nonparametric.

It is recommended that the assessment of the structural model should be conducted by 1) looking at R^2 for dependent latent variables, 2) path loadings, 3) significance levels, 3) predictive relevance (Q^2) and 4) model fit (Chin 1998a; Gefen & Straub 2000).

According to Sääksjärvi (2004), *R^2 values* obtained from PLS analysis should be over 0.1 to be meaningfully interpreted. In addition, it is worthwhile to look at the change in R^2 in order to estimate the impact of a particular independent LV on a dependent LV. The importance of the impact of a particular LV can be assessed by calculating the effect size f^2 . The formula for calculating the effect size is presented below. The effect

size of 0.2., 0.15 and 0.35 can be viewed to represent the small, medium and large effect at the structural level (Chin 1998).

$$f^2 = \frac{R^2_{\text{included}} - R^2_{\text{excluded}}}{1 - R^2_{\text{included}}}$$

The corresponding standardised *path estimates and their level of significance* can then be examined. The structural paths and loadings should demonstrate substantial strength as opposed to just statistically significant. Thus, it is recommended that standardised paths should be around 0.2 and ideally above 0.3 in order to be considered meaningful. (Chin 1998b.) The level of significance in PLS is estimated mainly either through bootstrapping or jack-knifing. Bootstrapping is considered a more efficient approach and recommended by Chin (1998) to be more suitable for PLS analysis than jack-knifing. Thus, in this study the bootstrapping approach is applied to examine the level of significance. One of the advantages of bootstrapping is that it doesn't require a known population distribution, but the population information is estimated from the sample. However, the performance of bootstrap also depends on the sample size. The results of some simulation studies suggest that bootstrap can work reasonably well even with N=20. Others show that a sample size ranging from 50 to 400 may be needed for the bootstrap to work. The number of samples (B) also influences the accuracy of the evaluation. For hypothesis testing a two-sided hypothesis at an $\alpha = 0.05$, it is recommended B=2 000 as a minimum number of samples. (Yung & Chan 1999.)

PLS applies the Stone-Geisser test for *predictive relevance (Q²)*. The technique "represents a synthesis of cross-validation and function fitting with the perspective that the prediction of observables or potential observables is of much greater relevance than the estimation of what are often artificial construct-parameters" (Chin 1998 (Geisser 1975)). The PLS adaptation of this approach utilises a blindfolding procedure and as a result, a generalised cross-validation measure and jackknife standard deviations of parameter estimates can be obtained. Thus (Q²) represents a measure of how well-observed values are reconstructed by the model and its parameter estimates. In order to have predictive relevance, Q² should be greater than 0.

When it comes to proper goodness-of-fit measures, it has not existed for models estimated using the PLS method. This has been mainly because existing goodness-of-fit measures are related to the ability of the model to account for the sample covariances and therefore assume that all measures are reflective. These measures, obviously are not suitable for PLS which allow for formative measures. Therefore, it has been recommended that a good model fit is established with significant path coefficients, acceptably high R^2 and internal consistency being above 0.70 for each component. (Chin 1998b; Gefen & Straub 2000.)

4.2.3. Measures

In this chapter, the measures used in the study will be presented. Overall, three types of measures were used: reflective multi-item measures, formative multi-item measures and single item measures. Whenever it was possible, the items on the questionnaire were constructed from items used in previous studies. Most of the items were measured on a five-point Likert type of scale. The operationalised constructs are related to experiential knowledge, dependence, risk propensity, volatility, perceived uncertainties and efficiencies.

Operation mode

The following three types of operation modes were included in the study: licensing, joint venture and wholly-owned subsidiary. The operation mode is treated as a continuous variable, representing the level of integration. Thus licensing is considered to represent the least amount of integration, joint venture the second highest level of integration and wholly owned subsidiary the highest level of integration. Similar type of treatment can be found in other studies. Eg. Erramilli and Rao (1990) developed the level of involvement scale for operation modes. Aulakh and Kotabe 1997 and Klein, Frazier and Roth (1990) treat operation modes as varying levels of integration.

Experiential knowledge

Four types of experiential knowledge were identified. These were general international experience, target country business experience, target country institutional experience and international co-operation experience.

General international experience

Various measures for a firm's general international experience have been used. Many of them are either related to the years the firm has been engaged in international operations prior to the entry (Erramilli 1991; Contractor & Kundu 1998; Padmanabhan & Cho 1999; Burgel & Murray 1999) or to the share of foreign sales of total sales (Agarwall & Ramaswami 1992; Aulakh & Kotabe 1997; Delios & Beamish 1999). Some have measured international experience by the number of countries the firm has operated in (Agarwall & Ramaswami 1992), the geographical scope of target countries (Erramilli 1991), the number of previous entries to international markets (Chan 1995) and the number of properties outside home / total properties (Contractor & Kundu 1998).

The relatively often used measure, the length of foreign operations, was not included in the study because it may give a totally wrong indication about the level of experience when different firms are contrasted. Compare eg. a firm having only one prior foreign subsidiary entered 20 years ago with a firm having operation in ten different countries but the first one started 10 years ago. However, the measure would indicate that the first firm is more experienced than the second one. This obviously cannot be the case. The share of foreign sales to total sales, on the other hand, measures perhaps better the importance of international operations to the firm rather than the level of international experience and was thus excluded from the study.

However, measures focusing on the scope and number of target countries are considered to be more suitable to tackle the level of international business experience. In this study, the firm's general international experience was measured by asking the managers to specify the geographical spread of the firm's international activities. Thus the measurement used by Erramilli (1991) representing diversity of international experience is applied. However, the scale of the measure (see Table 10) was adapted to represent

more appropriately the scope of international experience from the Finnish firms' point of view.

Table 10. Item measuring general international experience.

Item	Scale	Sources
GESPRES: Geographical spread of international activities	1) No international operation prior to entry; 2) Operations in European countries; 3) Operations in one continent outside Europe; 4) Operations in more than one continent outside Europe 5) Operations in every continent	Applied from Erramilli (1991)

Target country business experience

In general, the target country experience measure used in prior studies resembles the general international experience measures and, therefore, the length of operation (Makino & Delios 1996; Luo 1999, 2001) and the number of projects / subsidiaries (Arora & Fosfuri 2000) have been the most often used ones. The difference between the measurements of these two concepts is, of course, such that in the case of target country experience only the time and operations in that specific target country are taken into account. In this study, the combination of these two measures is used and, thus, the total number of years of each operation is considered to represent the target country business experience. This type of summed measurement has also been applied in a few entry mode choice studies (see eg. Delios & Beamish 1999; Padmanabhan & Cho 1999). The measure takes into account both the variety and the length of each operation mode used in the target country and, thus, represents the target country business experience well. The managers were asked to specify which operation mode(s) had been used prior to the entry and to state when the specific operation started and when it finished. Exporting, licensing, other co-operative arrangements, joint ventures and wholly-owned subsidiaries represented the different operation modes. In the case of each entry mode the length of operation was counted by subtracting the starting year of the operation from the finishing year of operation. If the operation had still been going on at the time of the entry, the starting year of the researched operation was used to represent the "finishing" year of the measured operation. After counting the length of each individual mode, they were all added to represent the target country business experience.

Target country institutional experience

Target country institutional experience was measured by using three reflective items (see Table 11). The construct is new. The managers were asked to specify the number of contacts the firm had prior to the entry with target country politicians, government officials and other influential people working in politics and in legal institutions. The scale ranged from 1 = no contacts to 5 = contacts with over ten people.

Table 11. Items measuring target country institutional experience.

Item	Scale
NOPOLA: Number of politicians with whom in contact prior to the entry	1) no contact, 2) 1-2 persons, 3) 3-5 persons, 4) 5-10 persons, 5) over 10 persons
NOGOVA: Number of government officials with whom in contact prior to the entry	1) no contact, 2) 1-2 persons, 3) 3-5 persons, 4) 5-10 persons, 5) over 10 persons
NOINFA: Number of other influential people working in politics and in legal institutions with whom in contact prior to the entry	1) no contact, 2) 1-2 persons, 3) 3-5 persons, 4) 5-10 persons, 5) over 10 persons

International co-operation experience

International co-operation experience was measured by using one item. The managers were asked to specify the number of prior international co-operation agreements. Licensing, franchising, management contracts, subcontracting, contract manufacturing, project operations, joint ventures and strategic alliances with a foreign firm were given as examples of international co-operation agreements. Thus, the number of prior international co-operation agreements represents prior international co-operation experience.

Dependence

In the theoretical part, the following two dependence types were identified: the dependence of entering firm and the dependence of local firm. The perception of the entering firm was adopted for both dependence types. Two reflective type of items were used to measure the *dependence of the entering firm on local firm* (see Table 12) and two reflective items to evaluate the *dependence of local firm on entering firm* (see Table 13). All the four items were adopted from Joshi and Stump (1999) and Jap and Ganesan (2000). The scale ranged from 1 = strongly disagree to 5 = strongly agree. In the case of the dependence of the entering firm the first item asks if the entering firm would have had difficulties to find another partner if the relationship with the partner

had not been realised. The second item asks if the firm perceives to be dependent on the local partner.

Table 12. Items measuring the dependence of entering firm.

Item	Scale	Source
REPEN: If our relationship with the partner hadn't been realised, we would have had difficulties to find another partner	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Joshi & Stump (1999) Jap & Ganesan (2000)
DEPEN: Our firm is dependent on the partner	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Joshi & Stump (1999) Jap & Ganesan (2000)

Similar types of items were used to evaluate the dependence of local firm on the entering firm from the entering firm's point of view. Thus the first item asks if the entering firm thinks that the local partner would have had difficulties to find another partner if the relationship with the entering firm had not been realised. The second item, on the other hand, asks directly if the entering firm thinks that the local partner is dependent on the entering firm.

Table 13. Items measuring the dependence of local firm.

Item	Scale	Source
REPLO: If our relationship hadn't been realised, it would have had difficulties to find another partner	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Joshi & Stump (1999) Jap & Ganesan (2000)
DEPLO: Our partner is quite dependent on us	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Joshi & Stump (1999) Jap & Ganesan (2000)

Risk-seeking attitude

Only one independent construct was used to measure risk-seeking attitude. The construct is new. Risk-seeking attitude was measured by using two reflective items (see Table 14). The first one asks if the firm paid more attention to potential profits than losses and the second one if the firm paid more attention to potential threat than the opportunities. The second item was reverse-coded in order to also represent the increasing level of risk-seeking behaviour.

Table 14. Items measuring risk-seeking attitude.

Item	Scale
GPROLOSS: We pay more attention to potential profits than losses	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree
GTHROPP: We pay more attention to potential threat than to opportunities	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)

RC: Reverse coding

Volatility

Four types of volatility were identified in the theoretical discussion. These are the volatility related to political and legal environment, socio-cultural environment, demand environment and competitive environment.

The measure used by Luo (2001) was applied and thus the managers were asked to evaluate the intensity of changes / volatility at the time of entry related to each of these environments on a scale from 1 representing no volatility to 5 representing very strong volatility (see Tables 15–18).

Table 15. Item measuring perceived volatility of the political and legal environment.

Item	Scale	Source
VOLPOLE: The extent of volatility of political / legal environment	1= no volatility at all, 2= weak volatility, 3= some volatility, 4= quite strong volatility 5= very strong volatility	Luo (2001)

Table 16. Item measuring perceived volatility socio-cultural environment, demand environment.

Item	Scale	Source
VOLSOCU: The extent of volatility of socio-cultural environment	1= no volatility at all, 2= weak volatility, 3= some volatility, 4= quite strong volatility 5= very strong volatility	Luo (2001)

Table 17. Item measuring perceived volatility of the demand environment.

Item	Scale	Source
VOLDEM: The extent of volatility of demand environment	1= no volatility at all, 2= weak volatility, 3= some volatility, 4= quite strong volatility 5= very strong volatility	Luo (2001)

Table 18. Item measuring perceived volatility of the competitive environment.

Item	Scale	Source
VOLCOMP: The extent of volatility of competition environment	1= no volatility at all, 2= weak volatility, 3= some volatility, 4= quite strong volatility 5= very strong volatility	Luo (2001)

Perceived uncertainty components

Altogether five components / sources of environmental uncertainties were included in the study. These are the perceived political and legal, socio-cultural, demand, competitive and behavioural uncertainties.

The measures are adopted from Miller (1992, 1993) who developed an instrument for measuring managers' uncertainty perception and from Werner et al. (1996) who developed the instrument further by assessing its dimensionality and internal consistency. Thus Werner et al. (1996) offered support that each environmental uncertainty component can be evaluated as a whole rather than by evaluating each question independently. The items related to each environmental uncertainty construct were measured on a five-point scale in which the choices ranged from 1 = difficult to predict to 5 = easy to predict. All the items were reverse-coded in order to indicate the level of increasing uncertainty.

Perceived political and legal uncertainty

Six reflective items were used to measure the perceived political and legal uncertainty. The managers were asked to evaluate the degree of predictability of changes in legislation, national laws affecting international business, legal regulations affecting the business sector, tariffs of imported goods and other potential costs, enforcement of existing laws and the ability of the party in power to maintain control of the government (see Table 19).

Table 19. Items measuring perceived political and legal uncertainty.

Item	Scale	Sources
CLEG2: Changes in legislation	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
NATLAWS2: Changes in national laws affecting international business	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
LEGREG2: Legal regulations affecting the business sector	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
TARIFFS2: Tariffs on imported goods and other potential costs	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
ENFORLA2: Enforcement of existing laws	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
CONTROL2: Ability of the party in power to maintain control of the government	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)

RC: Reverse coding

Perceived socio-cultural uncertainty

Perceived socio-cultural uncertainty was measured by four reflective items adopted from Miller (1992). The items asked the predictability of the threat of an armed conflict, riots, demonstrations and terrorist movements in the target country as can be seen in Table 20.

Table 20. Items measuring perceived socio-cultural uncertainty.

Item	Scale	Source
THREAT2: Threat of armed conflict	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1992)
RIOTS2: Riots	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1992)
DEMONST2: Demonstrations	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1992)
TERROR2: Terrorist movements	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1992)

RC: Reverse coding

Perceived competitive uncertainty

Perceived competitive uncertainty was evaluated by using six reflective items, adopted from Miller (1993) and Werner et al. (1996). The first three items focused on the predictability of changes in competitor's prices, markets and strategies at the time of

entry. Predictability of the entry of new firms and the behaviour of both domestic and foreign competitors were the final three items asked to be evaluated (see Table 21).

Table 21. Items measuring perceived competitive uncertainty.

Item	Scale	Source
CHPRICE2: Changes in competitors' prices	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
CHMARKE2: Changes in the markets served by competitors	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
CHSTRAT2: Changes in competitors' strategies	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
ENTRY2: Entry of new firms into the market	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
DOMCOM2: Domestic competitors	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
FORCOM2: Foreign competitors	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)

RC: Reverse coding

Perceived demand uncertainty

Four reflective items were used to measure demand uncertainty at the time of the entry. The managers were asked to evaluate the degree of predictability of client preferences, product demand, the availability of substitute products and complementary products (see Table 22).

Table 22. Items measuring perceived demand uncertainty.

Item	Scale	Source
CLIENT2: Client preferences	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
PRODUCT2: Product demand	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
AVSUBPR2: Availability of substitute products	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)
AVCOMPR2: Availability of complementary products	Degree of predictability 1= difficult to predict... 5= easy to predict (RC)	Miller (1993); Werner et al. (1996)

RC: Reverse coding

Perceived behavioural uncertainty

Perceived behavioural uncertainty was measured by five-point Likert-scale, where the choices ranged from 1 = strongly disagree to 5 = strongly agree. Altogether four reflective items were used to measure the construct. The measures were adapted from Joshi and Stump (1991) and Dahlström and Nygaard (1999). The first two items asked if the firm was afraid that the potential partner would make use of a situation to further their own interests at the entering firm's expense or would not fulfill their promises and obligations. The remaining two items asked the managers to evaluate whether the potential partner would try to hide relevant information and become a potential competitor in the future (see Table 23).

Table 23. Items measuring perceived behavioural uncertainty.

Item	Scale	Source
OWNINT: We were afraid that the potential partner would take an advantage of a situation to further their own interests at our expense	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Adapted from Joshi & Stump (1991)
PROBL: We were afraid that a potential partner wouldn't full fill their promises and obligations	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Adapted from Dahlström & Nygaard (1999)
HIDINF: We were afraid that a potential partner would try to hide information relevant for the operation	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Adapted from Dahlström & Nygaard (1999)
COMPET: We were afraid that a partner would become a potential competitor	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	

Adaptation efficiency

Adaptation efficiency was evaluated for each environmental uncertainty component used in the study and, thus, altogether four adaptation efficiency constructs were formed representing the adaptation efficiency for 1) political and legal environment, 2) socio-cultural environment, 3) demand environment and 4) competitive environment.

Each of the adaptation efficiency construct was measured using six similar formative items. The only difference between the items in different adaptation efficiency constructs is that the statements / questions were modified to represent the specific environment in question. The first three items measured whether the information about specific environmental component was received in time, was relevant and

understandable. This was followed by two items focusing on the time spent on renegotiations and the difficulty of coming to an agreement of adapting operations. The final item asked the reaction time to environmental changes. The items were measured using a five-point Likert-scale, which ranged from 1 = strongly disagree to 5 = strongly agree. The items three, four and five in each adaptation efficiency construct were reverse-coded so that they would represent the increasing level of adaptation efficiency. See table 24 for items measuring adaptation efficiency.

Table 24. Items measuring adaptation efficiency.

Item	Scale	Source
TIME(PL, SC, CO, DE): We have received information about X = Environment in time	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Dahlström & Nygaard (1999)
REL(PL, SC, CO, DE): We have received relevant information about X Environment	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	
UND(PL, SC, CO, DE): Information we have received about X environment has been difficult to understand	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	Dahlström & Nygaard (1999)
NEG(PL, SC, CO, DE): Negotiations, as a result of changes in X environment, between our firm and the partner / subsidiary have taken a lot of time	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	
AGR(PL, SC, CO, DE): It has been difficult to come to an agreement with the partner / subsidiary how the operations should be adapted because of the changes in X environment	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	Walker & Poppo (1991)
REACPL: We have been able to react to the changes in X environment quickly enough	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	

Control efficiency

Only one construct was used to represent control efficiency. Control efficiency was measured by using six formative items on a five-point Likert-scale as can be seen in Table 25. The first item measures if the partner or subsidiary has taken an advantage of a situation to further their own interests. These are followed by items, which ask whether the partner has fulfilled their promises and obligations, has hidden relevant information and has become a potential competitor. Finally, the last three items measure the time spent and the workforce used to supervise the partner or subsidiary and the fulfilment of obligations and commitments.

Table 25. Items measuring control efficiency.

Item	Scale	Source
OWNINTR2: Our partner /subsidiary has taken an advantage of a situation to further their own interests at our expense	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	Joshi & Stump (1991)
PROMOB2: Our partner / subsidiary hasn't fulfilled their promises and obligations	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	Dahlström & Nygaard (1999)
HISINFOF: Our partner / subsidiary has hidden information relevant for the operation	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	Dahlström & Nygaard (1999)
TIME2: We use too much time to supervise our partner / subsidiary	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	Dahlström & Nygaard (1999)
PERSONS2: Too many persons in our firm have to supervise the operation of our partner / subsidiary	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree (RC)	
OBLCOM2: Our partner has fulfilled their obligations and commitments	1= strongly disagree, 2= quite disagree, 3= neutral, 4= quite agree, 5= strongly agree	Joshi & Stump (1991)

4.2.4. Reliability and validity

In order for the research to gain scientific acceptance it needs to be described as reliable and valid. In this chapter the validity and reliability of the measurements used in the study are discussed.

Reliability refers to the consistency of a measuring device and, thus, it concerns whether the results are consistent across repeated measurements. Thus, it is basically an empirical issue, focusing on the performance of empirical measures. The measurement of any construct always contains a certain amount of random error and therefore some level of unreliability is always present. In survey research coding, ambiguous instructions, differential emphasis on different word during an interview, interview fatigue etc. However, reliability can be increased eg. by the use of multiple measures. (Carmines & Zeller 1979; Spector 1981.)

Validity means that the measurement measures what it is supposed to measure and, thus, it focuses on the important relationship between the concept and indicator. Validity, in contrast to reliability, “is usually more of a theoretically oriented issue because it inevitably raises the question valid for what purpose?” (Carmines & Zeller 1979:16). Invalidity arises because of the presence of non-random error, which has a systematic biasing effect on measuring instruments. Reliability and validity are interrelated and important properties of an instrument. The general principle is that an instrument can be reliable but not valid, but in order to be valid an instrument must be reliable.

Three types of validity, which all take a little different approach in evaluating the appropriateness of a measure to measure a concept, have been considered to be relevant in the social sciences according to Nunnally (1978). These are criterion-related validity, content validity and construct validity. In the following, the discussion related to validity is based on these three validity types.

Criterion-related validity, which is sometimes referred to as predictive validity, is according to Nunnally (1978:87) “at issue when the purpose is to use an instrument to estimate some important form of behaviour that is external to the measuring instrument itself, the latter being referred to as the criterion”. In other words the measurement shows criterion-related validity if it can accurately predict the criterion variable. An often used example to illustrate this is a test employed to select first-year college students. If the test accurately predicts the performance of a student in college it can be argued to have high criterion-related validity. The estimation of the degree of this type of validity is based on the size of correlation between the measurement and the criterion. (Nunnally 1978:95). However, the evaluation of validity begins with the generation of hypotheses about the relations between the construct of interest and other constructs and should be based on an existing well-developed theory. Therefore, criterion-related validity must be based on hypotheses. Thus, if the suggested hypotheses are supported it indicates good criterion-related validity. (Nunnally 1978; Carmines & Zeller 1979; Spector 1992.) This will be discussed more closely in Chapter 6.

Content validity indicates how well an empirical measurement reflects a specific domain of content. In order to ensure content validity the emphasis needs to be put on planning and developing the phases of a construct. The first step is, thus, to thoroughly explore the available literature focused on the phenomenon of interest in order to get a broad view of it. With the help of the literature the items that reflect the meaning associated with the phenomenon should be incorporated into a scale. However, for several reasons this is not always easy when dealing with abstract concepts. Firstly, for any abstract theoretical concept it is difficult to find an agreed upon domain of content relevant to the phenomenon. Secondly, in most of the cases it is impossible to sample the content, which has been recommended in order to achieve content validity. Therefore, a few fundamental limitations of content validity exists. In addition, there does not seem to be any agreed upon criterion for determining the extent of content validity. (Nunnally 1978; Carmines & Zeller 1979.) Thus, according to Nunnally (1978:93) ensuring content validity rests on presentation of arguments “regarding the adequacy with which important content has been sampled and on the adequacy with which the content has been cast in the form of test items”. This study attempted to follow the recommendations suggested above in designing the constructs for the study.

Construct validity according to Carmines and Zeller (1979), is “concerned with the extent to which a particular measure relates to other measures consistent with theoretically derived hypotheses concerning the concepts that are being measured”. In other words, when there is a theoretical prediction about the relationship between two constructs their measures should be correlated. If the correlations are substantial and in accordance with the assumed direction, then one piece of evidence has been added to support the construct validity. However, confirming a single prediction is not enough, but rather a pattern of consistent findings from different studies using different theoretical structures is required in order to establish construct validity. Analysis of reliability and validity of the study is conducted in Chapter 5.

4.3. Qualitative study

In this section the qualitative research method of the study is presented. The chapter consists of a description of the choice of cases, data collection and analysis and the evaluation of the quality of the study.

4.3.1. Choice of cases

According to Yin (2003:52), a study should have at least two individual cases within each of the subgroups, so that the theoretical replications across subgroups are complemented by literal replications within each subgroup. In this study it was decided to choose 6 cases. Thus, two firms having licensing as an operation mode, two firms having a joint venture as an operation mode and two firms having a wholly-owned subsidiary as an operation mode, were chosen. Therefore, the recommendation by Yin (2003) was followed.

The cases were chosen from the sample of the 60 cases, which had participated in the quantitative study and filled in the questionnaire. The 60 cases involved in the quantitative study were quite heterogeneous in terms of size, industry and target country. Thus, in choosing the specific cases for more detailed analyses, an attempt was made to identify cases, which differed either in their size, industry or target country. In addition, an attempt was made to identify cases using the same operation mode, but having different levels of control and adaptation efficiencies. In the case of the chosen two licensing cases and the two joint venture cases this last criterion was fulfilled. The licensing case A perceived high control efficiency but the licensing case B perceived low control efficiency. A similar type of difference was found between the two joint venture cases. However, the cases using wholly-owned subsidiary and having different levels of either of efficiency types could not be included in more detailed analysis, because of the refusal of the informants to participate to the study. Thus, the two WOS cases chosen for the study did not differ in their levels of efficiency. However, they did

differ in their level of perceived behavioural uncertainty. Thus, including the cases into more detailed analysis gives an opportunity to study why the different levels of perceived behavioural uncertainty did not lead to different levels of control efficiency.

4.3.2. Data collection and analysis

Data collection

The qualitative data collection was based on interviews conducted with the same managers who had participated in the quantitative analysis. According to several authors (see eg. Ackroyd & Hughes 1981; Drever 1995), three main type of interviews can be identified depending on their degree of standardisation. These are 1) structured interview, 2) semi-structured interview and 3) non-standardised interview.

In the structured interview the degree of standardisation is high. This means that an interviewer asks the same questions in the same order from all the respondents. On the other hand, in the non-standardised type of interview, the interviewer is free to ask questions in whatever way he, or she thinks is appropriate and natural and in whatever order felt to be most effective in the circumstances. Between these two extremes, there is a large group of semi-structured interviews. They try to combine the advantages of both of the two other interview types. Normally, the interviewer has to ask specified questions, but is free to probe beyond them if necessary. (Ackroyd & Hughes 1981:71–72.) Drever (1995:13) argues that in the semi-structured interviews the interviewer creates the overall structure by setting the main questions, prompts and probes can be used to fill in the structure, a mixture of closed and open questions can be used, the interviewee has a fair degree of freedom: what to talk about, how much to say, how to express it, but the interviewer can assert control when necessary.

The interview strategy applied in this study has similarities with the semi-structured interviews. The strategy can also be called *thematic interview strategy* (see Hirsjärvi & Hurme 2001). It means that a set of issues that are to be discussed with respondents,

were outlined before interviewing began. Thus, themes to be discussed were decided beforehand, but the actual wording of questions was not determined in advance. The interview themes were the motives to enter the target country, choice of entry mode, perception of uncertainties, international experience and adaptation and control efficiencies.

The interview data was gathered during April and May 2006. A tape recorder was used to document the interviews. The duration of the interviews varied from 30 minutes to one hour. Five of the interviews were conducted by phone and one interview was a face-to-face interview. The informant's responses to the questionnaire served as the starting point for the actual discussion. The informant was told that the interview concerned the same issues as the survey questionnaire, but digging deeper into their background.

In addition, some documents eg. annual reports of the companies, home pages of the firms and other published data like newspaper articles were collected to confirm the information received through questionnaires and interviews.

Data analysis

According to Silverman (2000:32), it is important to take a position how interview responses, especially the ones related to perceptions, are to be treated. The following two approaches are identified: 1) realist approach and 2) narrative approach. In the realist approach interview responses are treated as giving direct access to experience. In other words, the answers are treated as "describing some external reality (eg. facts, events) or internal experience (eg. feelings, meanings)" (Silverman 2000:122). The narrative approach, alternatively, treats interview data as "accessing various stories or narratives through which people describe their world" (Silverman 2000: 122). In this study, the realist approach is used in analysing the interview data.

In addition to the interview data, the analysis of the cases takes into account the data received from the questionnaire and information from documents. Thus, the data analysis of the six cases is based on both the interviews conducted with the managers, on the data in questionnaires and on documentation. The general analytic strategy

applied in the data analysis relied on the theoretical framework developed in the study. Therefore, an attempt was made to show how the perception of uncertainties were formed, how the entry mode choice was conducted and how the efficiency to control and adapt were formed. Thus, explanation building tactic was also used.

4.3.3. Evaluation of the quality

There are different views about what constitutes good criteria for evaluating qualitative research. According to Denzin and Lincoln (1994:479-480) four basic positions can be identified. Based on the first position, labelled as positivist, qualitative research should be evaluated applying the same criteria as employed in quantitative studies. The second position, postpositivist, states that a set of criteria unique to qualitative research needs to be developed. The third position, postmodernism, believes that because of the character of qualitative research, there can be no criteria for evaluating it. The fourth position, poststructuralism, argues that an entirely new set of criteria, divorced from the positivist and postpositivist traditions, needs to be constructed. In this research, the first position is applied in evaluating the quality of the qualitative study. Thus, the focus will be on internal validity, external validity, reliability and objectivity.

Internal validity is concerned with the truth related to cause-effect or causal relations. There is a threat to internal validity if the investigator incorrectly concludes that there is a causal relationship between two factors without knowing that some other factor may actually have caused the effect (Yin 2003:36). In this study the main technique used was the explanation building, which is one of the analytic tactics recommended by Yin (2003). In addition, rival explanations were also considered in order to improve the internal validity.

External validity is concerned with whether a study's findings are generalizable beyond the immediate case study. In this study, the replication logic was used to increase the external validity.

Reliability on the other hand, is concerned with whether the process of the study is consistent, reasonable stable over time and across researchers and methods. *Objectivity* refers to relative neutrality and freedom from unacknowledged researcher biases. In other words, whether the conclusions depend on the subjects and conditions of the inquiry rather than on the researcher (Miles & Huberman 1994:278). An attempt to increase the reliability in this study has been made by describing the procedures followed in the study in as great detail as possible. In the interviews, a general interview schedule was used to guide the interview. This increases the probability of another researcher to follow the same procedures during the interviews.

Using interviews as a method of data collection requires that an interviewer has to be confident that the information obtained from the respondent is accurate and no bias is involved. In this study the main source of information was based on the answers of one manager representing the case. Thus, there is a danger that the answers do not reflect the whole organisation's view. However, an attempt to overcome this was made by selecting key informants, who had been involved both in the original operation mode decision and in the operation after the entry.

In addition, five of the interviews were made by telephone, which prevents taking into account the non-verbal information exchange through facial expression, posture and gesture, and increases the risk that the respondent does not understand the question. (Drever 1995). Nevertheless, in this study the realist approach was applied and there was no need to take the non-verbal information exchange into account. Additionally, it has been stated that telephone interviews are appropriate when the interviewees already have been involved in the same research earlier (Hirsjärvi & Hurme 2001). In this study, the interviewees had already taken part in the quantitative data collection by filling in the questionnaire and, thus, they were familiar with the topic beforehand, which decreased the danger of not understanding the question.

5. RESULTS

The chapter starts with a description of the sample, which is followed by the presentation of the results. The analysis of the results consists of three steps. First the hypothesis in the structural model including all the studied 11 antecedents of uncertainty, five uncertainty components, four adaptation efficiencies and control efficiency is tested. Secondly, the structural model is divided into five sub-models, each of which focuses on a specific type of uncertainty. This gives possibilities to explore direct and indirect relationships between antecedents of uncertainty, perceived uncertainty, operation mode and efficiency. The five structural models are tested. Thirdly, results are analysed in more detail by focusing specifically on 1) formation of managerial perception of uncertainty, 2) link between perceived uncertainty and operation mode choice and 3) link between operation mode choice and efficiency. The analysis of the results at this stage takes a qualitative perspective, by integrating the results from structural models and interviews.

5.1. Description of the sample

In this chapter the sample (n=60), from which the results are derived is described. The description focuses on the following factors: 1) size of the firms, 2) industry sector, 3) operation mode used, 4) target country, 5) starting year of the operation, 6) ownership level and 7) type of the operation.

The size of the firm was measured by the number of personnel and turnover at the time of entry. Table 26 presents the distribution of the number of employees, rounded to the closest 10, among the firms. The mean number of employees was 1859 and median 644. The minimum number of employees was 7 and the maximum as high as 11 000. Thus the variation was notable.

Table 26. Distribution of the number of employees at the time of the entry.

Number of employees	Frequency	Percent	Cumulative percent		
7-99	13	21,66	21,66		
100-299	8	13,33	34,99		
300-499	6	10,0	44,99		
500-999	8	13,33	58,32		
1000-1999	10	16,67	74,99		
2000-2999	4	6,67	81,66		
3000-5999	4	6,67	88,33		
6000-8999	4	6,67	95,00		
9000-11000	3	5,00	100,00		
Mean	Median	Std. Dev.	Min	Max	N
1859,37	644	2794,265	7	11 000	60

Table 27 presents the distribution of turnovers at the time of entry. The mean turnover was 308 MEUR. However, this is biased because there are a few firms with very large turnovers. As it can be seen in the table, about 40% of the firms have a turnover of less than 50 MEUR, about 32% have a turnover between 100 and 600 and about 17% of the firms have a turnover above 600 MEUR. Thus, the median figure 83 MEUR better illustrates the usual turnover.

Table 27. Distribution of the firm's turnover at the time of the entry.

Turnover at the time of entry (MEUR)	Frequency	Percent	Cumulative percent		
0,1-9,99	8	13,33	13,33		
10-19,99	8	13,33	26,66		
20-49,99	8	13,33	39,99		
50-99,99	7	11,67	51,66		
100-199,99	8	13,33	64,99		
200-399,99	5	8,34	73,33		
400-599,99	6	10,00	83,33		
600-1099,99	4	6,67	90,00		
1100-1999,99	4	6,67	96,67		
2000-2521	2	3,33	100,00		
Mean	Median	Std. Dev.	Min	Max	N
308,02	83	529,59	0,1	2521	60

Table 28 presents the distribution of industry of the sample firms. The industry classification is based on two-digit ISIC rev.4 industry categorisation. As can be seen in Table 28, almost 37% of the firms were operating in the sector of manufacture of machinery and equipment. The sectors of computer, electronic and optical products and paper and paper products represented 17% and 10% share of the sample firms

respectively. Thus, the share of the three most common sectors was almost 64%. Other industry sectors ranged from chemical, construction, engineering, forest and heating to laboratory, pharmaceuticals and refrigeration products. Thus, the industry sector among the sample firms varied remarkably.

Table 28. The industry distribution of the sample firms.

Industry	Frequency	Percent
Manufacture of wood and of products of wood and cork	2	3,3
Manufacture of paper and paper products	6	10,0
Manufacture of chemicals and chemical products	3	5,0
Manufacture of pharmaceuticals, medicina, chemical and botanical products	1	1,7
Manufacture of fabricated metal products	3	5,0
Manufacture of computer, electronic and optical products	10	16,7
Manufacture of electrical equipment	7	11,7
Manufacture of machinery and equipment	22	36,7
Manufacture of motor vehicles, trailers and semi-trailers	1	1,7
Manufacture of furniture	1	1,7
Civil engineering	1	1,7
Specialised construction activities	1	1,7
Architecture and engineering services	1	1,7
Other professional, scientific and technical activities	1	1,7
Total	60	100,00

Note: The percentage may not add up to 100% due to rounding.

The distributions of operation modes and target countries are presented in Table 29. The entry was conducted by using licensing in 13 cases, by joint ventures in 24 cases and by wholly-owned subsidiaries in 23 cases. There were nine target countries, from which China was the most often entered country with 26 entries, followed by India and Japan, both with seven entries and Indonesia, South Korea and Thailand all with five entries.

Table 29. Distribution of operation modes and target countries.

Target country	Licensing	Joint venture	Wholly owned subsidiary	Total (Percent)
India	5	2	0	7 (11,7%)
Indonesia	2	3	0	5 (8,3%)
South-Korea	2	2	1	5 (8,3%)
Japan	3	1	3	7 (11,7%)
Thailand	0	3	2	5 (8,3%)
China	1	11	14	26 (43,3%)
Malaysia	0	1	1	2 (3,3%)
Philippine	0	0	1	1 (1,7%)
Singapore	0	1	1	2 (3,3%)
Total (Percent)	13 (21,7%)	24 (40%)	23 (38,3%)	60 (100%)

Note: The percentage may not add up to 100% due to rounding.

The remaining target countries were Malaysia, Philippines and Singapore each with 1-2 entries. Some differences in the target areas can be found when the three operation modes are compared. In the case of licensing, almost 40% of the operations were focused on India and in the case of joint ventures and wholly-owned subsidiary 44% and over 60% respectively, were conducted in China.

The starting year of the operations varied from 1983 to 2004 as can be seen in table 30. Most of the entries (48,4 %) took place during the 1994-1999, of which the peak year was 1997 with 10 entries. The starting year of licensing operations was quite evenly distributed between the 1980s and 1990s. However, most of the entries by joint ventures and wholly-owned subsidiaries were conducted between 1995 and 2001.

Table 30. Starting year of the operation.

Starting year of the operation	Licensing	Joint venture	Wholly owned subsidiary	Total (Percent)
1983	0	0	1	1 (1,7 %)
1984	0	0	1	1 (1,7 %)
1986	1	0	0	1 (1,7 %)
1987	1	0	0	1 (1,7 %)
1988	1	1	0	2 (3,3%)
1989	0	1	0	1 (1,7 %)
1991	0	1	0	1 (1,7 %)
1993	0	1	0	1 (1,7 %)
1994	0	0	3	3 (5,0%)
1995	1	2	1	4 (6,7%)
1996	1	2	0	3 (5,0%)
1997	3	3	4	10 (16,7%)
1998	1	1	3	5 (8,3%)
1999	0	3	1	4 (6,7%)
2000	2	3	0	5 (8,3%)
2001	1	4	5	10 (16,7%)
2002	0	0	1	1 (1,7 %)
2003	1	2	0	3 (5,0%)
2004	0	0	2	2 (3,3%)
Total (Percent)	13 (21,7%)	24 (40%)	23 (38,3%)	60 (100%)

Note: The percentage may not add up to 100% due to rounding.

The ownership level at the beginning of the operation in the two investment modes varied from 12,5% to 100%, as can be seen in Table 31. The mode was considered as a JV when the ownership level of a Finnish firm was below 95% and as a WOS when the ownership level was 95% or higher. The share of minority JVs was 17% and share of

majority JVs was about 21%. Approximately 13% of the JVs were classified as an equal JV.

Table 31. Distribution of the level of ownership in investment modes.

Level of ownership	Frequency	Percent	Cumulative percent
Minority ownership (12,5%-49,9%)	8	17,02	17,02
Equal ownership (50%)	6	12,76	29,78
Majority ownership (50,1%-94,9%)	10	21,28	51,06
WOS (95%-100%)	23	48,94	100,00
Total	47	100,00	

The types of operation were classified into manufacturing and marketing operations. In most of the cases the type of operation was manufacturing (75%). All licensing operations were manufacturing operations and all JVs except three were classified as manufacturing operations. However, in the case of WOS half of the operations represented manufacturing operations and half the marketing and selling activities (see table 32).

Table 32. Distribution of the type of operation

Type of operation	Licensing	Joint venture	Wholly owned subsidiary	Total (Percent)
Manufacturing	13	21	11	45 (75%)
Marketing / selling	0	3	12	15 (25%)
Total (Percent)	13 (21,7%)	24 (40%)	23 (38,3%)	60 (100%)

5.2. The research model

As was already discussed in research methodology chapter, the measurement and structural models are analysed and interpreted in two stages, although PLS estimates the models at the same time. In this chapter a quality of measurement and structural models will be analysed.

5.2.1. Quality of the measurement model

The original measurement model with all indicators

The quality of the measurement model was assessed by looking at the individual item reliability, the internal consistency of a given block of indicators and discriminant validity.

The individual item reliability was evaluated by checking the loadings between reflective indicators and their constructs. As was discussed in the method chapter loadings should be greater than 0.7 to demonstrate individual item reliability. However, according to Chin(1998), loadings greater than 0.5 may also be acceptable at the early stages of scale development. As can be seen in appendix 2 in table 1, five reflective constructs have individual item loadings greater than 0.7, most of them greater than 0.8. Thus, the dependence of the entering firm on the local firm, dependence of the local firm on the entering firm, risk attitude, socio-cultural uncertainty and behavioural uncertainty indicate a high degree of individual item reliability. Target country institutional experience construct has one indicator variable out of three with loading 0.6825, political uncertainty construct has one indicator variable out of six with loading 0.3406, demand uncertainty construct has one indicator out of four with loading 0.5591 and competitive uncertainty have indicators with loadings 0.6452 and 0.4257. Because indicators with loadings greater than 0.5 may be accepted in the early stages of scale development, all the indicators of target country institutional experience construct and demand uncertainty construct are accepted and their individual item reliability considered as satisfactory. However, the loading of indicator CONTROL for measuring political uncertainty and the loading of indicator FORCOM for measuring competitive uncertainty are considered too low to be accepted. In addition, the weight for FORCOM is negative and is also supporting the removing of the indicator.

Internal consistency was assessed using the composite reliability (c) developed by Werts, Linn and Jöreskog (Chin 1998:320). It takes into account the weights generated by PLS (i.e. standardized regression weights), in contrast to Cronbach's alpha that

assumes tau equivalency. The composite reliability values for all reflective constructs were 0.8 indicating good internal consistency (see appendix 2, table 1).

A more conservative measure to evaluate reliability of latent variable score is Average variance extracted (AVE). It is recommended that AVE should be over 0.5 in order to demonstrate reliability. As can be seen in the appendix 2 table 2. all latent constructs have AVE greater than 0.5. The lowest communalities are with the constructs of demand uncertainty (0.518), competitive uncertainty (0.537) and political uncertainty (0.57). All other constructs have AVE greater than 0.68. Thus, we can say that latent variables show good reliability.

AVE analysis can also be used to assess the discriminate validity of the measurement model. For discriminant validity, the square root of AVEs of the latent variables should be greater than their intercorrelation, i.e. each latent variable should share more variance with its own indicators than with another. Table 3 in appendix 2 presents a correlation matrix, which includes the correlation between different constructs and the square root of AVE calculated for each construct. The AVEs are presented in bold format. In order to estimate the discriminant validity of the measures, the communality indexes should be higher than the correlations that occupy the same column. All of the measures used in the study fulfil the above mentioned criteria.

Discriminant validity can also be evaluated by looking at the indicator cross-loadings. Each latent variable should share more variance with its own block of indicators than with other latent variable indicators. This means that all the loadings of the measurement items on their assigned latent variables should be larger than any other loading. As can be seen in appendix 2 table 1, all the measurement items are correlated better with their own construct than with other constructs. The only exception is the CONTROL indicator, which has a higher loading with social uncertainty (0.46) than with its own construct, political uncertainty (0.27). Thus, this suggests that the measurement model may have some problems with discriminant validity related to the indicator CONTROL.

The above assessments were focusing on the reflective type of latent constructs. However, in the case of formative type of latent constructs, the indicators need not have high internal consistency, nor do they need to be correlated. Adaptation efficiencies and control efficiency represent the formative type of constructs in the study. The weights and loadings of the formative indicators and their correlations are presented in table 4 appendix 2.

Based on the assessment of the quality of the measurement model; especially the indications of reliability of individual items and discriminant validity, the measurement model will be modified. Modifications are made for the latent constructs of political uncertainty and competitive uncertainty. The indicator of political uncertainty, CONTROL, and the indicator of competitive uncertainty, FORCOM, will be removed from the model.

The modified measurement model

In the following, the quality of the modified measurement model will be assessed. The evaluation of the modified measurement model follows the same procedures as in the case of the original measurement model.

As can be seen in Table 33, now six reflective latent constructs have manifest variables which have a loading of over 0.7., showing good item reliability. The remaining three constructs, all have one measurement variable with loading greater than 0.5. This means that although the constructs of target country institutional experience, demand uncertainty and competitive uncertainty show acceptable item reliability, the interpretations of the results should be made with caution.

The composite reliability (c) for six latent variables is above 0.87 and for the remaining three over 0.8 as well, so the internal consistency can be regarded as good. (see Table 33).

Table 33. Indicator loadings, cross loadings and composite reliability for reflective variables.

Construct/ Indicator	TC INST Pc=0.871	ENT DEP Pc=0.881	LOC DEP Pc=0.812	RISK ATT. Pc=0.838	POL UN Pc=0.912	SOC UN Pc=0.928	DEM UN Pc=0.808	COM UN Pc=0.885	BEH UN Pc=0.926
NOPOLA	0.62	-0.24	-0.30	-0.05	0.06	-0.10	0.09	-0.19	0.01
NOGOVA	0.94	-0.14	-0.25	0.02	0.31	-0.02	0.15	-0.05	0.23
NOINFA	0.84	-0.04	-0.20	0.07	0.15	-0.05	0.03	0.03	0.26
REPEN	0.26	0.82	0.11	0.20	0.02	-0.34	-0.18	-0.11	-0.07
DEPEN	0.43	0.89	0.13	-0.15	-0.19	-0.15	-0.21	-0.18	-0.03
REPLO	-0.11	-0.04	0.84	0.15	-0.21	-0.12	0.12	0.18	-0.29
DEPLO	0.15	0.25	0.81	0.04	-0.26	0.06	-0.04	0.02	-0.29
PROLOSS	0.12	0.05	0.14	0.73	-0.07	-0.18	-0.33	0.03	-0.02
THROPP	-0.01	0.12	0.14	0.90	-0.10	-0.17	-0.33	0.04	-0.18
CLEG	0.21	-0.08	-0.19	-0.06	0.86	0.23	0.15	0.10	0.31
NATLAW	0.37	-0.12	-0.26	-0.00	0.85	0.20	0.20	0.07	0.32
LEGREG	0.14	-0.13	-0.18	-0.06	0.79	0.28	0.25	0.23	0.37
TARIFFS	0.12	-0.06	-0.05	-0.10	0.72	0.20	0.37	0.19	0.45
ENFORLA	0.23	-0.18	-0.13	0.04	0.81	0.12	0.12	0.26	0.29
THREAT	0.04	0.07	0.04	-0.17	0.25	0.81	0.17	0.01	0.16
RIOTS	-0.04	0.06	0.12	-0.25	0.26	0.92	0.17	-0.06	0.01
DEMONS	-0.12	0.04	0.11	-0.23	0.22	0.92	0.19	0.00	0.02
TERROR	-0.09	0.26	0.30	-0.16	0.20	0.81	-0.09	0.09	-0.08
CLIENT	0.09	-0.37	-0.31	0.00	0.30	0.07	0.53	0.23	0.39
PRODUCT	-0.05	-0.36	-0.26	-0.44	0.21	0.06	0.77	0.19	0.28
AVSUBPR	0.16	-0.32	-0.19	-0.25	0.11	0.14	0.73	0.29	0.18
AVCOMPR	0.12	-0.42	-0.41	-0.35	0.19	0.07	0.78	0.25	0.34
CHPRICE	0.07	-0.10	-0.02	0.02	0.11	-0.08	0.30	0.75	0.24
CHMARKE	-0.13	-0.04	0.10	-0.05	0.19	0.12	0.22	0.81	0.14
CHSTRAT	0.07	0.02	0.11	0.00	0.19	-0.00	0.24	0.85	0.27
ENTRY	-0.05	-0.05	0.04	-0.05	-0.02	-0.09	0.26	0.78	0.18
DOMCOM	0.00	-0.07	0.07	-0.06	0.27	0.06	0.27	0.57	0.32
OWNINT	0.12	-0.31	-0.46	-0.16	0.38	0.03	0.24	0.24	0.89
PROBL	0.18	-0.30	-0.43	-0.27	0.33	-0.03	0.42	0.22	0.85
HHIDINF	0.30	-0.38	-0.41	-0.06	0.31	0.00	0.38	0.22	0.84
COMPET	0.23	-0.42	-0.47	-0.16	0.26	-0.01	0.43	0.32	0.87

As can be seen in Table 34, all latent constructs have AVE greater than 0.5. The lowest communality is with the construct of demand uncertainty (0.518). All the other values of AVE are greater than 0.6. Thus we can say that latent variables show good reliability.

Table 34. AVE values for reflective latent constructs.

LATENT CONSTRUCT	COMMUNALITY (AVE)
Target country institutional experience	0.697
Dependence of entering firm on local firm	0.788
Dependence of local firm on entering firm	0.684
Risk attitude	0.722
Political uncertainty	0.675
Socio-cultural uncertainty	0.764
Demand uncertainty	0.518
Competitive uncertainty	0.609
Behavioural uncertainty	0.757

Table 35 presents a correlation matrix, which includes the correlation between different constructs and the square root of AVE calculated for each construct. As can be seen in Table 36, all the square roots of AVEs are greater than the correlations of latent constructs. In addition, all the loadings of the measurement items on their assigned latent variables are larger than any other loading (see Table 33). Thus, this suggests that the measurement model has good discriminant validity.

Table 35. Correlations among reflective construct scores (Square root of AVE in diagonals).

	TC INST	ENT DEP	LOC DEP	RISK ATT.	POL UN	SOC UN	DEM UN	COM UN	BEH UN
TC INST	0.832								
ENTDEP	0.359	0.888							
LOCDEP	-0.038	0.148	0.827						
RISK ATT.	0.059	0.055	0.191	0.850					
POLUN	0.265	-0.117	-0.243	-0.101	0.822				
SOCUN	-0.076	-0.291	-0.066	-0.301	0.292	0.874			
DEMUN	0.051	-0.317	-0.018	-0.401	0.315	0.122	0.720		
COMUN	-0.071	-0.134	0.057	0.007	0.272	0.038	0.375	0.780	
BEHUN	0.191	-0.066	-0.333	-0.177	0.406	0.050	0.457	0.355	0.870

Based on the reliability of individual items and constructs, internal consistency of constructs and discriminant validity, the measurement model of the research model is suggested to demonstrate good construct validity. Therefore, the measurement model has the required qualities and the estimation of structural model can be conducted.

5.2.2. Quality of the structural model

In this chapter the quality of the structural model will be evaluated. The structural model consists of the formation of managerial perception of uncertainty, the influence of uncertainty on operation mode choice and the influence of operation mode on adaptation and control efficiency (see figure 10 of the structural model). The evaluation

of the structural model will be based on R^2 for dependent variables, predictive relevance (redundancy index), path loadings, significance levels and model fit. The R^2 values, significance values and path loadings are presented in Figure 10.

A high value of R^2 demonstrates a good prediction power. It is suggested that R^2 values should be over 0.1 to be meaningfully interpreted. Table 36 presents the values of each structural equation. As can be seen in the table, eight out of eleven structural equations have R^2 value over 0.1. Four out of five structural equations for perceived uncertainties demonstrate predictive relevance R^2 values ranging from 0.128 to 0.218. However, competitive uncertainty R^2 value is only 0.0811 and thus the predictive power for that structural equation can be questioned. The structural equation related to operation mode represents the highest R^2 value (0.3279) meaning that the research model can explain 32,8% of the variance in that dependent model. In the case of efficiencies, the adaptation efficiencies in demand and competition context and control efficiency have R^2 values greater than 0.1. However, the adaptation efficiency in political context and socio-cultural context have values lower than 0.1 and thus may suffer predictive power.

Table 36. R^2 values of each structural equation.

STRUCTURAL EQUATION	R^2
Political uncertainty	0.1281
Socio-cultural uncertainty	0.1284
Demand uncertainty	0.2182
Competitive uncertainty	0.0811
Behavioural uncertainty	0.2009
Operation mode	0.3279
Adaptation efficiency in political context	0.0985
Adaptation efficiency in socio-cultural context	0.0532
Adaptation efficiency in demand context	0.1813
Adaptation efficiency in competition context	0.1097
Control efficiency	0.2127

The quality of the structural model can also be measured using redundancy index (i.e. Stone-Geisser). In order to have predictive relevance, Q^2 should be greater than 0. Negative values, on the other hand, imply the rejection of related structural equations. In the research model, there is a total of eleven endogenous constructs for which the redundancy index was computed. The values for each structural equation are presented

in Table 37. As can be seen in the table, all constructs have an acceptable redundancy index.

Table 37. Quality of each structural equation.

BLOCK	REDUNDANCY
Political uncertainty	0.0865
Socio-cultural uncertainty	0.0981
Demand uncertainty	0.1130
Competitive uncertainty	0.0493
Behavioural uncertainty	0.1520
Operation mode	0.3279
Adaptation efficiency in political context	0.0089
Adaptation efficiency in socio-cultural context	0.0088
Adaptation efficiency in demand context	0.0215
Adaptation efficiency in competition context	0.0164
Control efficiency	0.0248

In the following, the significance levels of structural relationships are evaluated. The relationships are considered to be statistically significant when $p < 0.05$. There are 26 structural relationships in the research model. Only ten of them are statistically significant, while 16 are not. When assessing the formation of managerial perception of uncertainty, target country business experience has a statistically significant negative relationship with competitive uncertainty ($p=0.04$; $\beta=-0.259$), risk seeking attitude has a statistically significant negative relationship with demand uncertainty ($p=0.002$; $\beta=-0.438$) and both international co-operation experience and local firm dependence on entering firm have a statistically significant negative relationship with behavioural uncertainty ($p=0.03$; $\beta=-0.312$; $p=0.05$; $\beta=-0.278$). Regarding the operation mode choice, socio-cultural uncertainty has a statistically significant negative relationship ($p=0.01$; $\beta=-0.263$), demand uncertainty has statistically significant positive relationship ($p=0.05$; $\beta=0.242$) and behavioural uncertainty has statistically significant positive relationship ($p=0.002$; $\beta=0.443$) with operation mode. Evaluating the relationships between operation mode choice and efficiencies, operation mode choice has statistically significant and positive relationship with adaptation efficiency in political context ($p=0.01$; $\beta=0.314$), significant negative relationship with adaptation efficiency in demand context ($p=0.006$; $\beta=-0.426$) and significant positive relationship with control efficiency ($p=0.00$; $\beta=0.461$).

Thus, when looking at the p-levels, almost 40% (38,5%) of the structural relationships are statistically significant. However, according to Falk and Miller (1992), all path coefficients give a relevant empirical contribution to the predicted construct if path coefficients reach or exceed 0.10. If the same rule was used here, altogether 19 structural relationships would have been declared significant, because of regression coefficient of 0.10 or above. This would have lead to the conclusion that 19 structural relationships make a statistically significant impact.

However, according to Chin (1998b) it is recommended that standardized paths should be around 0.2. and ideally above 0.3 in order to be considered meaningful. If this recommendation is followed, it results in 16 meaningful structural relationships. The highest not statistically significant path coefficient is -0.331 and lowest statistically significant path coefficient is 0.242. Thus, it seems that the significance threshold of statistical significance lies somewhere between the path coefficients of 0.242 and 0.331. This study follows the more conservative statistics of Chin and disregards all the path coefficients that are not statistically significant even though they have a path coefficient exceeding 0.10.

In the theoretical discussion it was hypothesised that there are four types of experiential knowledge which influence the level of different types of perceived uncertainties. It was hypothesised (H1) that *general international experience* would have a negative relationship with perceived competitive uncertainty in the target country, *target country business experience* will have a negative relationship with perceived socio-cultural (H2a), competitive (H2b) and demand uncertainty (H2c), *target country institutional experience* will have a negative relationship with political and legal uncertainty (H3) and *international co-operation experience* will have a negative relationship with perceived behavioural uncertainty (H4). However, according to the results from the structural model, only H2b and H4 were supported.

There were two hypotheses related to dependence. It was suggested that (H5a) *local firm dependence* on the entering firm would decrease the level of perceived behavioural uncertainty and (H5b) *entering firm dependence* on local firm would increase the

perceived level of behavioural uncertainty. Only the H5a was supported. It was also suggested that the higher the **risk-seeking attitude** would be, the lower level of perceived uncertainties would be experienced (H6a-e). According to the results, risk-seeking attitude had significant negative relationship with only perceived demand uncertainty and thus only H6d was supported. *Political volatility* (H7a), *socio-cultural volatility* (H7b), *demand volatility* (H7c) and *competitive volatility* (H7d) were suggested to increase their respective type of uncertainty. However, none of the suggested relationships were significant and thus the hypotheses were rejected.

There were five hypotheses related to the *operation mode choice*. It was suggested that both the *political and legal uncertainty* (H8) and *socio-cultural uncertainty* (H9) would increase the likelihood for choosing a less integrated operation mode. However, only socio-cultural uncertainty had a significant negative relationship with an operation mode and thus H8 was rejected and H9 was supported. Perceived *competitive uncertainty* (H10), *demand uncertainty* (H11) and *behavioural uncertainty* (H12), on the other hand, were suggested to increase the likelihood for choosing a more integrated operation mode. H11 and H12 were supported and, thus, demand and behavioural uncertainty seemed to influence positively on operation mode choice.

Hypothesis H13 suggested that adaptation efficiency is higher in firms, which have made their operation mode choice according to the suggestions based on the transaction cost approach than in firms which have not. This means that in the context of higher political and legal uncertainty and socio-cultural uncertainty, adaptation efficiency is higher if a less integrated operation mode has been chosen. On the other hand, in the context of higher competitive and demand uncertainty, adaptation efficiency is higher if a more integrated operation mode has been chosen. Between operation mode and adaptation efficiencies there were only two relationships, which were statistically significant. These were the relationship between operation mode and adaptation efficiency in political and legal context, and the relationship between operation mode and adaptation efficiency in demand context. However, because the relationship between political and legal uncertainty and operation mode was not statistically

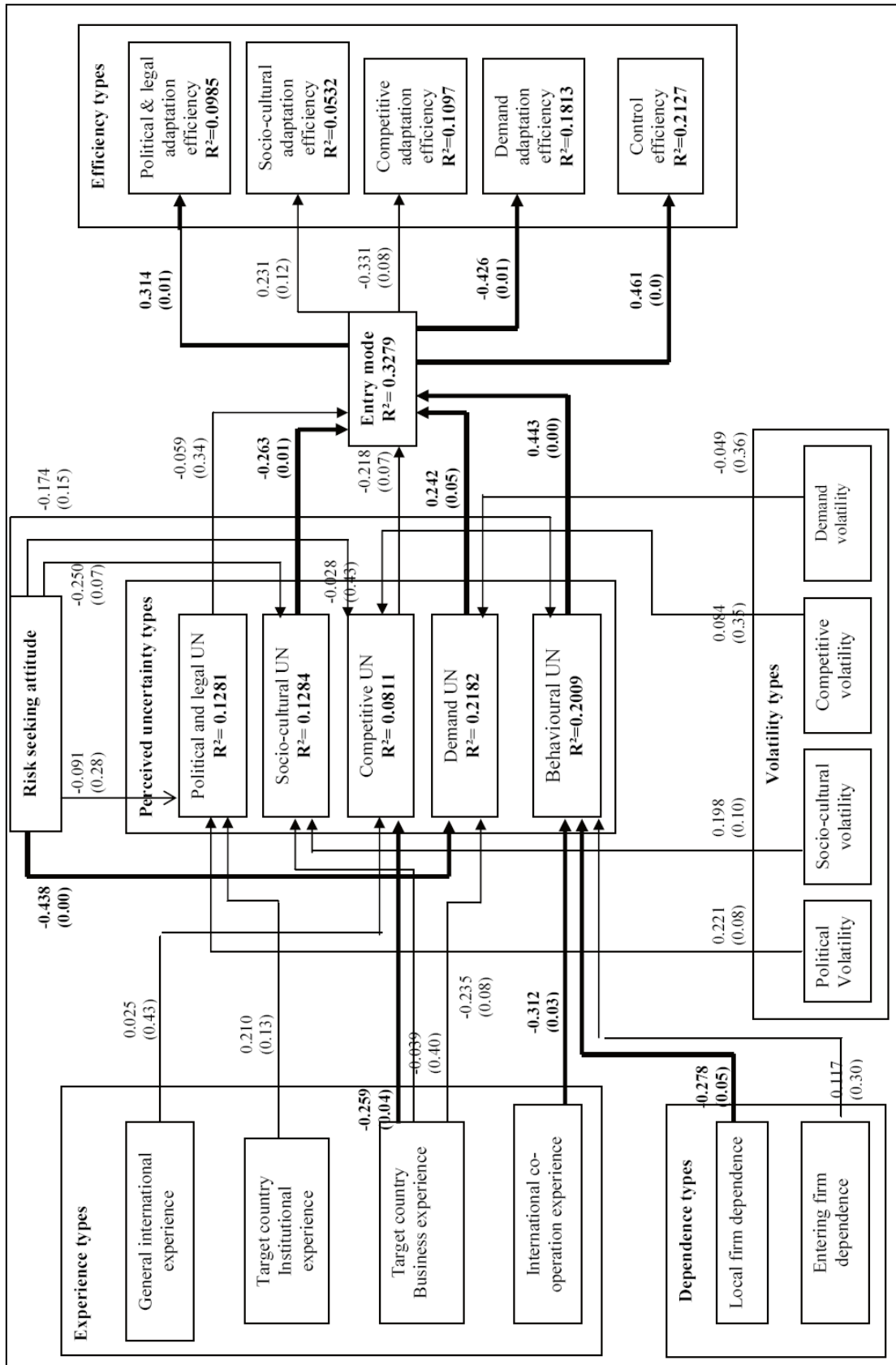


Figure 10. Path loadings, R² values and variable significance levels.

significant, no conclusions can be made on the implications for adaptation efficiency in the context of political and legal uncertainty. The results related to the level of demand uncertainty and its implications on operation mode choice and adaptation efficiency indicate that adaptation efficiency is lower for firms, which have chosen a more integrated operation mode. This is just the opposite of what was hypothesis and suggests that in the context of high demand uncertainty the choice of less integrated operation mode would increase the level of adaptation efficiency.

Hypothesis 14 suggested that control efficiency is higher in firms, which have made their operation mode choice according to the suggestions based on the transaction cost approach than in firms which have not. This means that in the context of higher perceived behavioural uncertainty, control efficiency is higher if a more integrated operation mode has been chosen. The results seem to support the hypothesis.

In order to be able to study the structural relationships between antecedents of perceived managerial uncertainty, the implications of uncertainties on operation mode choice and operation mode choice influence on efficiency in more detailed, simplified structural models will be examined in the following chapter.

5.3. Uncertainty specific structural models

In the theoretical part of the thesis it was discussed that previous research has quite often studied how eg. experience and environmental factors like volatility influence the operation mode choice. However, the level of uncertainty has often been offered as a theoretical explanation for the relationship between these factors. Therefore, in this study the focus was put on exploring how experience, volatility, risk attitude and dependence influence the level of uncertainty and how uncertainty types actually directly affect the operation mode choice. Different uncertainty types were identified and assumptions were made about which experience, volatility and dependence types and risk-seeking attitude would influence a particular type of uncertainty. However,

several of the hypotheses suggested in the theoretical discussion were not supported. Thus, in order to explore in more detail the relationship between antecedents of perceived uncertainty, perceived uncertainty, operation mode choice and efficiency, the structural relations in five uncertainty contexts are being explored. This makes it possible to examine if some other factors than the ones suggested in the theoretical discussion affect the level of perceived uncertainty or whether the factors influence to the operation mode choice directly rather than through the perceived uncertainty and whether these have an effect on efficiency to adapt and control.

5.3.1. Formation of managerial perception of political and legal uncertainty and its implication on an efficient operation mode choice

The discussion of formation of managerial perception and its implication on an efficient operation mode choice in the context of political and legal uncertainty will be conducted first. In the theoretical discussion it was assumed that the level of perceived political and legal uncertainty would be influenced by target country institutional experience, level of political volatility and risk-seeking attitude, and that a higher level of uncertainty would support the choice of less integrated operation mode leading to a higher level of adaptation efficiency. Based on the empirical results, these assumptions were not supported. In order to explore the potential direct and indirect relationships between potential antecedents of managerial perception and operation mode choice in more detailed, other variables were also taken into consideration. Now, in addition to the target country institutional experience, volatility and risk-seeking attitude, general international experience, target country business experience and international co-operation experience were also included in the model. Their influence to the perceived political and legal uncertainty and also to the operation mode choice was then explored. For the studied structural relationships see the Figure 11.

The assessment of the quality of the measurement and structural model followed the same steps as before. Based on the reliability of individual items and constructs, internal

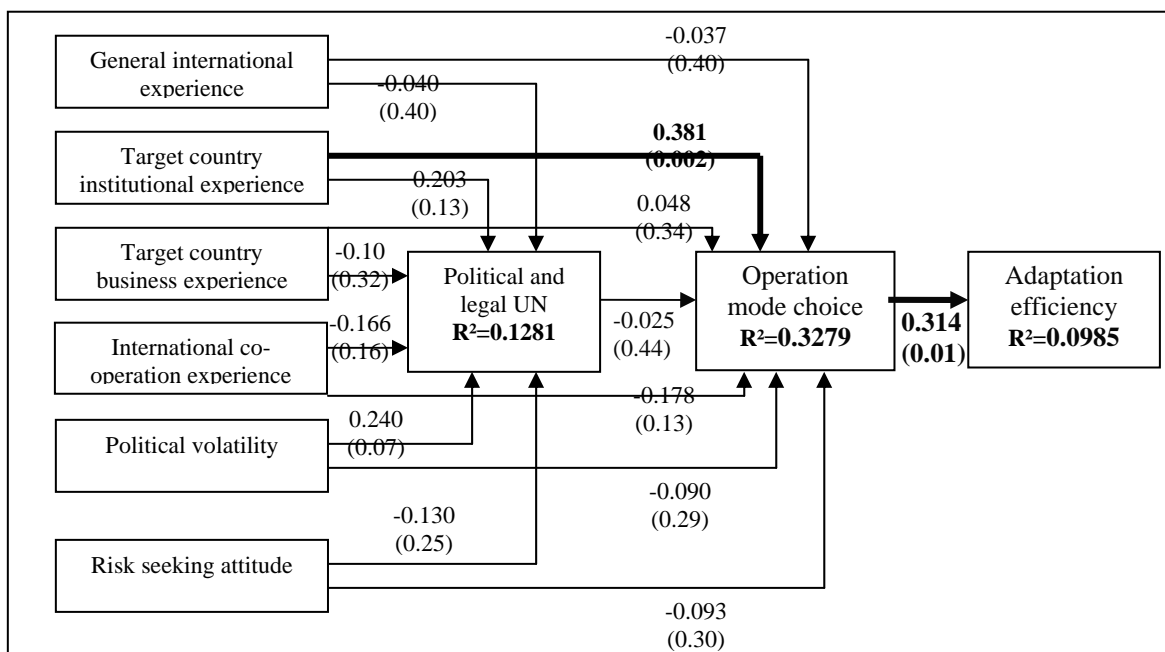


Figure 11. The basic model in the context of political and legal uncertainty.

consistency of constructs and discriminant validity, the measurement model is suggested to demonstrate good construct validity (see Appendix 3 for detailed information). The assessment of the quality of the structural model (see Appendix 3) revealed that R^2 values for political & legal uncertainty (0.1281) and for operation mode choice (0.3279) cross the cut-off point of 0.1. However, R^2 value for adaptation efficiency is below 0.1 raising some questions about the capability of the model to explain the variance of efficiency. However, all the constructs have an acceptable redundancy index and thus the predictive relevance of each structural equation is considered good. The significance levels of structural relationships are not very good. Only two relationships out of 14 are statistically significant representing 14% of the structural relationship in the model. The path coefficients for both of these relationships are over 0.3 as can be seen in Figure 11.

In spite of the low number of significant relationships between the constructs, the results are interesting. Still, none of the potential antecedents included in the model directly influence the level of perceived political and legal uncertainty, implying that in the case of political and legal uncertainty prior experience, political volatility and risk seeking attitude seem not to have an effect on the level of perceived uncertainty. However,

target country institutional experience has a statistically significant positive relationship with operation mode choice ($p=0.002$; 0.381) indicating that the more firm has prior target country institutional experience the more probable it is that a firm chooses a more integrated operation mode. Thus, in this case target country institutional experience has a direct influence on operation mode choice, but no influence on the level of perceived uncertainty. This means that perhaps the level of perceived political and legal uncertainty is not the best one to explain the existing relationship between TC institutional experience and operation mode choice.

The other significant relationship in the model was found between the operation mode choice and adaptation efficiency ($p=0.01$; 0.365). This implies that when a more integrated operation mode is chosen, the adaptation efficiency is higher. But what is interesting to find out is that whether the context is influencing the link between operation mode choice and adaptation efficiency. Because TC institutional experience influences operation mode choice positively, we could suggest that the adaptation efficiency is higher if a firm with a high level of the TC institutional experience has chosen a more integrated operation mode. But how is then political and legal uncertainty related to the adaptation efficiency? Unfortunately, there is no statistically significant relationship between political and legal uncertainty and operation mode choice so no assumptions can be made about the adaptation efficiency in the context of political and legal uncertainty. In addition, any assumptions related to the adaptation efficiency should be made with caution, because of the low level of R^2 . Thus, the model seems to better explain operation mode choice than adaptation efficiency, as the R^2 for operation mode choice is as high as 0.32, indicating that the model explains about 33% of the variance of operation mode choice.

But could political and legal uncertainty have a direct effect on adaptation efficiency instead of an indirect effect through operation mode choice. This seems to be worthwhile to explore and thus the structural model presented in Figure 11 is modified by adding one structural relationship from the perceived political and legal uncertainty to the adaptation efficiency (see Figure 12).

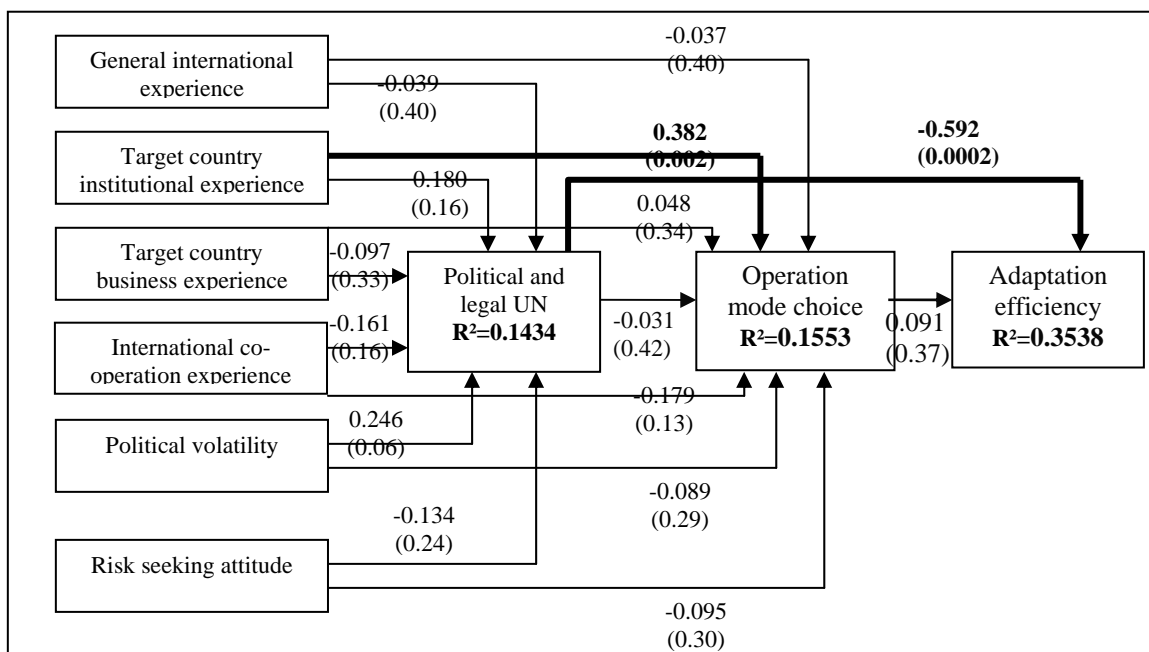


Figure 12. The modified model in the context of political and legal uncertainty.

Based on the assessment of the reliability of individual items and constructs, internal consistency of constructs and discriminant validity, the measurement model is suggested to demonstrate good construct validity (see Appendix 4). R² values for all dependent variables are now greater than 0.1 and redundancy index for all structural equations is positive indicating better predictive power than in the previous model. However, also in this modified model, there are only two significant path relations out of 15, indicating that no more than 13% of the structural relationships are statistically significant. The path coefficients for these two statistically significant relationships are both above 0.38. See the path coefficients, significance levels and R² values in figure 10. Thus, although the quality of the structural model is acceptable based on R² values and redundancy index, the low number of significant structural relations raises some questions about the model quality. Nevertheless, the results are interesting.

There are some similarities but also some differences in these two models. Also in the modified model there is a statistically significant relationship between TC institutional experience and operation mode choice (p=0.002; 0.382) indicating that TC institutional experience is the only variable included in the model, which is influencing the operation

mode choice. In addition, the variables included in the model do not seem to explain the level of perceived political and legal uncertainty.

Compared to the previous model, there are also some remarkable changes in the second model. First of all, the R^2 for adaptation efficiency is much higher in the modified model, indicating that by adding the direct relationship between political and legal uncertainty and adaptation efficiency, about 35% of the variance in adaptation efficiency can now be explained by the model. The importance of the impact of a particular latent variable on a dependent latent variable can be assessed by calculating the effect size f^2 . The effect size of including the uncertainty variable to the adaptation efficiency is 0.283, indicating medium effect at the structural level. Correspondingly, the R^2 value for operation mode choice in the modified model is much lower, changing from 0.3279 to 0.1553. Thus, the model explains now only 15% of the operation mode choice. Secondly, in the modified model the operation mode choice does not have an effect on adaptation efficiency any more, but rather the perceived political and legal uncertainty is now influencing the efficiency ($p=0.0002$; -0.592). This indicates that in the context of high level of perceived political and legal uncertainty the adaptation efficiency will be lower. However, operation mode choice does not seem to have a role in adaptation efficiency in the context of political uncertainty.

5.3.2. Formation of managerial perception of socio-cultural uncertainty and its implication on an efficient operation mode choice

Secondly, the discussion of the formation of managerial perception and its implication on an efficient operation mode choice in socio-cultural uncertainty context will be conducted. It was assumed in the theoretical discussion that the level of perceived socio-cultural uncertainty would be influenced by target country business experience, level of socio-cultural volatility and risk-seeking attitude, and that higher level of uncertainty would support the choice of a less integrated operation mode leading to a higher level of adaptation efficiency. Based on the empirical results, none of the suggested variables

affected the level of uncertainty, but a higher level of socio-cultural uncertainty seemed to support the choice of a less integrated operation mode. Nevertheless, operation mode choice did not seem to influence the adaptation efficiency. Thus, as in the case of political and legal uncertainty, in order to explore the potential direct and indirect relationships between potential antecedents of managerial perception and operation mode choice in more detailed, other variables were also taken into consideration. Now, in addition to the target country business experience, volatility and risk-seeking attitude also general international experience, target country institutional experience and international co-operation experience were included in the model. Their influence on perceived socio-cultural uncertainty and also on operation mode choice was then explored. For the studied structural relationships see the Figure 13.

The measurement model is suggested to demonstrate good construct validity (see Appendix 5). R^2 values for socio-cultural uncertainty and operation mode choice are greater than 0.2, but for adaptation efficiency only 0.05 indicating low prediction power for adaptation efficiency. Based on the redundancy index, each structural equation demonstrates prediction relevance. There are two out of 14 structural relationships that are statistically significant, so only about 14% of the structural relationships are statistically significant. Thus, the quality of the structural model suffers from low prediction power for adaptation efficiency and a low number of significant structural relations.

As can be seen in Figure 13, also in the context of socio-cultural uncertainty none of the six antecedents were significantly influencing on the formation of perceived uncertainty. However, the significance levels of general international experience ($p=0.053$) and risk-seeking attitude ($p=0.052$) are quite near the significant level of $p=0.05$. The two significant relationships in the model were both related to the operation mode choice. TC institutional experience had a significant and positive influence on operation mode choice ($p=0.001$; $\beta = 0.348$) and socio-cultural uncertainty had a significant and negative relationship with operation mode choice ($p=0.02$; $\beta = -0.289$). However, operation mode choice didn't seem to affect adaptation efficiency and no implications about adaptation efficiency in the social-cultural uncertainty context could

be made. Thus, the results imply that the higher the level of prior TC institutional experience, the more probable it is that a more integrated operation mode is chosen, and the higher the level of perceived socio-cultural uncertainty, the more probable it is that a less integrated operation mode will be chosen. The model explains 22,4% of the variance of operation mode choice.

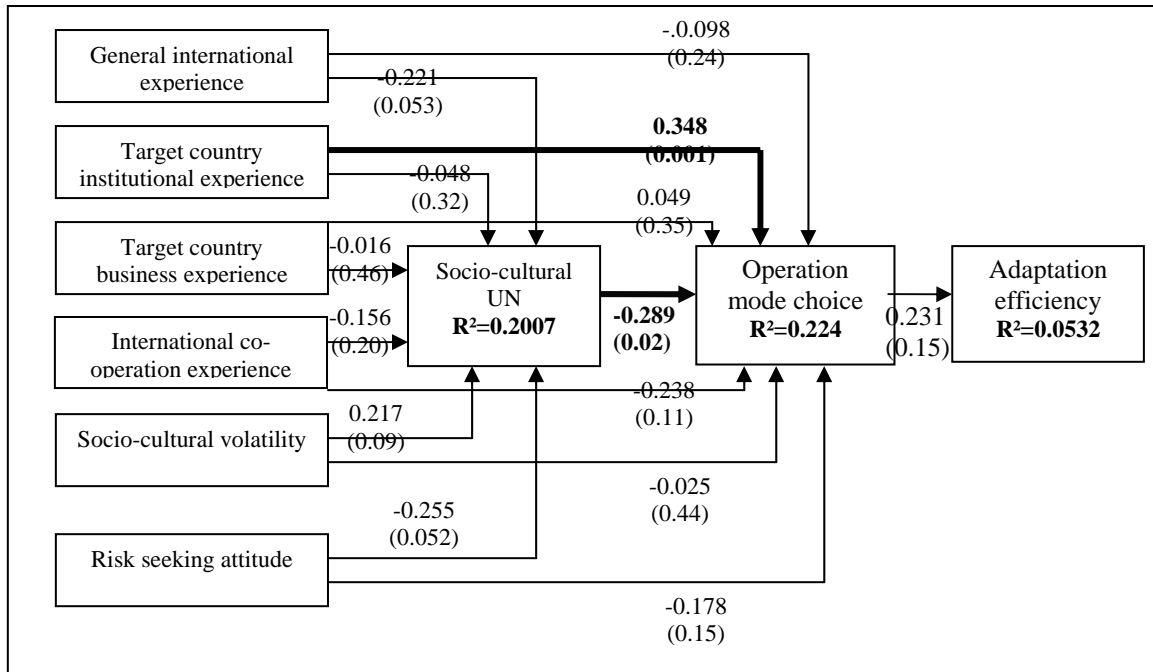


Figure 13. The basic model in the context of socio-cultural uncertainty.

In order to explore the influence of socio-cultural uncertainty on adaptation efficiency the direct relationship between perceived socio-cultural uncertainty and adaptation efficiency is added to the model just as in the case of political and legal uncertainty (see Figure 14). The modified measurement model is also demonstrating good construct validity (see Appendix 6). The R^2 values for all three dependent variables are greater than 0.2 and the redundancy index is higher than 0 for all endogenous constructs showing acceptable prediction relevance. Five structural paths out of 15 are statistically significant and thus approximately 33% of the structural relationships are statistically significant demonstrating improvement to the previous model.

Based on the results, now both general international experience ($p=0.05$; $=-0.224$) and risk seeking attitude ($p=0.04$; $=-0.258$) seem to have an effect on the level of perceived

socio-cultural uncertainty. Thus, the results imply that the higher the level of general international experience and the level of risk-seeking attitude, the lower the level of perceived socio-cultural uncertainty will be.

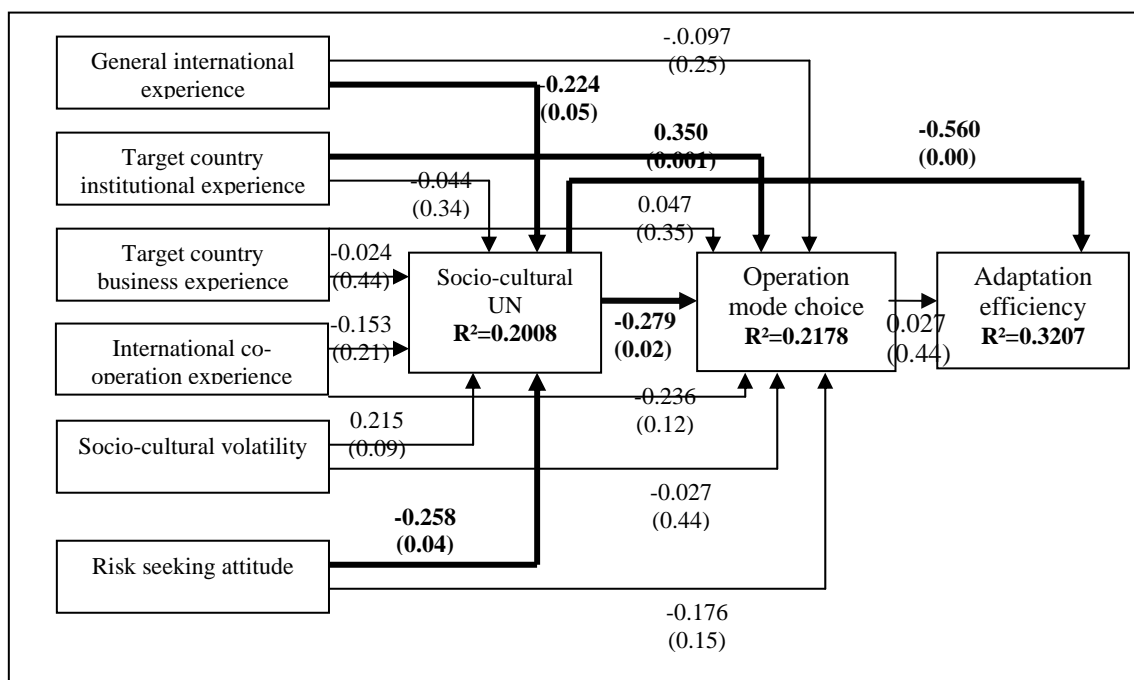


Figure 14. The modified model in the context of socio-cultural uncertainty.

The model is explaining 20% of the variance of socio-cultural uncertainty construct. Operation mode choice is influenced by both TC institutional experience ($p=0.00$; $\beta=0.350$) and socio-cultural uncertainty ($p=0.02$; $\beta=-0.279$) indicating that the higher the level of TC institutional experience the more probable it is that a more integrated operation mode will be chosen and the higher the level of perceived socio-cultural uncertainty the more probable it is that a less integrated operation mode will be chosen. Almost 22% of the variance of operation mode choice is explained by the model. In addition, adaptation efficiency is influenced by the socio-cultural uncertainty ($p=0.00$; $\beta=-0.560$) and, thus, the results suggest that the increase in the perceived level of uncertainty decreases the level of adaptation efficiency. What is also worth noticing is that the R^2 value for adaptation efficiency increased from 0.0532 in the first model to as high as 0.3207 in the modified model when socio-cultural uncertainty was included in the structural equation of adaptation efficiency construct. Thus, the importance of socio-cultural uncertainty for adaptation efficiency construct can be considered large as the

effect size is as high as 0.365. The results imply that in the context of socio-cultural uncertainty, operation mode choice does not have a role in adaptation efficiency, although socio-cultural uncertainty is influencing operation mode choice.

5.3.3. Formation of managerial perception of competition uncertainty and its implication on an efficient operation mode choice

In this chapter, the formation of managerial perception of uncertainty and its implication on an efficiency operation mode choice in the context of competitive uncertainty will be conducted. It was assumed that general international experience, TC business experience, risk-seeking attitude and competitive volatility would have an effect on the level of competitive uncertainty and that a higher level of competitive uncertainty would support the choice of a more integrated operation mode leading to a higher level of adaptation efficiency. However, only TC business experience and the level of perceived competitive uncertainty of the original relationships was significant, so, also in this case, other potential variables were included in the model and their influence on perceived competitive uncertainty and operation mode choice were studied. Thus, in addition to international and target country business experience, volatility and risk-seeking attitude variables, also target country institutional and international co-operation experience were included in the model (see Figure 15).

The measurement model demonstrated acceptable construct validity (see Appendix 7). All R^2 values are higher than 0.1 and redundancy index is greater than 0 for all dependent constructs showing predictive power and predictive relevance. However, there is only one significant path relations out of 14, and thus only 6.7% of the structural relationships are significant. According to the results, also in this case, the target country institutional experience has a significant positive ($p=0.002$; 0.349) relationship with operation mode choice implying that the higher the level of prior TC institutional experience the more probable it is that a more integrated operation mode will be chosen. However, now TC business experience does not have statistically significant impact on

the level of perceived uncertainty ($p=0.06$; -0.244). In addition, competitive uncertainty has no influence on operation mode choice and adaptation efficiency is not influenced by operation mode choice in the context of competitive uncertainty.

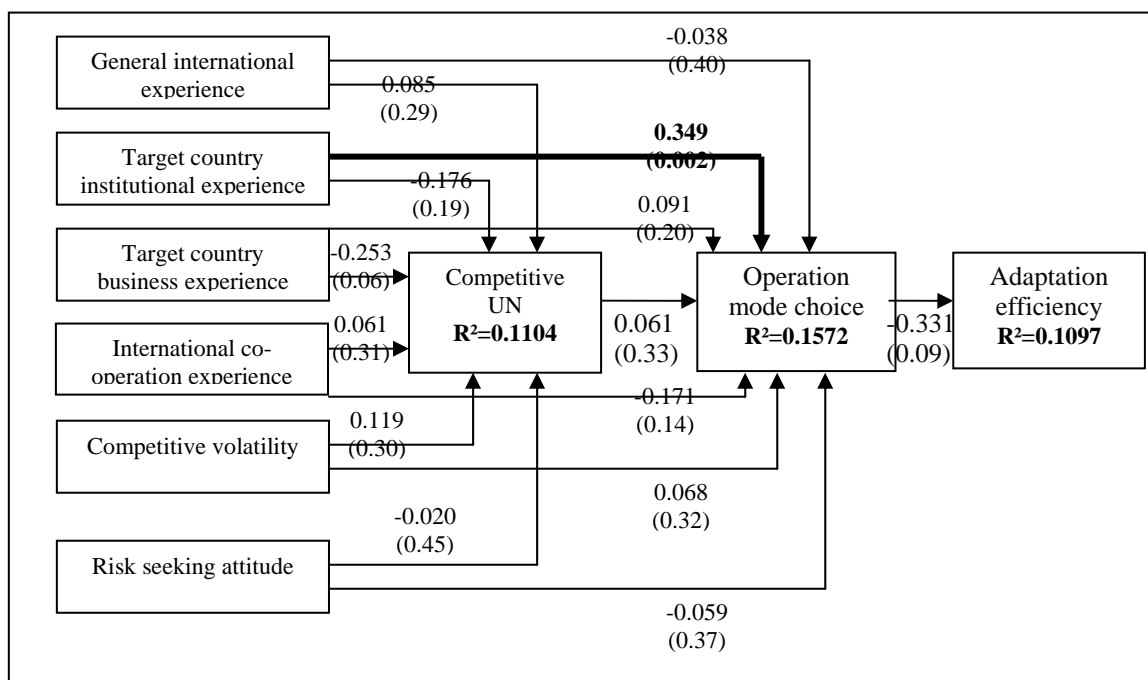


Figure 15. The basic model in the context of competitive uncertainty.

Again, in order to explore the potential influence of competitive uncertainty on the level of adaptation efficiency, also the direct relationship between competitive uncertainty and adaptation efficiency was included to the model (see Figure 16). The measurement model demonstrated good construct validity (see Appendix 8). R^2 values are again higher than 0.1 and redundancy index is greater than 0 for all dependent constructs showing predictive power and relevance. There are two significant path relations out of 15, and thus about 14% of the structural relationships are significant.

Still, in the modified model, TC institutional experience has a positive influence on the level of operation mode choice, but now also one significant relationship with adaptation efficiency is demonstrated. Thus, competitive uncertainty has significant and negative ($p=0.01$; $=-0.426$) influence on adaptation efficiency indicating that the higher the perceived level of competitive uncertainty the lower the adaptation efficiency will be. However, operation mode choice does not seem to have a role in the context of

competitive uncertainty and the level of competitive uncertainty is not explained by volatility, risk-seeking attitude and different experience types, although TC business experience is close to having a significant relationship with competitive uncertainty ($p=0.06$).

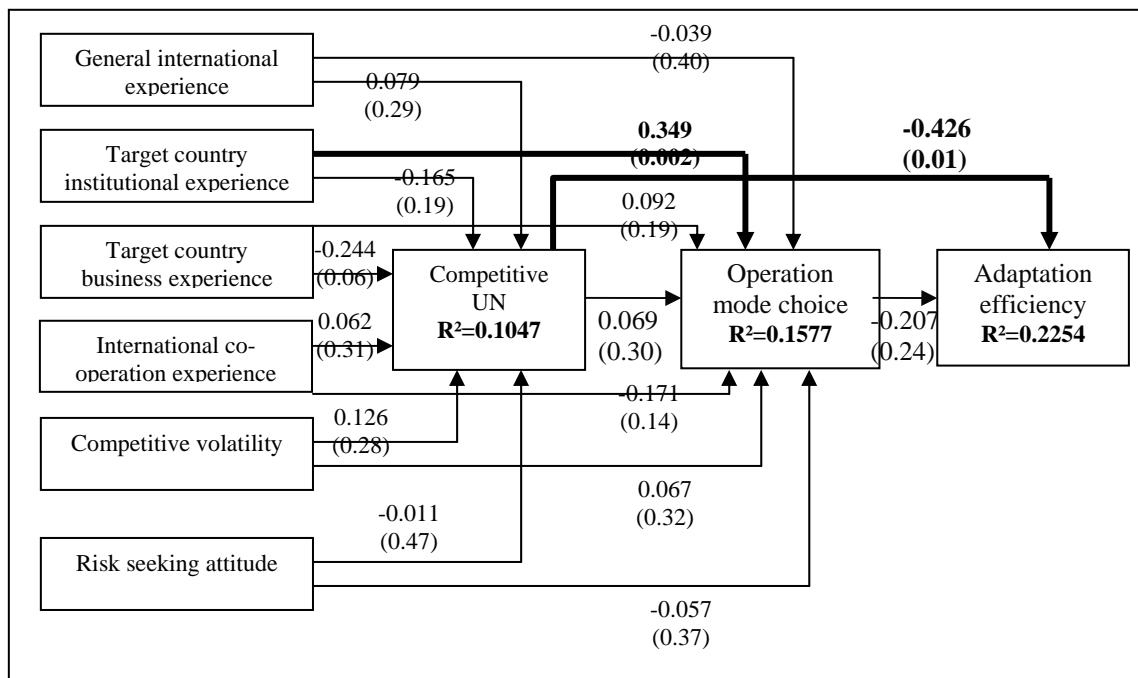


Figure 16. The modified model in the context of competitive uncertainty.

When the two models are compared, it can be noticed that R^2 value for adaptation efficiency in the modified model is more than double the R^2 value in the first model, indicating that explanation for adaptation efficiency is increased in the modified model. Thus the model explains 22.5% of the adaptation efficiency in the context of competitive uncertainty. The importance of competitive uncertainty construct to the dependent construct of adaptation efficiency is assessed by calculating the effect size. The effect size is 0.13, which is classified to have a small effect, although it is almost reaching the level of having medium effect at the structural level.

5.3.4. Formation of managerial perception of demand uncertainty and its implication on an efficient operation mode choice

In the original research model, it was hypothesised that TC business experience risk seeking attitude and volatility would influence the level of perceived demand uncertainty, demand uncertainty would have positive relationship with operation mode choice and that adaptation efficiency would be higher if a more integrated operation mode would have been chosen in the context of high demand uncertainty. Of these relationships, risk-seeking attitude had a negative relationship with demand uncertainty, demand uncertainty had a positive relationship with operation mode choice and operation mode and adaptation efficiency had a negative relationship. Although significant relationships were found already in the original research model, a more detailed exploration of the model was again conducted. Thus, target country institutional experience, general international experience and international co-operation experience were included in the model and their direct influence both on the level of perceived demand uncertainty and operation mode choice was explored. See Figure 17, for a description of the model in the context of demand uncertainty.

The measurement model demonstrated good construct validity again (see Appendix 9). R^2 values for all three dependent constructs were above 0.18 and the redundancy index was greater than 0 for all dependent constructs demonstrating good prediction power and relevance. There were four significant path relations out of 14, and thus about 28.6% of the structural relationships in the model were significant.

Based on the results, none of the included new variables had an effect on the level of perceived uncertainty and, thus, the only influencing factor still was risk-seeking attitude having statistically significant and negative ($p=0.00$; $\beta=-0.452$) relationship with perceived level of demand uncertainty. Nevertheless, the model still explains about 25% of the variance in demand uncertainty. However, target country institutional experience had again a significant positive ($p=0.00$; $\beta=0.290$) direct relationship with operation mode choice. In addition, demand uncertainty had a significant and positive

($p=0.00$; $\beta=0.352$) relationship with operation mode choice and operation mode choice had a significant and negative ($p=0.00$; $\beta=-0.426$) relationship with adaptation efficiency. The results imply that operation mode choice has a role in adaptation efficiency in the context of demand uncertainty. Based on the results it seems that if a more integrated operation mode is chosen in the context of high demand uncertainty, adaptation efficiency will be lower. The model explains about 18% of the variance of adaptation efficiency construct.

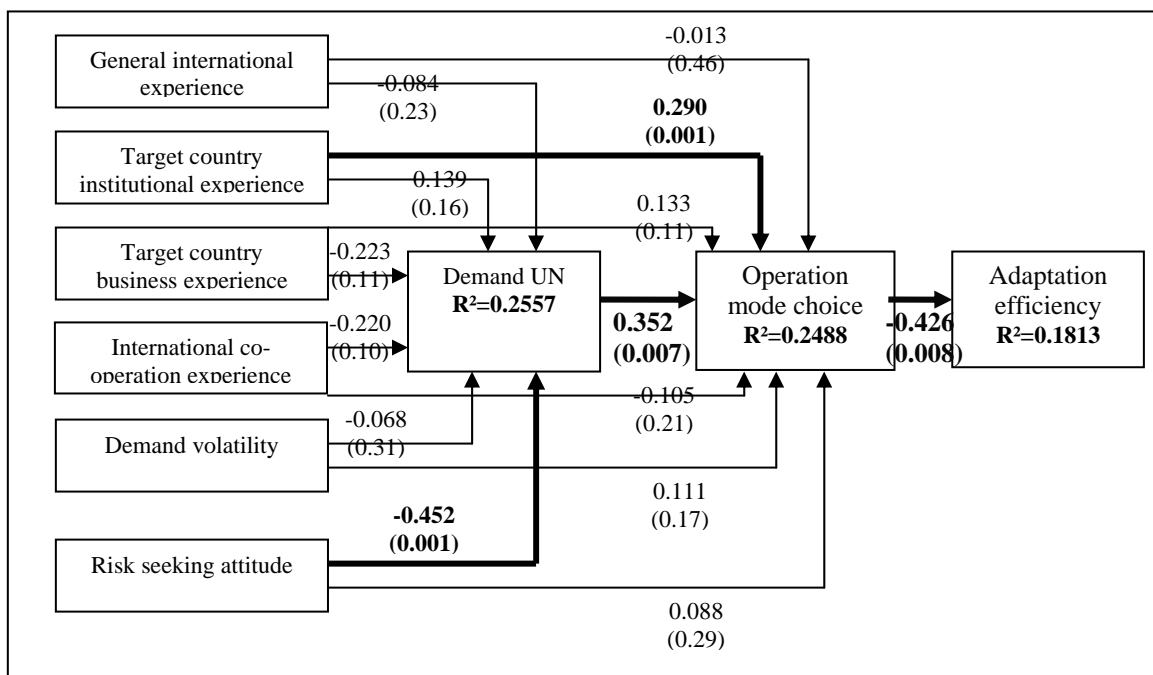


Figure 17. The basic model in the context of demand uncertainty.

Just as in the case of previous uncertainty contexts, the direct relationship between perceived demand uncertainty and adaptation efficiency is added to the model and the assessment of its impact on the model is conducted (see Figure 18). Again the quality of the measurement model is acceptable (see Appendix 10). R^2 values are above 0.24 for all dependent constructs and the redundancy index greater than 0 for all dependent constructs indicating acceptable predictive power and predictive relevance. There are again four significant path relations out of 15 and thus approximately 27% of the structural relationships are significant.

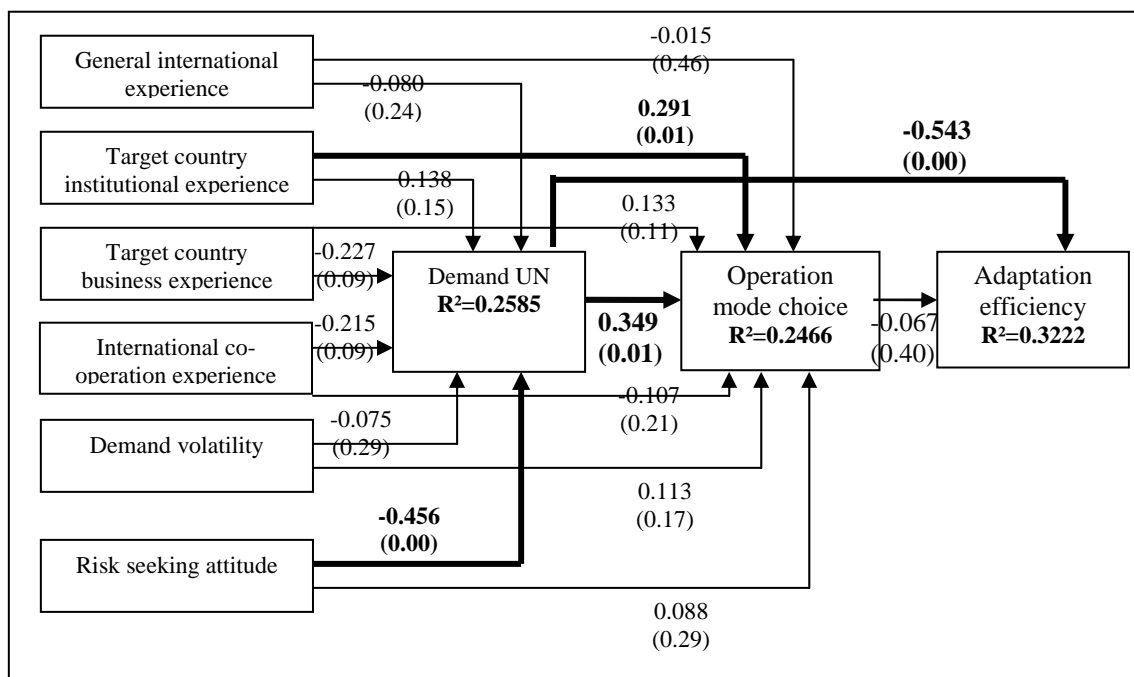


Figure 18. The modified model in the context of demand uncertainty.

There are similarities and differences in these two models. Again, higher risk-seeking attitude will decrease the level of perceived demand uncertainty and operation mode choice is influenced by the level of uncertainty and TC institutional experience. Thus, an increase in the level of demand uncertainty and TC institutional experience seem to increase the probability to choose a more integrated operation mode. However, the difference in the two models is that now operation mode choice does not have an effect on adaptation efficiency, but demand uncertainty has a significant and negative ($p=0.00$; $\beta=-0.543$) relationship with adaptation efficiency. In addition, the level of R^2 of adaptation efficiency was increased quite much when the direct relationship between demand uncertainty and adaptation efficiency was added to the model. The importance of including demand uncertainty in the structural equation of adaptation efficiency can be considered medium as the effect size is 0.17. Thus, operation mode choice does not seem to influence the adaptation efficiency in the context of demand uncertainty, although demand uncertainty has an effect on operation mode choice. The results indicate that in the context of higher demand uncertainty adaptation efficiency will be lower no matter of the operation mode.

5.3.5. Formation of managerial perception of behavioural uncertainty and its implication on an efficient operation mode choice

In the theoretical discussion it was suggested that international co-operation experience, risk-seeking attitude, local firm dependence and entering firm dependence would affect the level of perceived behavioural uncertainty, and that behavioural uncertainty would influence positively on operation mode choice, and control efficiency would be higher in the context of high behavioural uncertainty if a more integrated operation mode was chosen. Based on the empirical results, only international co-operation experience and local firm dependence decreased the level of perceived behavioural uncertainty. The relationships between perceived uncertainty and operation mode choice and between operation mode choice and control efficiency were as expected. Although significant relationships were found already in the original research model, a more detailed exploration in the context of behavioural uncertainty was conducted. To explore in more detail whether there are other variables that influence the perceived behavioural uncertainty and whether those factors also influence the operation mode choice directly, other variables were also added in the model. The variables added to the model in the behavioural uncertainty context were target country institutional uncertainty, target country business experience and general international experience (see Figure 19). In addition, the two dependence types were excluded from the model, because local firm dependence could be studied only in the case of licensing and joint venture.

The measurement model showed construct validity (see Appendix 11). R^2 values for the three dependent constructs were above 0.18 and the redundancy index was greater than 0 for all dependent constructs. Four out of 12 structural relationships were significant and thus approximately 33% of the structural relationships of the model were significant. The results indicate that the level of perceived behavioural uncertainty is lower when a firm has prior international co-operation experience. However, now risk-seeking attitude did not have significant influence ($p=0.06$). Operation mode choice, on the other hand is influenced both by TC institutional experience and perceived behavioural uncertainty. The results suggest that the higher the level of prior TC

institutional experience and the level of perceived behavioural uncertainty, the more probable it is that a firm is choosing a more integrated operation mode. In addition, operation mode choice had a significant and positive ($p=0.00$; $\beta=0.461$) relationship with control efficiency. Thus, the results indicate that the operation mode has a role in control efficiency. This means that control efficiency is higher if a more integrated operation mode is chosen in the context of higher perceived behavioural uncertainty.

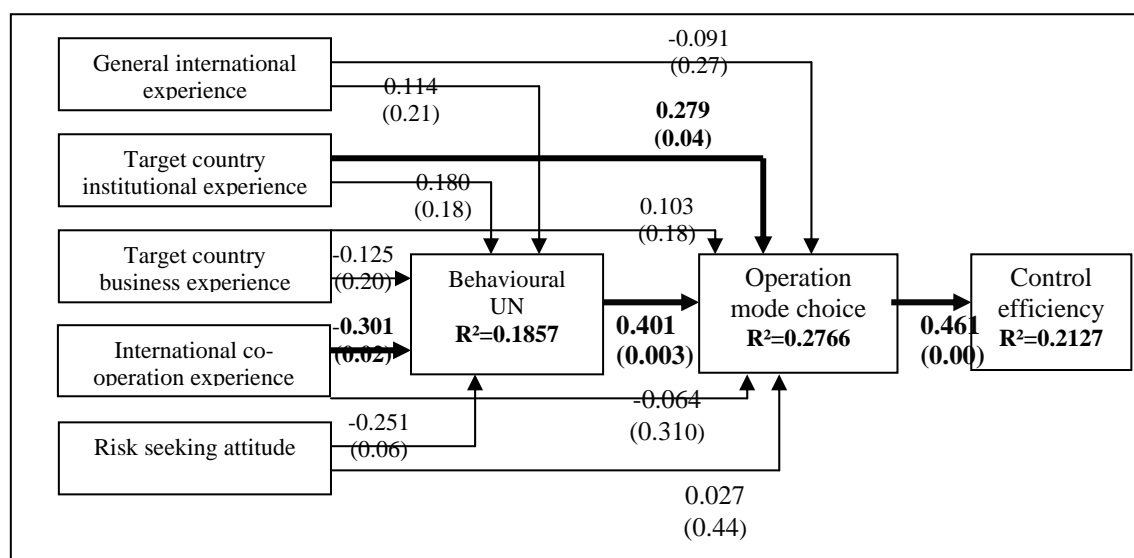


Figure 19. The basic model in the context of behavioural uncertainty.

What is interesting to find out is that whether the perceived behavioural uncertainty also affects control efficiency directly no matter of the operation mode chosen. Thus, the model was modified by adding the direct relationship between behavioural uncertainty and control efficiency (see Figure 20). The measurement model demonstrated good construct validity (see Appendix 12). R^2 values were again greater than 0.18 and redundancy index greater than 0 for all dependent constructs demonstrating acceptable predictive power and relevance. There were four significant relationships out of 13 and thus about 31% of the structural relationships in the model were significant.

The results in the modified research model are similar to the first model. The level of perceived behavioural uncertainty is affected by prior international co-operation, operation mode choice is influenced by TC institutional experience and perceived behavioural

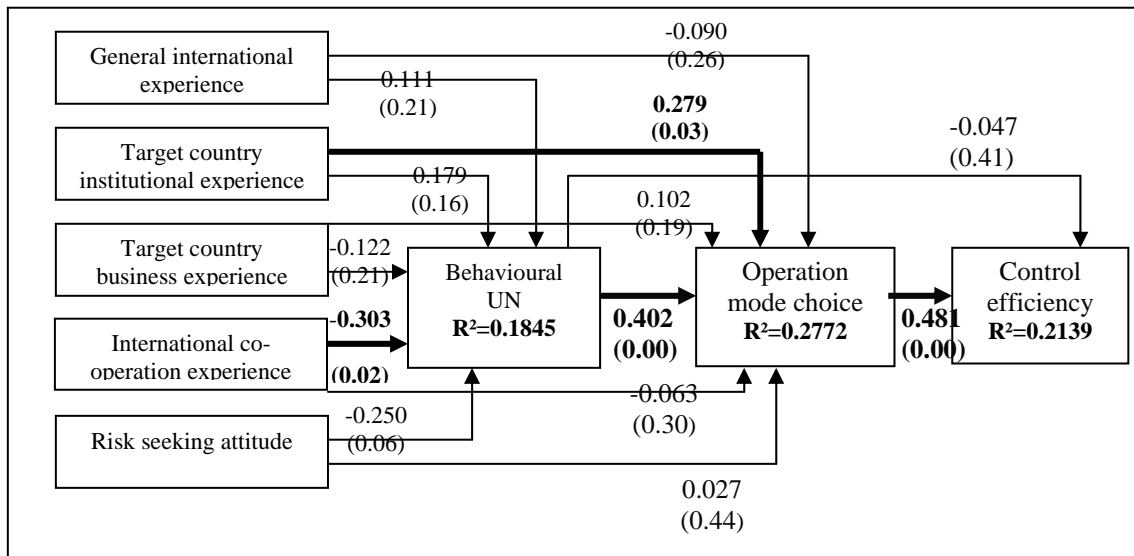


Figure 20. The modified model in the context of behavioural uncertainty.

uncertainty, and operation mode choice is having an effect on control efficiency. Thus, behavioural uncertainty did not have direct influence on the control efficiency. As a consequence, operation mode indeed seems to have a role in achieving control efficiency. This means that in the context of high behavioural uncertainty, the choice of a more integrated operation mode will increase the level of control efficiency.

5.4. Summary of the results based on quantitative analysis

The tested structural model consisted of 24 hypotheses related to the formation of managerial perception of uncertainty, the influence of perceived uncertainty types on operation mode choice and the influence of operation mode choice on adaptation efficiencies and control efficiency in the context of different uncertainty types. The results of the hypothesis testing can be seen in Table 38.

As can be seen in the table, most of the hypotheses of the study were not supported. From the four experiential knowledge variables, only target country business experience and international co-operation experience had an effect on the level of perceived uncertainty. TC business experience decreased the level of perceived competitive

Table 38. Summary of the hypotheses tested in the study.

Hypotheses	Result
H1: General international experience will have a negative relationship with perceived competitive uncertainty in the target country.	Not supported
H2a: Target country business experience will have a negative relationship with perceived socio-cultural uncertainty in the target country.	Not supported
H2b: <i>Target country business experience will have a negative relationship with perceived competitive uncertainty in the target country.</i>	<i>Supported</i>
H2c: Target country business experience will have a negative relationship with perceived demand uncertainty in the target country.	Not supported
H3: Target country institutional experience will have a negative relationship with the perceived level of political and legal uncertainty in the target country.	Not supported
H4: <i>International co-operation experience will have a negative relationship with perceived behavioural uncertainty.</i>	<i>Supported</i>
H5a: <i>The local firm's dependence on the entering firm will have a negative influence on the entering firm's perceived behavioural uncertainty.</i>	<i>Supported</i>
H5b: The entering firm's dependence on the local firm will have a positive influence on the entering firm's perceived behavioural uncertainty.	Not supported
H6a: The entering firm's risk-seeking attitude will have a negative relationship with perceived political and legal uncertainty.	Not supported
H6b: The entering firm's risk-seeking attitude will have a negative relationship with perceived socio-cultural uncertainty.	Not supported
H6c: The entering firm's risk-seeking attitude will have a negative relationship with perceived competitive uncertainty.	Not supported
H6d: <i>The entering firm's risk-seeking attitude will have a negative relationship with perceived demand uncertainty.</i>	<i>Supported</i>
H6e: The entering firm's risk-seeking attitude will have a negative relationship with perceived behavioural uncertainty.	Not supported
H7a: Political and legal volatility will have a positive relationship with perceived political and legal uncertainty.	Not supported
H7b: Socio-cultural volatility will have a positive relationship with perceived socio-cultural uncertainty.	Not supported
H7c: Competitive volatility will have a positive relationship with perceived competitive uncertainty.	Not supported
H7d: Demand volatility will have a positive relationship with perceived demand uncertainty.	Not supported
H8: The higher the perceived political and legal uncertainty, the more probable it is that a firm chooses a less integrated operation mode.	Not supported
H9: <i>The higher the perceived socio-cultural uncertainty, the more probable it is that a firm chooses a less integrated operation mode.</i>	<i>Supported</i>
H10: The higher the perceived competitive uncertainty, the more probable it is that a firm chooses a more integrated operation mode.	Not supported
H11: <i>The higher the perceived demand uncertainty, the more probable it is that a firm chooses a more integrated operation mode.</i>	<i>Supported</i>
H12: <i>The higher the perceived behavioural uncertainty, the more probable it is that a firm chooses a more integrated operation mode.</i>	<i>Supported</i>
H13: In the context of political, legal, socio-cultural, competitive and demand uncertainty the adaptation efficiency is higher in firms, which have made their entry mode choice according to the transaction cost approach than in firms, which have not .	Not supported
H14: <i>In the context of behavioural uncertainty, the control efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not.</i>	<i>Supported</i>

uncertainty (H2b) and international co-operation experience decreased the level of perceived behavioural uncertainty (H4). In addition, the level of perceived behavioural uncertainty was also decreased by the local firm's dependence (H5a). Demand uncertainty, on the other hand, was influenced negatively only by risk-seeking attitude (H6d). Thus, only three uncertainty types out of five included in the study were influenced by some of the factors suggested in the hypotheses.

More support, however, was found for the hypotheses related to the operation mode choice. Operation mode choice was influenced by three uncertainty types. Perceived socio-cultural uncertainty increased the use of a less integrated operation mode (H9) and both demand (H11) and behavioural uncertainty (H12) increased the use of a more integrated operation mode. However, perceived political and legal uncertainty (H8) and competitive uncertainty (H10) did not affect the operation mode choice.

The hypothesis related to the adaptation efficiency was not supported (H13). In the context of higher political and legal uncertainty, socio-cultural uncertainty and competitive uncertainty, operation mode choice did not have a role in achieving efficiency. However, adaptation efficiency in the context of demand uncertainty was influenced by an operation mode choice, although the influence was not what was expected. It was suggested that in the context of higher demand uncertainty the choice of more integrated operation mode would increase the level of adaptation efficiency. Nevertheless, the results indicate that in the context of higher demand uncertainty, the choice of a more integrated operation mode would decrease the level of adaptation efficiency. The results related to the control efficiency clearly supported the hypothesis. Thus, control efficiency was higher if a more integrated operation mode was chosen in the context of high behavioural uncertainty (H14).

Because only a third of the hypotheses were supported, a more explorative type of research was conducted in order to examine if some other factors than the ones suggested in the theoretical discussion affect the level of different uncertainty types, or if these factors influence the operation mode choice directly, and how this affect the

efficiency to adapt and control. To be able to do this the original research model was divided in to five sub-models, each focusing on a specific type of uncertainty.

The first sub model focused on exploring the formation of political and legal uncertainty, operation mode choice and adaptation efficiency. Although all the experience types, in addition to the specific volatility type and risk-seeking attitude, were included in the models, none of the factors had an effect on the level of perceived political and legal uncertainty. However, TC institutional experience increased the probability to choose a more integrated operation mode. In addition, political and legal uncertainty had a negative influence on adaptation efficiency. Nevertheless, operation mode choice did not have any role in achieving better adaptation efficiency in the context of political and legal uncertainty.

The sub-model focusing on socio-cultural uncertainty, however, revealed some interesting new indications. Both general international experience and risk-seeking attitude decreased the level of perceived socio-cultural uncertainty. Thus, instead of TC business experience, socio-cultural uncertainty is influenced more by the level of prior general international experience. In addition, TC institutional experience had a direct positive effect on operation mode choice. Socio-cultural uncertainty influenced both the operation mode choice and the adaptation efficiency but operation mode choice did not affect the adaptation efficiency.

The third sub-model focused on competitive uncertainty. Linking all the factors to the perceived competitive uncertainty changed the results compared to the ones received in the original model. None of the factors had an effect on the level of perceived competitive uncertainty, but TC institutional experience again influenced to the operation mode choice positively. Additionally, an increase in competitive uncertainty decreased the adaptation efficiency but again operation mode did not have a role in influencing the efficiency.

The fourth model focusing on demand uncertainty demonstrated that, still, only risk-seeking attitude had an influence on the level of perceived demand uncertainty by

decreasing it. Yet again, TC institutional experience increased the probability to choose a more integrated operation mode. Operation mode choice was also affected by the perceived demand uncertainty. Operation mode choice had no effect on adaptation efficiency in the context of demand uncertainty, although in the case of a higher level of demand uncertainty the adaptation efficiency was decreased.

The fifth and final sub-model focused on identifying the antecedents of perceived behavioural uncertainty, operation mode choice and control efficiency. The results indicate that international co-operation decreases the level of perceived behavioural uncertainty. In addition, operation mode choice is influenced positively both by TC institutional experience and behavioural uncertainty. Behavioural uncertainty, on the other hand, has no significant relationship with control efficiency, but rather it is influencing through operation mode choice. This suggests that a more integrated operation mode will increase the level of control efficiency in the context of a higher perceived behavioural uncertainty.

Thus, comparison of the results between the original structural model and the five uncertainty specific models revealed some similarities, but also some differences. First of all, in the case of formation of political and legal, demand and behavioural uncertainty, the added variables did not explain the perceived level of uncertainties. However, more understanding for the potential antecedents of socio-cultural uncertainty was received. Secondly, related to the operation mode choice, it was found that in addition to the three uncertainty types, socio-cultural uncertainty, demand uncertainty and behavioural uncertainty, also TC institutional experience influenced the operation mode choice. Nevertheless, the other experiential knowledge variables, volatility types and risk seeking attitude did not have a significant direct relationship with operation mode choice. Thirdly, the results based on the uncertainty specific models revealed that the higher the perceived uncertainty the lower was the related type of adaptation efficiency. However, operation mode did not seem to have a role in adaptation efficiency. Nevertheless, confirmation was received for the role of operation mode in achieving control efficiency.

Thus there are still some unanswered questions. More information is needed in order to really understand the formation of different types of uncertainties and how adaptation efficiency is achieved and what is the role of operation mode in that. To facilitate the understanding of these issues more qualitative type of data was collected through six interviews.

5.5. Results based on the six cases

In order to improve the reliability and validity of the study, more detail information about few cases was needed. From the 60 cases, who had filled in the questionnaire, 6 cases were chosen for a more detailed description in order to confirm the results based on quantitative analysis, but also to clarify some unclear findings.

In the following sections, information based on the questionnaire and interview about the selected six cases is presented. The case descriptions are divided into three sub-chapters. The first sub-chapter focuses on the two licensing cases, in the second sub-chapter description on the two joint venture cases is conducted and in the third sub-chapter the discussion on the two wholly owned subsidiaries is carried out.

5.5.1. Licensing

In this section the description of the two licensing cases is presented. First, information related to firm A and its licensing operation is presented, which is then followed by description of firm B and its licensing operation. The description is based on the main elements developed in the theoretical framework. The description starts with giving background information on the firms and their motives to enter the target country and their prior international experience. This is followed by description of the operation mode choice and partner selection. Perceived uncertainties and volatilities and

dependence issues are discussed next. Finally, issues related to unexpected changes during operation, adaptation efficiency, control efficiency and performance are dealt with.

Firm A

Background and motives to enter the target country

The firm A is involved in vehicle manufacturing. At the time of entry, in 1997, the turnover was 600 MEUR and the number of personnel 2400. The firm A was motivated to enter the country, because there was a strong belief that sharp increase in demand for the firm's product would take place in the near future. This view was also shared by target country media, industry experts and other foreign firms. The increase for demand was waited for, because the industry structure was expected to be changed as a response for economic liberalisation and the removal of restrictions. In addition, there were several contacts taken by local firms in the target country, which finalised the interest of the firm A.

International experience

Firm A operated in 15 countries prior to the entry in the target country. It had been doing business in Europe, North America, South America, Asia, Middle East and Africa and, thus, the firm had experience from almost all of the continents. The firm had used all three types of the main categories of operation modes including exporting, co-operative arrangements and FDIs. Licensing and subcontracting represented the prior used co-operative arrangements and FDIs had been used in the form of manufacturing JV and WOS. The firm had no experience in doing business in the target country prior to the entry.

Operation mode choice

Restrictions in the target country did not limit the number of alternative operation modes, which the firm could use. Firm was, however, more interested in operating with a local partner than in starting the business on its own through greenfield investments, as a few of its international competitors did. Firm A was also considering a JV in the

beginning of the process, but the potential partner was not interested in it. Additionally, the cultural and organisational differences between the firms supported the choice of licensing over joint venture. WOS, on the other hand, was not considered because of the potential problems of recruitment. It was mentioned that there were not enough Finnish managers, who could have been hired for the subsidiary and instead locals would be hired. That, on the other hand, was considered to increase the probability for unsuccessful recruitment and the firm could end up with a difficult group of personnel who does not fulfil the wishes and objectives of the Finnish firm. Then again, in the case of licensing it is easier to withdraw from the market and forget the whole thing.

Partner selection

As it was mentioned earlier, the firm was approached by four local firms suggesting co-operation in the form of licensing. The firm A visited three of the firms and negotiations were started with all of them. In the final stage the choice was made between two local firms. Negotiations took 2 years until a licensing agreement with one of the firms was made. The firm chose a partner, who was interested in licensing the entire product, instead of just some components of it. By licensing a whole product, also exporting from the target country using the brand name of the Finnish firm was possible. In addition, the quality of relationship affected the final choice of the partner. The chosen partner was considered *“more believable and clearer. The other potential partner was more like a capitalist player and it was difficult to know what they were really thinking”*. The chosen partner was considered to be more reliable, the atmosphere was better and organisational values more suitable for the Finnish firm. The type of licensing was an exclusive license, which guaranteed for the licensee the right to produce and sell the licensed product exclusively in the target country. In addition, it was agreed that firm A can also buy components from the licensee for its own production.

Perceived environmental related uncertainties and volatilities

Based on the answers received through the questionnaire, some uncertainty was felt about political and legal and competitive environment. Uncertainty related to the competitive environment was not considered very high, because the firm thought that the local firm had quite a strong market position in the target country and that it is

capable of handling the competition in the market. However, the firm felt uncertainty about the potential new entrants to the market and the actions of foreign companies. Although the uncertainty about competition was not very high, it was assumed that competition will be quite hard in the country. The demand uncertainty, on the other hand, was evaluated very low, because there was shared belief in the target country and firms in the industry that there would be a strong increase in demand for those products. The socio-cultural uncertainty was also perceived quite low. Additionally, the volatility in demand and competitive environment was considered quite strong, but in political & legal and socio-cultural environment quite low.

Perceived behavioural uncertainty

The behavioural uncertainty was perceived quite low. The only fear was that the partner could not fulfil its promises and obligations. This was clarified in the interview when asked about the perceived uncertainties at the planning stage. The uncertainty about the product quality was emphasised. It was not sure how well the partner could follow the quality requirements of the Finnish firm. However, the firm tried to protect itself from the threat of low quality product by including a condition in the contract that the Finnish firm can forbid the use of their trademark if they feel the quality is not what it is supposed to be. Nevertheless, at the planning stage this uncertainty was also seen in their assessment of potential inputs required from them in order for the entry to take place. The Finnish firm thought that they would need to spend a lot of time and other resources for training the personnel in the partner firm.

Dependence

Information received from the questionnaire revealed that the Finnish firm did not feel that they were dependent on the local firm. Indeed, the firm A had other licensee candidates to choose from as they were approached by four different firms in the beginning of the process. However, there seems to be some sort of contradiction in the assessment of the local firm's dependence on the Finnish firm. Although it was stated that the local firm was not dependent on the Finnish firm, it was agreed with the statement that the local partner might had difficulties to find another partner if co-operation with the Finnish firm had not been realised. This contradiction can be at least

partly explained by the fact that the local firm had enough financial resources so they did not need financial help from the partner. In fact, they even built a new modern factory on their own for the production of the licensed product. However, there were not so many available potential foreign partners with required technology.

Unexpected changes during operation

After operating 3-4 years in the target country, it became clear that the sharp increase in demand was not taking place. There was some increase in demand, but the level was not what was expected. In general, the development of the market was not what had been assumed. This resulted mainly from the fact that the expected changes in legislation, which would have increased the demand for the product, were not realised.

Adaptation efficiency

The adaptation efficiency was considered to be quite good. Negotiations related to changes in the environment proceeded smoothly, it was not difficult to reach a common understanding with the partner and the firm was quite pleased with the speed of reaction to changes in the target country. In addition, the received information about the environment was considered understandable, although the information was not always the most relevant. Especially the relevance of received political and legal information was not considered good. The received information was mainly based on what the partner was telling. The visits of Finnish managers to the licensee's firm were the main source of information. In addition, the local managers also made visits to Finland. The relationship between the Finnish and local managers was described as "*extremely good and close ones*". Besides the discussions between the managers, information was also received in the form of written reports. Basically the firm got the information it asked for. All in all, the discussions were conducted openly and the received information was considered reliable. However, the firm was lacking the information about the development of legislation related to the industry it was operating in. This information could have helped in estimating the level of demand more realistically.

Control efficiency

The control efficiency was considered to be very good. The licensor firm had not invested too much time nor personnel in controlling the partner's actions, the licensee had fulfilled its obligations and promises and had not taken an advantage of the situation to further their own interests at the firm A's expenses nor hidden relevant information related to the operation. Even the calculation of royalties and the agreement in transfer pricing were not considered difficult, because the partners agreed in their negotiations to open enough bookkeeping to get the needed information.

Performance

Based on the subjective assessment by the interviewed manager, the performance was considered quite low. The firm was extremely unsatisfied with the performance in general, increase in sales, amount of sales, market share and access to the markets and quite unsatisfied with the reputation. However, they were somewhat satisfied with the efficiency in production and the returns they made.

Firm B

Background and motives to enter the target country

The firm B produces electronic equipments. At the time of entry, in 1985, the turnover was 50 MEUR and the number of personnel 700. The firm wanted to enter the country, because they thought it offered a great market potential. They wanted to use exporting as an operation mode, but because of the high level of customs and taxes it was not possible to do it profitably. The only way to operate in the target country was to start local manufacturing. However, they thought that they did not have enough experience or resources to be involved in foreign investments.

International experience

Although it was thought in the firm that they lacked international experience, they were actually doing business in several foreign countries, altogether in 21 countries from Europe, North America, South America, Asia and Middle East. Thus, the firm's international activities were geographically spread indicating experience from doing

business in different types of environments. However, the firm had used quite limited number of different types of operation modes. In most of the cases, exporting had been used as an operation mode and they had only two subsidiaries, both focusing on sales and marketing activities. Thus, the firm had no experience in manufacturing activities in foreign countries and no experience in international co-operative arrangements like licensing. In addition, there was no prior experience in doing business in the target country. Accordingly, the firm lacked target country and operation mode level experience.

Operation mode choice and partner selection

The restrictions in the target country limited the options for operation mode choice to licensing and manufacturing FDIs. At the firm level, the lack of experience in the target country and limited resources prevented the use of FDIs. In addition, the firm was approached by a local firm, who suggested co-operation in the form of licensing. In practice, the alternatives for the firm B were either “*to enter to country using licensing or not enter at all*”. By starting licensing agreement the firm thought that they could get some extra revenues in the form of royalties, down payment and component selling to the licensee. Thus, the firm B started its first licensing operation in a country, in which it had no prior experience, more as a response to a request from a local firm than based on careful analysis of the target country and potential licensee candidates. The local firm had prior experience in international licensing with other European firms and thus it was perceived that the local firm was capable of licensing products. No other criteria were mentioned in starting the co-operation with the local firm. The type of license was an exclusive license.

Perceived environmental related uncertainties and volatilities

How then were the different types of perceived uncertainties influencing the operation mode choice or did they have any role? What kind of uncertainty was experienced and why? Based on the answers received through the questionnaire, it seems that greatest uncertainty about environmental uncertainties was felt about political and legal environment and to some degree about competitive environment. In addition, perceived behavioural uncertainty was high. However, based on the data received from the

interview, the environmental related uncertainty was not emphasised. One reason for that may be that ultimately, the firm started its operations in the country as a response to a request from a local firm and, therefore, the environmental related issues were not very much analysed beforehand. When specifically asked about the perceptions related to environmental-uncertainties, the answer was “*it was perceived pretty uncertain*”, because so much was relied on “*information given by the partner*”. However, it seems that in the case of firm B, the environmental uncertainties did not have a very big role in making the operation mode choice. In addition, volatility in competitive environment was considered low and in political & legal, socio-cultural and demand environment some degree of volatility was recognised.

Perceived behavioural uncertainty

The high level of perceived behavioural uncertainty was also clear in the interview. What is interesting is that the firm started licensing with the local firm in spite of the high level of perceived behavioural uncertainty. However, this can be partly explained by the fact that the other option was not to enter the country at all, and this way at least some revenues could be earned. Additionally, it was thought that whatever the local partner will do in the target country, it does not affect the firm’s other operations, because the partner (licensee) is operating in closed markets. The licensee was also using its own brand, so if the firm produced a low-quality product, it would not harm the reputation of firm B.

Dependence

When asked about the importance of co-operation to the firm and to the partner, it was stated that neither of the partners was dependent on the other one. However, the Finnish firm considered it to be quite important to have a partner in order to get to the target country markets.

Adaptation efficiency

Not very much can be said about the adaptation efficiency. Based on the data received through questionnaire, adaptation efficiency in demand and competitive environment was lower than in the case of political and legal environment and socio-cultural

environment. Especially in the case of demand and competitive environments, the firm was not satisfied with the relevance and timing of received information. The problem related to receiving information from the market was also verified by the interview data. It was specifically mentioned that the problem in receiving information was that the firm had to rely on the partner and what the partner said, because they did not have their own unit, which could have verified the information. Thus, in the case of firm B, licensing as an operation mode was not considered to be a sufficient one to receive information about the environment.

Control efficiency

Based on the questionnaire data, the control efficiency was considered very low. This was also confirmed by the interview data. During the interview the difficulties in calculating royalties were specifically mentioned, because the firm had no idea how many products were actually sold in the country. In the beginning of the licensing agreement, this kind of difficulty was not present, because the firm B was also selling some components, which were needed in the production of the licensed product. The component selling made it possible to know how many products were sold and, thus, the reliable calculation of royalties was possible. However, later on the components were also locally manufactured and the tool to control the amount of manufactured products was lost. The firm was, thus, entirely dependent on the information received from the licensee. The relationship between the licensor and licensee was described as *“quite ok in the beginning but later the situation got out of the control”*. In addition to the difficulties in calculating the royalties, it was later noticed that the licensee had also copied products that were not included in the licensing package. It was stated that the partner had taken an advantage of a situation to further their own interests at the firm B's expenses, the partner had not fulfilled their promises and obligations and that the partner had hidden relevant information for the operation.

Obviously, the relationship between the partners was not taken care of properly. The contacts between the partners were limited and no attention was paid to the developing the relationship into more reliable one. Why then was the relationship development neglected? One explanation could be that because the firm B did not have prior

experience in licensing agreement nor any other international co-operation agreement, they did not know what to do or how to do it. However, there were some profound changes taken place in the firm B, which may have had quite a big role in the low control efficiency. The Finnish firm B was acquired by a foreign firm. Thus, the firm became a part of a multinational firm, which had its own manufacturing units in the target country. This change affected the licensing agreement in two ways. First of all, the licensor (firm B) did not have time to pay attention to the licensing operation or the relationship, because so many changes, which required attention, were taking place in the organisation. Secondly, the strategic situation was quite different now when the firm was a part of multinational company having its own production units in the target country, than when it was a smaller Finnish firm having no manufacturing operations abroad. The new firm actually did not have the motive to develop the relationship with the licensee or to try to improve the success of the licensing agreement in any other means, because there were now its own units in the target country, which were competing with the licensee. Thus, *“in a way an attempt was made to forget”* the licensing agreement and not enough attention was put in for taking care of the ending of the agreement. Thus, the licensee succeeded in copying the next generation of the product and became a competitor for the firm in the market of the target country.

Performance

In general, the performance of the operation was assessed quite unsatisfactory. The firm was also quite unsatisfied with the increase in sales, amount of sales, efficiency in production, market share, reputation and access to the markets. However, they were somewhat satisfied with the returns.

5.5.2. Joint ventures

In this section the description of the two joint venture cases is presented. First, information related to firm C and its joint venture operation is presented, which is then followed by the description of firm D and its joint venture operation. The description is

based on the main elements developed in the theoretical framework. The description starts with giving background information on the firms and their prior international experience. Operation mode choice and partner selection are discussed next. This is followed by the description of perceived uncertainties, volatilities and dependence issues. Finally, issues related to unexpected changes during operation, adaptation efficiency, control efficiency and performance are dealt with.

Firm C

Background and international experience

The firm C operates in metal industry. At the time of entry, in 2001, the turnover was 15 MEUR and the number of employees was 170. The firm had obtained its prior international experience by doing business in 27 countries, representing most of the continents in the world. The firm had been operating in Europe, North America, South America, Asia and Africa, so the target countries were geographically dispersed. Most of the countries were served through exports. However, the firm had also used investment modes. They had manufacturing WOSs in North America and JVs in two countries in Europe and in South America. The JV in Europe focused on offering service to local clients and the JV in South America concentrated on sales activities. Also some processing of products was taken place in the South American JV. In addition, the firm had been involved in quite intensive co-operation in Asia with two distributors. Furthermore, the firm had done business in the target country since 1965 by exporting. The manager who was in charge of the project, also had personal experience of doing business in the target country. He had lived and worked in the target country for several years, spoke the local language and had built good network in his field of business. Additionally, it was stated in the questionnaire that the firm had prior contacts with over 10 government officials and over 10 other influential people working in politics and legal institutions. When asked about this in the interview, it was clarified that these contacts were mainly related to different permits and licenses required in the target country.

Operation mode choice and partner selection

Thus, the firm had already entered the target country by exporting its products. However, the firm was interested in being locally present, instead of just serving the markets from Finland. The main motive for increasing the intensity of its operations was that there was increase in demand for the type of service the firm was offering. Actually, there was a request from the local customer for the Finnish firm to establish a firm in the country and to locally offer the same products and services, which they now were exporting from Finland. Thus, the impulse to be locally present came from the customer. In fact, an employee in the customer firm saw that the products and the service of the Finnish firm were excellent. He also saw that the demand for the firm's products and service was increasing. The person was so enthusiastic about the situation that he was willing to leave the customer firm and start a joint venture with the Finnish firm, which then happened. Thus, the partner selection process was quite straightforward. The Finnish firm responded to the request of the person, employed by the customer firm, to start a joint venture. Additionally, a third partner, presented and suggested by the other partner, participated in the establishment of the joint venture. Thus, firm C formed a JV with a local firm and with a person from a third country. The partners were believed to bring local contacts and customers for the JV. The ownership was equally shared and, thus, each partner owned 33.3% of the JV. The established JV was involved in manufacturing, sales and service activities. Hence, the operation mode choice was quite clear. Actually, no other operation modes were even considered, because exporting had already been used and JV was suggested by the customer.

Perceived environmental uncertainties and volatilities

Based on the questionnaire information, at the planning stage the political and legal uncertainty was perceived as high, the socio-cultural uncertainty quite high, and the competition environment was perceived somewhat uncertain. However, quite low uncertainty was perceived about demand. When asked specifically about why so much uncertainty was perceived on political & legal environment and socio-cultural environment, personal experiences of the interviewed manager were mentioned as the primary reason. When the manager had lived in the country, he had experienced that the political & legal and socio-cultural environment in general were quite uncertain.

Changes were made suddenly and in most of the cases without prior notification. The manager said that *“in worst of the cases one could read in the newspaper in the same day that some legislation had been changed”*. Besides, quite strong volatility was perceived about political & legal environment. Some volatility was seen in socio-cultural, demand and competitive environment.

Perceived behavioural uncertainty

The perceived behavioural uncertainty was perceived quite high. It was specified that when a Western firm starts an operation in this kind of country *“all issues should be questioned and especially those (related to the partner activities)”*. In addition, the interviewed person emphasised that his own experience verified that quite often there are good reasons for being sceptic about the partner activities. However, in spite of the bad experience in the past and quite high perceived behavioural uncertainty, the firm started a joint venture, because they believed they could manage the situation. In addition, the information received from the questionnaire revealed that the Finnish firm felt they were more dependent on the partners than the partner was dependent on them. This is explained by the fact that it was believed that the contacts of the partners would guarantee customers and, thus, a certain amount of sales for the JV. Thus, there would be no need for starting from scratch.

Unexpected happenings during operation

However, only a few months after the establishment of the JV, serious problems started. It became clear that the demand was not at all what had been expected. Calculations were based on the needs of the customer firm in which one of the partners had worked at. It was believed that the old customer would still buy certain amount of products from the JV as it had done earlier from the Finnish firm directly. Nevertheless, the customer firm did not like that its employee had left and started its own business with other partner, and as a result the JV was blacklisted. This meant that suddenly the JV was in a situation that it had no customers, no sales and no returns. However, it still had all the expenses of running a firm. Thus the Finnish manager had no other option than *“to fire the partner, who also was acting as a managing director...later on he was bought out”*.

Nevertheless, JV was still on the blacklist and it had to start from scratch and start looking for new customers.

Adaptation efficiency

Based on the questionnaire information, the adaptation efficiency related to political & legal and socio-cultural environment was considered quite good, although information related to political & legal environment was not always received in time. In the interview this was specified to apply to the legal environment. There were some changes in legislation, which complicated the Finnish firm's management over JV. In general, the interviewee emphasised that the problem very often is that the legislation concerning JVs is still quite undeveloped and it sometimes changes extremely rapidly. In order to get the relevant information in time, the firm should have a lawyer focusing on checking the development of the legislation daily. Otherwise, according to the interviewee, firms just have to live with the risk that unexpected changes do happen.

When asked in general about the ways of collecting information about the environment, it became clear that the information received through JV was not considered reliable. It was stated that the best way to get information is to build up a network by the firm itself. In fact, it was through this network that the Finnish firm got the information of being blacklisted. It was stated that the firm probably had not ever received reliable information.

In addition, the firm had some problems related to the demand and the competitive environment. Especially there were problems in negotiations, reaching an understanding with the partner and in capability to react changes quickly enough. The problems were clarified in the interview. The unexpected situation related to the demand also reflected in the adaptation efficiency. Although the South African partner was no longer involved in the operation of the JV, the Finnish firm had problems with the remaining local partner. There were a lot of arguments about how to proceed and to react to the unexpected situation. The Finnish firm wanted to continue the operation, which on the other hand, required extra investments. However, according to the interviewee, the partner was not willing to invest any money and did not seem to understand its own

responsibility as a partner. The communication with the partner was described as bad, inadequate and even distorted, maybe even intentionally. Reaching an agreement was considered very difficult. Trust, to some extent cultural differences and even the capabilities to understand the basics of business were mentioned as the most significant reasons causing difficulties with the partner.

Control efficiency

Based on the data received from the questionnaire, it was considered that the partner had taken advantage of the situation to further its own interests at the firm C's expense, the partner had not fulfilled its promises and obligations and the partner had hidden relevant information for the operation. However, not too much time or personnel had been invested in controlling the activities of the partner. Was there too little control then? Could these problems have been avoided if more time and personnel had been invested in controlling the operation? According to the interviewee, the Finnish firm had an appropriate level of control, especially when taking into account the environment in which the JV was operating. It was stated that the control will always be insufficient. The main thing is to make sure that the operation follows local legislation and to try to limit the Finnish firm's responsibility of potential problems in the target country. The control was based mainly on reports and visits to the JV. In addition, although in the beginning of the operation the partners had equal ownership, the Finnish firm had made sure that they had all the power for the management of the JV. This was specified in the JV contract. Although this condition was not in accordance with the local legislation and thus was not legally binding, in practice it was guaranteed. Thus, even though their ownership level increased from 33.3% to 78.2% the firm did not see any difference in their possibilities to control the activities.

Performance

The interviewee was quite unsatisfied with the performance of JV in general. The firm also was quite unsatisfied with the amount of sales and the access to the markets and extremely unsatisfied with the amount of returns. However, they were somewhat satisfied with the increase in sales, the market share and quite satisfied with the efficiency of production and the reputation they had.

Firm D

Background and international experience

Firm D operates in energy industry. The turnover at the time of the entry, 2003, was 27 MEUR and the number of personnel 170. Before establishing the JV, the firm had exported to five countries in Europe and Asia. The firm had exported to the target country since 1994. No other operation mode than exporting had been used earlier.

Operation mode choice and partner selection

The main reason for the firm increasing the intensity of its operation in the target country was to improve its competitiveness. Although the firm had exported to the country since 1994, they were not satisfied with the level of sales. In addition, competition in the markets was intensive and as a result of that the prices were dropping. Thus, it was thought that being locally present in the country near the customers and focusing on developing the sales would improve their competitiveness. The management of the firm was unanimous about the choice of operation mode and therefore the choice was quite clear. The most important thing for the firm was to have authority over the operations in the country. They were able to succeed in this by establishing a firm, in which they had 55% ownership. The Finnish partner had 35% ownership and the local partner 10% ownership. However, firm D felt that the established firm was more like their own unit than a JV because they had the authority to make decisions. The firm D approached the local partner and asked his interest in participating in the operation. They had known the person for the past 15 years and, thus, the relationship with him had developed from a mere business relationship to a more personal type of relationship. The person was interested and thus co-operation started. The local partner helped in the process of establishing the firm and as a result of that some money was saved. The established firm was involved in assembling, sales, purchasing and service activities.

The prior contacts with 3-5 influential people working in politics and legal institutions mentioned in the questionnaire were conducted in order to know how to establish a firm

in the target country. The contacts were described as basic routines required in order to know what to do.

Perceived environmental uncertainties and volatilities

From the environmental uncertainties, political & legal, socio-cultural and demand uncertainty were described as quite low or low. In the interview it was specified that the political & legal and the socio-cultural uncertainty were perceived so low because of the needs and objectives of the target country. It was thought in the firm that if the target country wants to continue its development, the same type of policies will continue and therefore no uncertainty was perceived. In addition, it was believed that the markets will continue developing and, thus, also the level of demand was seen as increasing. However, the uncertainty related to competition was perceived quite high. This perception was based on the firm's experiences in the target country. Because all firms competing in the same sector in the target country think that the markets offer a great potential, anything can happen. Thus, "*just out of the blue a competitor can drop its price*". Information about the perception of volatility revealed that although no volatility was seen in political & legal environment, quite strong volatility was related to the socio-cultural and the demand environment and extremely strong volatility to the competitive environment.

Perceived behavioural uncertainty

The behavioural uncertainty was perceived quite high and, thus, there was a fear that the potential partner would take advantage of a situation to further their own interests at the firm D's expense, the partner would not fulfill its promises and obligations, would hide relevant information for the operation or would become a potential competitor. The firm itself had no experience in international co-operation and, thus, its perceptions were not based on experiences in the firm level. However, they had heard of the bad experiences of other firms and, therefore, wanted to rule out this threat by having the authority over operation. When asked about the importance of co-operation for the firm D and for the partners, based on the views of firm D it was considered that the firm was dependent on the partner. This dependence was related mostly to the financing of the operation. However, the partners were not considered to be dependent on the firm D.

Adaptation efficiency

The adaptation efficiency was considered to be quite high. It is believed that relevant, understandable information about the political & legal, socio-cultural, demand and competitive environment has been received in time. Information is received mainly through the local unit. Communication between the unit and firm D is described as open, the information is received when it is asked for and, thus, no problems have been experienced related to the information. In addition, it has been easy to agree on decisions and, in general, co-operation has been good. The interviewee sees that in addition to having the majority of the ownership, the organisational culture of the Finnish firm helps in having such a good co-operation. The operation is guided by clear principles as to how to act, the communication policy is open, and honesty and respect for others are emphasized. In addition, although the person in charge of the unit is a local, he understands the Western way of doing business and applies those principles in his management. The representatives of the firm had known him for about 10 years and he was considered a reliable person.

Control efficiency

Also the control efficiency was considered very high. Thus, it was believed that the partners had not taken advantage of the situation to further their own interests at the firm D's expenses, the partners had fulfilled their promises and obligations, and had not hidden relevant information for the operation. In addition, not too much time or personnel had been invested in controlling the operations. The interviewee sees that the control is sufficient. The control is based on communication between the units, monthly reports, well-developed IT-based management system, on-line connections and regular visits.

Performance

In general, the interviewed manager is somewhat satisfied with the performance. He was also somewhat satisfied with efficiency in production, returns, and market share and quite satisfied with reputation and access to markets. The firm is appreciated in the target country especially because of its service. He was not very satisfied with the

amount or increase in sales at the moment; however, he thought that the direction was right.

5.5.3. Wholly-owned subsidiaries

In this section the descriptions of the two wholly-owned subsidiary cases are presented. First, the information related to firm E and its wholly-owned subsidiary operation is presented, which is then followed by the description of firm F and its wholly-owned subsidiary operation. The description is based on the main elements developed in the theoretical framework. The description starts with giving background information on the firms and their prior international experience. The operation mode choice and partner selection are discussed next. This is followed by the description of perceived uncertainties, volatilities and dependence issues. Finally, issues related to unexpected changes during operation, adaptation efficiency, control efficiency and performance are dealt with.

Firm E

Background and international experience

Firm E operates in the field of electric heating systems. At the time of the establishment of a wholly-owned subsidiary in the target country, in 2002, the turnover was 176 MEUR and the number of personnel 1340. The firm was exporting its products to over 40 countries in Europe, Asia and Middle East. In addition, it had several manufacturing and sales WOSs in Europe. Both acquisitions and Greenfield type of investments had been used. The firm also had exported its products to the target country since 1998. Firm E had been in contact with 1-2 influential people working in politics and legal institutions before the WOS was established. When asked about this in the interview, it was clarified that the contacts were related in handling permits etc.

Operation mode choice

Starting manufacturing activities in the target country was mainly motivated by the fact that serving the markets by exporting meant that the delivery time was too long. Thus, in order to shorten the delivery time the firm wanted to be locally present in the market. The choice of operation mode was clear. No co-operation with a local company in the form of licensing or joint venture was considered. The reason for this was argued to be the fact that because the product was relatively new in the target country markets, co-operation with a local firm was not considered beneficial. Thus, WOS was considered to be the only option for starting the manufacturing operations. Thus WOS focusing on manufacturing and sales activities was established in the form of greenfield investment in 2002.

Perceived environmental related uncertainties and volatility

The information received from the data revealed that the firm perceived quite high uncertainty about political & legal, socio-cultural and competition related issues. The uncertainty related to demand was assessed as moderate. It was emphasised in the interview that the uncertainty was perceived so high, because “*you cannot get any information from there and it is changing all the time. You hear rumours, but to get the right information at a right time, that is very difficult.*” However, based on the interviewee, the perceived uncertainty did not necessarily influence the actual decision-making. It just meant that a longer time was spent on trying to find reliable information. Additionally, based on the data received from the questionnaire, the level of volatility was considered quite low. In fact, no volatility was seen in political & legal and socio-cultural environment and only some volatility in demand and competition environment.

Perceived behavioural uncertainty

The firm perceived high behavioural uncertainty, which mainly stemmed from the experiences and stories by other firms. However, the firm itself did not have any bad experience from international co-operation.

At the planning stage, it was assessed that the firm may need to adapt the product according to the target country requirements, may have to hire people having expertise

on local markets and may need to spend a lot of time and other resources for training the personnel in the target country unit. In fact, according to the interviewee, the firm had invested quite a lot in training the personnel and somewhat in hiring the local experts. However, adaptations of the product and machinery have required quite little effort or investments.

Adaptation efficiency

In general, based on the information received from the questionnaire, the adaptation efficiency was considered to be moderate and no clear differences in adaptation efficiencies related to different environments could be noticed. However, in the interview the need for reliable information, especially about the market situation, was emphasized. The firm cannot necessarily rely on the published information, because it may have been censored. Thus, especially in the beginning of the operation, the firm lacked reliable information related to demand issues. Nevertheless, the problem is not so big any more, because the firm has been able to form contacts with Finnish and other Western firms in the country and also with local firms and thus they have been able to develop their own network of contacts, through which reliable information can be received. In addition, some positive changes have taken place also in official publishing. However, the interviewee emphasized that knowing a right person guarantees that you still can get the information earlier than it is published eg. in the newspaper.

Based on the interview, there have also been problems in communication and understanding between the Finnish firm and its subsidiary. Mainly they have been related to the differences in the ways of doing business in Western countries and in the target country. According to the interviewee, it has been difficult to get the local employees understand how a Finnish firm operates. Often, it takes a lot of time and effort to get the locals to understand what they are required to do.

Control efficiency

Control efficiency was considered very high. Thus, it was believed that the unit had not taken advantage of a situation to further their own interests at the firm E's expenses, the unit had fulfilled their promises and obligations and had not hidden relevant information

for the operation. In addition, not too much time or personnel had been invested in controlling the operations. The control is based mainly on the fact the managing director of the unit is a Finn. In addition, regular visits between the subsidiary and parent company are made. However, according to the interviewee, it is difficult to know whether the control is sufficient. Nevertheless, nothing suspicious has been noticed.

Performance

The firm is quite unsatisfied with the performance in general, increase and amount of sales and access to markets. In addition, they were extremely unsatisfied with the returns and market share. However, they are somewhat satisfied with their reputation in the market and quite satisfied with the efficiency in production. In general, it was stated that the operation in the target country has been more difficult than what had been expected at the planning stage. Especially the lack of contacts has made it difficult to increase sales. In addition, because the product is quite new in the target markets, a lot of resources has been spent on making the product known and on explaining the possibilities of the product.

Firm F

Background and motives to enter the target country

Firm F entered the target country in 2002 by establishing a WOS. The WOS was focusing on assembling, sales and service activities. At the time of the entry, the turnover was 18 MEUR and the number of personnel only 30. The firm wanted to enter the country because the potential of the markets was considered promising. In addition, the interest to develop a network of local subcontractors was an important motivator.

International experience

Before entering the target country, the firm had been exporting its products to several countries in Europe, North America, Asia and Middle East, approximately to 50 countries. In addition, it had a few subcontractors in the North America. However, the actual network of subcontractors consisted of almost 200, which were controlled by the subcontractors the firm was co-operating with. The firm also had two WOS, acquired

from North America and Europe. However, the firm had no prior experience of doing business in the target country. Nevertheless, in the questionnaire it was stated that the firm had had contacts to 3–5 politicians, over 10 government officials and 3–5 other influential people working in politics & legal institutions. The reason for and the types of contacts were clarified in the interview. The representatives of the firm had participated in occasions in which they had a chance to get to know local officials and organizations and to estimate the potential interest of officials and government-owned companies for the products and the service the firm was offering. Thus, the main motivator was to get to know local conditions and to try to estimate the potential demand. At the time of establishing the WOS in the target country, the firm also started exporting to the country and acquired 30% ownership from a local company offering service in the same industry.

Operation mode choice

The firm entered by WOS instead of some other operation mode, mainly because it was believed that it is easier to control a WOS than eg. a JV: especially when one of the objectives was to find local subcontractors and to develop the co-operation with them.

Perceived environmental uncertainties and volatilities

At the planning stage the perceived uncertainty related to political & legal environment was estimated as quite high and socio-cultural, demand and competition related issues were perceived somewhat uncertain. In the interview, especially the uncertainty related to legislation and customs was emphasised. In addition, the interviewee brought up the issue of not knowing how to actually do business and make deals with the local customers, who were mostly government-owned firms. Quite strong volatility was actually seen in political & legal environment, and in demand and competition. Behavioural uncertainty, on the other hand, was evaluated to be quite moderate. At the planning stage it was also assumed that the firm may need to invest in machinery, which has been adapted to local condition, have to hire people having expertise on local markets and may need to spend a lot of time and other resources for training the personnel in the target country unit. In reality, they have invested quite a lot in the adaptation of machineries and hiring experts. The training of the local personnel has

required some input, but quite little effort has been put in to the adaptation of the products to suit local conditions.

Adaptation and control efficiency

In general, the adaptation efficiency was evaluated to be quite good. The interviewee considered that the firm had received information about the demand and competition, although the amount of received information is never enough. In addition, some concerns were mentioned about the reliability of the information. However, it was pointed out that through experience the firm has learned to adapt to the changes in the customers' activities and, thus, the ability to react to changes was considered good. The control efficiency was also assessed to be quite good. Thus, it was believed that the unit had not taken advantage of a situation to further their own interests at the firm F's expense; the unit had fulfilled their promises and obligations and had not hidden relevant information for the operation. In addition, not too much time or personnel had been invested in controlling the operations. The control is mainly based on having their "*own man at the subsidiary*". In addition, regular visits between the subsidiary and parent company are made. Challenges have been, however, experienced in issues related to book-keeping, because of the different customs in Finland and in the target country. Thus training the local personnel to a Western way of thinking has required a lot of effort.

As was mentioned earlier, the firm also was involved in joint venture in the target country with minority ownership, which gave a good opportunity to compare the experiences received from these two operation modes in the same country. In general, the interviewee considered that the operation of WOS has been considerably easier. The management and operation in general has been much more straightforward in WOS. Especially, issues such as control and withdrawing the profits have caused much more challenges in the JV. The needed information related to eg. book-keeping is more difficult to receive in the case of JV.

Performance

The firm is quite satisfied with the performance in general, returns, market share and access to markets. However, they are quite unsatisfied with the increase and amount of sales and only somewhat satisfied with the efficiency in production and access to markets.

5.6. Integration of the results and development of the propositions

In this section integration of the results based on quantitative and qualitative studies and the development of the propositions are conducted.

5.6.1. Formation of managerial perception of uncertainty

Perceived political and legal uncertainty

It was suggested in the developed theoretical framework that political and legal uncertainty would be influenced by target country institutional experience, risk-seeking attitude and volatility in political and legal environment. Thus, it was hypothesised that (H3) target country institutional experience and (H6a) risk seeking-attitude will have a negative relationship and (H7a) political and legal volatility will have a positive relationship with the perceived level of political and legal uncertainty. However, the hypotheses were not supported. In addition, the results based on the explorative political and legal uncertainty-specific model indicated that none of the studied experience types, risk-seeking attitude and volatility are capable of explaining the level of perceived uncertainty.

The qualitative analysis of the six cases, however, offers some clarification why some of the suggested variables did not seem to influence the perceived uncertainty. We will first have a look of the role of *target country institutional experience* in these six cases.

In both of the licensing cases (A&B) the firms had no prior target country institutional experience and the level of perceived political and legal uncertainty was quite high. So in these cases some support for the H3 is seen. However, in all the joint venture and wholly-owned subsidiary cases the firm had some level of target country institutional experience, but still quite high or high level of political and legal uncertainty was perceived. This is totally contradictory to the suggested relationship. Nevertheless, this surprising result can be explained by the fact that in the interviewed cases, prior target country institutional experience turned out to be the contacts with officials, which were needed in order to start JV or WOS. Thus, the contacts were eg. contacts related to receiving permits or getting information how to set up a firm in the target country. These kind of contacts, naturally, do not help much in receiving information about potential future changes in the political power structure or changes in laws and regulations, which were considered critical in order to reduce the level of perceived political and legal uncertainty. It seems that the measurement of the target country institutional experience variable was not capable of specifying the different types of contacts, because only the number of contacts the firm had prior to entry with 1) target country politicians, 2) government officials and 3) other influential people working with politics and legal institutions were now asked about. Thus the measurement takes into account three different types of people with whom the contacts were made, but it does not take into account the content of these contacts. Therefore, it would be of utmost importance to develop the measure further by taking into account the content of contacts, the regularity of contacts and the level of formality of the contacts.

Although the measurement of the target country institutional experience seemed to be inadequate, some support for its role in the formation of political and legal uncertainty could be found. In case A it was mentioned that the firm lacked information about the development in legislation. This was mainly because the firm A was relying primarily on the partner for receiving information. Developing its own contacts with relevant actors in political and legal environment might have helped decreasing the level of perceived political and legal uncertainty. Thus, it is still believed that the target country institutional experience can decrease the level of perceived political and legal uncertainty.

What is then the *role of risk-seeking attitude* in the formation of political and legal uncertainty in the studied six cases. Both risk-seeking and risk-avoiding attitudes were found in the cases although the level of perceived uncertainty was quite high or high. Thus, the analyses of the six cases confirm the results of the quantitative studies. Risk-seeking attitude does not seem to make a difference in the level of perceived uncertainty in the context of political and legal uncertainty. But why did risk-seeking attitude not influence the level of perceived political and legal uncertainty? It may also be that the risk-seeking measure has been inadequate, especially in the context of political and legal uncertainty. The measurement of risk-seeking attitude focused on the firm's attention to potential profits over potential losses and attention to potential threats over potential opportunities. Thus, the measures, especially the second one, are quite general in nature. The measurement might have been more adequate if more political and legal context specific measures would have been developed, taking into account the potential threats and opportunities in political and legal context and the firm's risk-seeking attitudes towards them.

The analysis of the *role of political and legal volatility* based on the six cases, on the other hand, does not give such a clear indication of the influence of volatility on the perceived level of political and legal uncertainty. In cases C and F political and legal uncertainty is considered to be quite strong and the level of political and legal uncertainty high or quite high. Also in case B, in which quite high political and legal uncertainty is perceived, some political and legal volatility is experienced. In addition, in case D no volatility is experienced and the level of perceived uncertainty is considered to be quite low. However, in cases A and E quite low volatility and no volatility, respectively, are experienced, although the perceived level of uncertainty is quite high. This implies that in these two cases (A&E) there are other, more important factors that influence the level of perceived political and legal uncertainty. This more important influencing factor may be eg. the lack of target country institutional experience or target country institutional contacts. Thus, the analysis based on the cases seems to partly support the original hypothesis that increase in volatility will increase the level of perceived uncertainty and does not confirm the findings in the quantitative study. However, the insignificant results found in the quantitative studies of the

influence of political and legal volatility on perceived political and legal uncertainty, may be explained by the fact that although volatility exists, it does not mean that there is no knowledge or view about how the political and legal environment is going to change and, therefore, uncertainty is not automatically present. In addition, volatility may indeed only have a minor role in the formation of uncertainty.

But could there be some other factors that influence the level of perceived political and legal uncertainty? In the case C, a high level of political and legal uncertainty was perceived, which was based on the personal experiences of the manager who had lived in the country and seen how changes in legislation were made without prior notification. Thus, in this case, a decision-maker's personal experience in a target country seems to have a role in influencing the perceived political and legal uncertainty. Hence, higher experience does not always mean lower uncertainty.

Firm D, on the other hand, perceived quite low political and legal uncertainty, because it was believed in the firm that the objective of the target country is to continue its development so no unexpected changes were anticipated to take place. This could indicate that if information on the needs and objectives of the target country government, in other words, clearly specified policies and goals of the government are available, the perceived political and legal uncertainty will be lower. This is also related to the influence of volatility and the discussion conducted earlier on the potential role of volatility when there is knowledge or view about the direction of change.

Based on the above discussion the following propositions related to formation of managerial perception of political and legal uncertainty are developed.

- P1a.*** *Target country institutional experience resulting from regular formal and informal contacts with politicians, government officials and other influential people working in politics and in legal institutions will have a negative relationship with the level of perceived political and legal uncertainty.*
- P1b.*** *Higher risk-seeking attitude toward threats and opportunities in political and legal context will have a negative relationship with the level of perceived political and legal uncertainty.*

P1c. Higher political and legal volatility will have a positive relationship with the level of perceived political and legal uncertainty if there is no knowledge or view about the direction of changes in political and legal environment.

P1d. Negative target country experience related to political and legal environment will have a positive relationship with the level of perceived political and legal uncertainty.

Perceived socio-cultural uncertainty

In the hypotheses development it was suggested that (H2a) target country business experience and (H6b) risk-seeking attitude will have a negative relationship, and (H7b) socio-cultural volatility will have a positive relationship with the perceived level of socio-cultural uncertainty. However, the hypotheses were not supported when the whole structural model was tested. Nevertheless, the results based on the explorative socio-cultural specific model revealed that general international experience could decrease the perceived level of socio-cultural uncertainty instead of target country level experience. In addition, risk-seeking attitude decreased the level of perceived uncertainty.

We will have a look of as to whether the qualitative analysis of the six cases clarifies the results based on the quantitative analysis. Only in three of the cases, the firm had ***target country business experience*** prior to the starting of the operation in question. These were cases C, D and E. Thus, neither of the licensing firms had prior target country business experience, both of the joint venture cases and one of the wholly-owned subsidiary cases had prior target country business experience. Two out of the three cases, which had prior target country business experience (C&E) perceived quite high level of socio-cultural uncertainty. In addition, one of the licensing cases (A) perceived quite low level of perceived socio-cultural uncertainty. Thus, these three cases do not confirm the hypothesis H2a about the role of target country business experience on the level of perceived socio-cultural uncertainty. Nevertheless, the three other cases (B, D, F) seem to support the hypothesis. Thus, the results based on the qualitative analysis seem to give contradictory indications on the role of target country business experience. Thus, eg. in firm C quite high socio-cultural uncertainty was perceived, although the firm had prior target country business experience. The interviewed manager stated that his personal experience in the target country caused him to assess the uncertainty quite

high. This indicates that depending on whether the experience is negative or positive the perceived level of socio-cultural uncertainty can be high or low. The insignificant results in the quantitative studies about the role target country business experience may be explained by the fact that the quality of experience was not taken into account.

The *general international experience* measured by the scope of international experience was quite wide in the case of firm A, B and C, which all had experience in doing business in 5-6 continents. In addition, both firm D and E were present in three continents. Firm F had the most limited scope of international experience by doing business in only two continents. In spite of having a wide scope of international experience, firm C perceived quite high socio-cultural uncertainty. However, this can also be explained by the fact that there was prior negative target country experience as discussed earlier. In addition, in the case D, low socio-cultural uncertainty was perceived, although the firm did not have such a wide scope of international experience. This, however, may also be explained by the fact that the firm had prior experience in the target country, which decreased the level of perceived socio-cultural uncertainty. Thus, it seems that general international experience also influences the level of perceived uncertainty, but it is moderated by the target country experience.

In the case of *socio-cultural volatility*, it seems that in four cases (A, B, C, F) the hypothesis H7b is supported. Thus, the higher the level of volatility, the higher is the perceived level of uncertainty. In the case of D, the interviews revealed some explanation why in the case of quite strong volatility only low level of perceived socio-cultural uncertainty was perceived. In firm D socio-cultural uncertainty was perceived low, because it was believed that the objective of the target country is to continue its positive development, which will also be reflected in socio-cultural environment. Thus, like in the case of political and legal volatility, if there is knowledge or view about the direction of potential changes socio-cultural uncertainty, the uncertainty is not necessarily present.

Thus, based on the above discussion the following propositions related to the formation of managerial perception of socio-cultural uncertainty are developed.

- P2a. Negative target country experience related to socio-cultural environment will have a positive relationship with the level of perceived socio-cultural uncertainty.*
- P2b. General international experience will have a negative relationship with the level of perceived socio-cultural uncertainty, but is moderated by target country experience.*
- P2c. Socio-cultural volatility will have a positive relationship with the level of perceived socio-cultural uncertainty if there is no knowledge or view about the direction of changes in socio-cultural environment.*

Perceived competition related uncertainty

In the theoretical framework it was suggested that (H1) general international experience, (H2b) target country business experience and (H6c) risk-seeking attitude will have a negative relationship and (H7c) competitive volatility will have a positive relationship with the perceived competitive uncertainty. However, only the H2b was supported. In addition, the results based on the explorative competitive uncertainty-specific model indicated that none of the studied experience types, risk-seeking attitude and volatility are capable of explaining the level of perceived uncertainty. Thus, surprisingly, not even the target country business experience did have a significant influence in the formation of managerial perception of competitive uncertainty, although the p-value was quite close to significant.

In the qualitative analysis of the six cases, two of the firms perceived quite high competitive uncertainty. The remaining four cases perceived somewhat competitive uncertainty. Thus, there were no such clear differences in the level of perceived competitive uncertainty between the six cases. However, the level of ***general international experience*** did seem to differ a bit between the cases. In those cases in which the scope of international experience was wider, the level of perceived uncertainty was also lower. This seems to give some support to the original hypothesis and, thus, the results of the quantitative study are not supported.

When we have a look at the role of ***target country business experience*** in the level of perceived competitive uncertainty in these six cases, it is interesting to notice that in those two cases, in which competitive uncertainty was perceived the highest, there was

prior target country experience. This implies that in these cases, the higher level of target country business experience had lead to a higher level of perceived competitive uncertainty, which is contrary to the hypothesis. This is clarified by the results revealed in case D. In fact, in the firm D, prior target country experience was considered to be the main reason why such a high level of uncertainty was perceived. It was stated that because among the firms there is a shared belief that the target market offers great potential, competitors have done unexpected things. Thus, again depending whether the experience is positive or negative, it may increase or decrease the level of perceived uncertainty.

In the case of the role of *competitive volatility*, no clear support for the hypothesis 7c is found. In some cases, quite strong volatility is experienced, but it is not connected to higher perceived competitive uncertainty. However, this is somehow clarified when we have a look at the case A. In the case of firm A, competitive uncertainty was not perceived very high, because the firm was relying on the strong market position of the local partner and its capabilities of handling the competition in the market. Thus, unexpected changes were not assumed to take place even though competition was considered to be quite hard and the volatility was considered high.

Thus, based on the above discussion the following propositions related to the formation of managerial perception of competitive uncertainty are developed.

P3a. Negative target country experience related to competition environment will have a positive relationship with perceived competitive uncertainty.

P3b. Market position of the potential partner will have a negative relationship with the perceived competitive uncertainty.

Perceived demand uncertainty

It was suggested that (H2c) target country business experience and (H6d) risk-seeking attitude will have a negative relationship and (H7d) demand volatility will have a positive relationship with the perceived level of demand uncertainty. Only one of the hypotheses (H6d) was supported. Additionally, in the explorative demand uncertainty-specific model, the risk-seeking attitude still had a significant positive relationship with

perceived demand uncertainty, but none of the other experienced types or volatility seemed to influence.

In the qualitative analysis of the six cases, *target country business experience* did not seem to have a role in influencing the level of perceived competitive uncertainty. Quite low competitive uncertainty was perceived both in cases in which there was no prior target country experience (A&B) and in cases in which there was prior target country experience. Thus, also in the qualitative analysis no support was found for the H2c.

Risk-seeking attitude, on the other hand, was related to a lower level of perceived demand uncertainty than in the case of risk-avoiding attitude and thus further support for the H6d was found. When looking at the level of *demand volatility* experienced in the six cases, there seems to be no connection to the level of perceived demand uncertainty and, thus, H7d is not supported and the results of the quantitative studies are confirmed.

However, qualitative data offered some clarification for the antecedents of perceived demand uncertainty. Firm A, which had no prior experience in the target country and considered the volatility related to demand environment to be quite strong, perceived quite low demand uncertainty. This was explained by the fact that there was a shared belief in the target country and firms in the same industry that there would be a strong increase in demand. Thus, demand uncertainty was perceived low mainly because of the available information in public discussion. Firm C, on the contrary, had prior experience in the target country and, thus, it already had customers in the country. Hence, it was believed that the old customer guarantees a certain amount of demand and nothing unexpected related to demand was assumed to happen. On the other hand, firm F, which perceived some demand uncertainty, had no prior experience in the target country. However, it had been in contact with politicians, government officials and other influential people working in politics and legal institutions in order to get to know local officials and organizations and estimate the potential interest of officials and government-owned companies for the firm's products. Thus, when the customers are

government officials and government-owned companies, perceived demand uncertainty may be decreased by prior target country institutional experience.

Thus, based on the above discussion the following propositions related to the formation of managerial perception of demand uncertainty are developed.

P4a. The availability of objective information about the level of demand will have a negative relationship with the perceived demand uncertainty.

P4b. Existing customers in the target country will have a negative relationship with the perceived demand uncertainty.

P4c. Prior contacts with potential customers will have a negative relationship with the perceived demand uncertainty.

P4d. The entering firm's risk-seeking attitude will have a negative relationship with the perceived demand uncertainty.

Perceived behavioural uncertainty

In the theoretical framework it was hypothesised that (H4) international co-operation experience, (H5a) local firm dependence and (H6e) risk-seeking attitude will have a negative relationship and (H5b) the entering firm dependence will have a positive relationship with the level of perceived behavioural uncertainty. Based on the structural analysis, international cooperation experience and local firm dependence had a significant negative relationship with the perceived level of behavioural uncertainty and thus H4 and H5a were supported. In the behavioural uncertainty specific model, however, only international co-operation experience had a significant influence.

The analysis of qualitative data seems to confirm the hypothesis H4 about the role of ***international co-operation experience***. In general, the cases seem to support the idea that the lack of prior international co-operation experience increases the level of perceived uncertainty. However, in the case of firm C, quite high behavioural uncertainty is perceived although the firm has been involved in international co-operation. Nevertheless, this is explained by the fact that the prior personal experiences of the manager on the co-operation with the partners in the target country have been negative. The results indicate that having prior international co-operation experience is

not enough; rather, the experience has to be positive in order to decrease the level of perceived uncertainty.

Risk-seeking attitude does not seem to have a role in influencing the level of perceived behavioural uncertainty in the studied six cases and, thus, the results seem to confirm the results of the quantitative study and do not support the H6e.

The role of local firm dependence and entering firm dependence can be analysed only in the four cases, in which partnerships are involved and thus the focus is on cases A, B, C, and D. In three of the cases (B, C, and D) no **local dependence** is considered to be present. In addition, all of the cases perceive quite high behavioural uncertainty. In the case A, there was some unclarity in the assessment of the local firm's dependence on the Finnish firm. It was stated that the local firm is not dependent on the Finnish firm, but it was also stated that the local partner might have had difficulties to find another partner if the co-operation with the Finnish firm had not been realised, so in the case A we consider that there is local dependence. The firm A also perceived a low level of behavioural uncertainty. Thus, the results indicate that local firm dependence decreases the level of perceived behavioural uncertainty, thus confirming the hypothesis H5a.

Entering firm dependence was found in both of the joint venture cases (C&D), in which the level of perceived behavioural uncertainty also was quite high. No entering firm dependence was found in the licensing case A, in which there was quite low perceived behavioural uncertainty. Thus, these three cases support the hypothesis H5b that entering firm dependence increases the level of perceived behavioural uncertainty. The exception for the cases is B, in which it was stated that neither local firm dependence nor entering firm dependence was present, but still quite high behavioural uncertainty was perceived. However, the fact that firm B had no other possibilities to enter the target country than to start a licensing operation with a partner indicates that in a way the entering firm B was dependent on the local firm. Thus, we argue that H5b was confirmed in these four cases. Nevertheless, H5b was not confirmed in quantitative studies. The reason for this may be that it is actually the simultaneous effect of both local firm and entering firm dependence that needs to be taken into account. This means

that it is important to identify whether the dependence is unilateral or symmetric. The focus on hypothesis 5a and 5b was in fact in the unilateral type of dependence. Thus, when taking the symmetric dependence into account might also help in interpreting the results. When symmetric dependence exists, it creates a lock-in situation, making it difficult for both partners to replace the other partner. Therefore, we can argue that from the entering firm's point of view the situation is the same as in the case of unilateral dependence by the local firm and, thus, it can be argued that symmetric dependence decreases the level of perceived behavioural uncertainty.

However, in addition to prior international co-operation experience or lack of it and the level of dependence between partners, there may be some other explanations for the perceived level of behavioural uncertainty. Both firms D and E perceived quite high or high behavioural uncertainty and they had no prior international co-operation experience. Nevertheless, both of the firms had heard about the bad experiences in international co-operation of other firms in the market area and thus the negative experience of other firms may also influence the level of perceived behavioural uncertainty.

Based on the above discussion the following propositions related to formation of managerial perception of behavioural uncertainty are developed.

- P5a. Prior positive international co-operation experience will have a negative relationship with the perceived behavioural uncertainty.*
- P5b. Other firms' negative international co-operation experiences will have a positive relationship with the perceived behavioural uncertainty.*
- P5c. Unilateral dependence by the local firm will have a negative influence on the entering firm's perceived behavioural uncertainty.*
- P5d. Unilateral dependence by the entering firm will have a positive influence on the entering firm's perceived behavioural uncertainty.*
- P5e. Symmetric dependence will have a negative influence on the entering firm's perceived behavioural uncertainty.*

5.6.2. Perceived uncertainty and operation mode choice

Based on the theoretical framework it was suggested that (H8) the higher the perceived political and legal uncertainty and (H9) the perceived socio-cultural uncertainty, the more probable it is that a firm chooses a less integrated operation mode. In addition, it was suggested that the higher (H10) the perceived competitive uncertainty, (H11) the demand uncertainty and (H12) behavioural uncertainty, the more probable it is that a firm chooses a more integrated operation mode.

Based on the quantitative analysis the operation mode choice was influenced by three uncertainty types. Perceived socio-cultural uncertainty increased the use of a less integrated operation mode, and both demand and behavioural uncertainty increased the use of a more integrated operation mode. Thus, H9, H11 and H12 were supported. However, perceived political and legal uncertainty and competitive uncertainty did not affect the operation mode choice. In addition, in the explorative uncertainty specific models the target country institutional experience seemed to increase the choice of more integrated operation mode.

All of the six cases perceived quite high *political and legal uncertainty*, but still the operation mode choices they made were different. The cases (A&B) perceived quite high political and legal uncertainty and a less integrated operation mode, licensing was chosen. However, in spite of the fact that quite high political and legal uncertainty was perceived, a more integrated operation mode was chosen in the cases C, D, E and F. Thus, the results of the qualitative analysis do not seem to support the H8 and, thus, confirm the results based on the quantitative studies.

The role of *socio-cultural uncertainty*, on the other hand, gives contradictory indications about its influence on operation mode choice and no clear support for the H9 can be found. Thus, the results do not confirm the results based on the quantitative analysis. In the case of *demand uncertainty* all the licensing firms and the joint venture firms perceived quite a low level of uncertainty. The wholly-owned subsidiary cases, on

the other hand, perceived higher level of demand uncertainty than the licensing and joint venture cases. Thus, the results seem to support the H11 and indicate, that the higher the level of demand uncertainty, the more probable it is to choose a more integrated operation mode. So, the results based on the quantitative analysis were confirmed. A similar situation was found in the case of *competitive uncertainty*. Thus, the level of perceived competitive uncertainty was higher in more integrated operation modes than in less integrated operation modes. Therefore, H10 receives some support. However, the results do not confirm the results based on the quantitative studies.

Lets us still have a look at the last uncertainty component, *the behavioural uncertainty* and its role in operation mode choice. Firm A perceived quite low behavioural uncertainty and chose licensing as an operation mode. Thus, the influence of behavioural uncertainty in the case of firm A seems to confirm the results of quantitative analysis and hypothesis H12. However, firm B, which also chose licensing as an operation mode, perceived quite high behavioural uncertainty. No great differences related to the perceived levels of other uncertainties were identified between the firm A and firm B. Thus, in the case of B, behavioural uncertainty did not lead to the choice of a more integrated operation mode as the results based on the quantitative analysis and the H12 suggest. However, this is explained by the fact that firm B did not actually have any other alternatives to enter the target country. So, target country restrictions influenced the operation mode choice.

In addition, in the cases of C and D, a high level of perceived behavioural uncertainty was perceived. Nevertheless, JV instead of WOS was chosen as an operation mode. The choice of JV in firm C in spite of the high perceived behavioural uncertainty was explained by the fact that the firm had a strong belief that they are capable of managing the situation. The choice of JV in firm D, on the other hand, was explained by the fact that the firm was able to have the authority over the JV by having majority ownership. Thus, the choice of a less integrated operation mode in the context of high behavioural uncertainty was chosen if it was believed that a firm is capable of managing the situation.

The unexpected relationship between target country institutional experience and operation mode choice was clarified by the data received through interviews. In most of the cases, prior target country institutional experience turned out to be the contacts with officials, which were needed in order to start JV or WOS. Thus, the contacts were eg. related to receiving permits or getting information of how to set up a firm in the target country. This explains the positive relationship between TC institutional experience and operation mode choice.

Based on the above discussion the following propositions related to perceived uncertainty and operation mode choice are developed.

P6a. Perceived socio-cultural uncertainty increases the use of a less integrated operation mode.

P6b. Perceived demand uncertainty increases the use of a more integrated operation mode.

P6c. Perceived behavioural uncertainty increases the use of a more integrated operation mode.

P6d. The capabilities of the firm to handle potential opportunistic behaviour moderate the relationship between behavioural uncertainty and operation mode.

5.6.3. Operation mode choice and efficiency

In the theoretical framework it was suggested that (H13) in the context of political, legal, socio-cultural, competitive and demand uncertainty the adaptation efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not. The H14, on the other hand, suggested that in the context of behavioural uncertainty, the control efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not. Quantitative analysis indicated that operation mode choice has no role in achieving adaptation efficiency in the context of political & legal, socio-cultural, demand, competitive and behavioural uncertainty. Thus H13 was

not supported. However, operation mode seemed to have quite a strong role in achieving control efficiency in the context of perceived behavioural uncertainty and, thus, support for H14 was found.

In the case of firm A, the choice of operation mode was made based on the suggestions in the theoretical discussion, and both adaptation and control efficiency were assessed to be quite good. Firm B, on the other hand, was forced to choose an operation mode, which did not follow the suggestions. However, especially the control efficiency was considered very low and, thus, this partly supports the idea that in the context of high behavioural uncertainty, the choice of a less integrated operation mode decreases the control efficiency. In the case of firm C, quite high political & legal and socio-cultural uncertainty was perceived. However, adaptation efficiency was considered to be quite good. Nevertheless, some problems were related to receiving information about political and legal environment in time. In general, the results based on the interview indicate that information received through JV was not considered reliable. In addition, the firm had problems in negotiations, and reaching an agreement about demand and competition related issues. Control efficiency, on the other hand, can be assessed to be quite low. This supports the idea that in the context of high behavioural uncertainty a more integrated operation mode should be chosen. The firm C believed in the planning stage, that they would be capable of handling the situation, but it turned out that that was not the case.

In the case of firm D, adaptation efficiency was considered to be quite high. The surprising factor is that in spite of the high behavioural uncertainty and the choice of JV, the firm perceived that the control efficiency was high. However, this is explained by the fact that the firm had authority over the JV operation by having a majority ownership. In addition, good co-operative relationship with JV partners increased the potential for high control efficiency. In the case of firm E, adaptation efficiency was considered to be moderate, and in the case of firm F quite good. In addition, control efficiency was assessed to be quite high in both of the firms and thus confirming the results based on the quantitative analysis. Thus, in general the qualitative analysis seems to support the hypothesis H14 and confirm the results based on the quantitative studies.

However, the results about adaptation efficiency are a bit confusing and no clear support can be found for H13. Thus, it may be worthwhile to study the different dimensions of adaptation efficiency separately, thus exploring the differences in operation modes based on the efficiency in receiving information, efficiency in negotiations and reaching an understanding and, finally, efficiency in reaction to changing circumstances.

P7a. There are differences in information efficiency, efficiency in negotiations and reaching an understanding and efficiency in reaction to changing circumstances between different operation modes in the context of environmental uncertainties.

P7b. In the context of high behavioural uncertainty, choice of more integrated operation mode will lead to greater control efficiency.

Table 39 summarises the 14 hypothesis developed in the theoretical framework and the further developed propositions based on the quantitative and qualitative analysis.

Table 39. Summary of propositions leading to the developed model.

Hypotheses	Developed model: Propositions
<p style="text-align: center;">Formation of perceived political and legal uncertainty</p> <p>H3: Target country institutional experience will have a negative relationship with the perceived level of political and legal uncertainty in the target country.</p> <p>H6a: The entering firm's risk-seeking attitude will have a negative relationship with perceived political and legal uncertainty</p> <p>H7a: Political and legal volatility will have a positive relationship with perceived political and legal uncertainty</p>	<p style="text-align: center;">Formation of perceived political and legal uncertainty</p> <p>P1a. Target country institutional experience resulting from regular formal and informal contacts with politicians, government officials and other influential people working in politics and in legal institutions will decrease the level of perceived political and legal uncertainty.</p> <p>P1b. Higher risk-seeking attitude toward threats and opportunities in political and legal context will decrease the level of perceived political and legal uncertainty</p> <p>P1c. Higher political and legal volatility will increase the level of perceived political and legal uncertainty if there is no knowledge or view about the direction of changes in political and legal environment</p> <p>P1d. Prior experience in the target country about unexpected changes in political and legal environment will increase the level of perceived political and legal uncertainty.</p>
<p style="text-align: center;">Formation of perceived socio-cultural uncertainty</p> <p>H2a: Target country business experience will have a negative relationship with perceived socio-cultural uncertainty in the target country.</p> <p>H6b: The entering firm's risk-seeking attitude will have a negative relationship with perceived socio-cultural uncertainty</p> <p>H7b: Socio-cultural volatility will have a positive relationship with perceived socio-cultural uncertainty</p>	<p style="text-align: center;">Formation of perceived socio-cultural uncertainty</p> <p>P2a. Prior experience in the target country on expected changes in socio-cultural environment will have a negative relationship with the level of perceived socio-cultural uncertainty.</p> <p>P2b. General international experience will have a negative relationship with the level of perceived socio-cultural uncertainty, but is moderated by target country experience</p> <p>P2c. Socio-cultural volatility will have a positive relationship with the level of perceived socio-cultural uncertainty if there is no knowledge or view about the direction of changes in socio-cultural environment</p>
<p style="text-align: center;">Formation of perceived competitive uncertainty</p> <p>H1: General international experience will have a negative relationship with perceived competitive uncertainty in the target country.</p> <p>*H2b: <i>Target country business experience will have a negative relationship with perceived competitive uncertainty in the target country.</i></p> <p>H6c: The entering firm's risk-seeking attitude will have a negative relationship with perceived competitive uncertainty</p> <p>H7c: Competitive volatility will have a positive relationship with perceived competitive uncertainty</p>	<p style="text-align: center;">Formation of perceived competitive uncertainty</p> <p>P3a. Prior experience in the target country will have a positive relationship with perceived competitive uncertainty if the experience has confirmed that competition environment is unpredictable</p> <p>P3b. Better market position of the potential partner will have a negative relationship with the perceived competitive uncertainty</p>
<p style="text-align: center;">Formation of perceived demand uncertainty</p> <p>H2c: Target country business experience will have a negative relationship with perceived</p>	<p style="text-align: center;">Formation of perceived demand uncertainty</p> <p>P4a. The availability of objective information about the level of demand decreases the perceived demand</p>

<p>demand uncertainty in the target country. H6d: The entering firm's risk-seeking attitude will have a negative relationship with perceived demand uncertainty H7d: Demand volatility will have a positive relationship with perceived demand uncertainty</p>	<p>uncertainty P4b. Existing customers in the target country decreases the perceived demand uncertainty P4c. Prior contacts with potential customers decrease the perceived demand uncertainty P4d. The entering firm's risk-seeking attitude will have a negative relationship with perceived demand uncertainty</p>
<p>Formation of perceived behavioural uncertainty H4: International co-operation experience will have a negative relationship with perceived behavioural uncertainty H5a: The local firm's dependence on the entering firm will have a negative influence on the entering firm's perceived behavioural uncertainty. H5b: The entering firm's dependence on the local firm will have a positive influence on the entering firm's perceived behavioural uncertainty. H6e: The entering firm's risk-seeking attitude will have a negative relationship with perceived behavioural uncertainty</p>	<p>Formation of perceived behavioural uncertainty P5a. Prior positive international co-operation experience decreases the perceived behavioural uncertainty P5b. Other firms' negative international co-operation experiences increases the perceived behavioural uncertainty P5c. Unilateral dependence by the local firm will have a negative influence on the entering firm's perceived behavioural uncertainty P5d. Unilateral dependence by the entering firm will have a positive influence on the entering firm's perceived behavioural uncertainty P5e. Symmetric dependence will have a negative influence on the entering firm's perceived behavioural uncertainty.</p>
<p>Perceived uncertainty and operation mode choice H8: The higher the perceived political and legal uncertainty, the more probable it is that a firm chooses a less integrated operation mode H9: The higher the perceived socio-cultural uncertainty, the more probable it is that a firm chooses a less integrated operation mode H10: The higher the perceived competitive uncertainty, the more probable it is that a firm chooses a more integrated operation mode H11: The higher the perceived demand uncertainty, the more probable it is that a firm chooses a more integrated operation mode H12: The higher the perceived behavioural uncertainty, the more probable it is that a firm chooses a more integrated operation mode.</p>	<p>Perceived uncertainty and operation mode choice P6a. Perceived socio-cultural uncertainty increases the use of a less integrated operation mode P6b. Perceived demand uncertainty increases the use of a more integrated operation mode P6c. Perceived behavioural uncertainty increases the use of a more integrated operation mode P6d. A less integrated operation mode may be chosen in the context of a high level of perceived behavioural uncertainty if firm believes it is capable of managing the situation.</p>
<p>Operation mode choice and efficiency H13: In the context of political, legal, socio-cultural, competitive and demand uncertainty the adaptation efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not H14: In the context of behavioural uncertainty, the control efficiency is higher in firms, which have made their operation mode choice according to the transaction cost approach than in firms, which have not</p>	<p>Operation mode choice and efficiency P7a. There are differences in information efficiency, efficiency in negotiations and reaching an understanding and efficiency in reaction to changing circumstances between different operation modes in the context of environmental uncertainties. P7b. The capabilities of the firm to handle potential opportunistic behaviour moderate the relationship between behavioural uncertainty and operation mode.</p>

*Hypotheses in bolded format were supported in the quantitative study.