

SME INTERNATIONAL COMMITMENT OVER TIME: FORGING A LINK BETWEEN THE UPPSALA MODEL AND TRANSACTION COST ECONOMICS

ABSTRACT

The arguably two most prominent theoretical frameworks of the internationalization literature, the behavioral Uppsala Internationalization Model (UIM) and the economic Transaction Cost Economics (TCE), have often been discussed controversially. The present paper strives to show that they are complementary in many respects. Often stigmatized as being too static, TCE can benefit from the dynamic nature of the UIM. The UIM framework on the other hand can benefit from the economic determinants of the TCE. Particularly for small and medium sized enterprises (SMEs), dynamics are relevant due to limited international experience and the notion of efficiency is important due to resource constraints. We set out to forge a link between UIM and TCE to create an embeddedness perspective. Our dynamic embeddedness model entails the element of structural embeddedness, encompassing alternative mechanisms of knowledge acquisition within the environment in which internationalizing companies are embedded. Hypotheses were tested in a dataset of 206 internationally operating German SMEs with the two data points of initial and subsequent commitment choice. The results support the applicability of our dynamic embeddedness model and demonstrate how the relevance of embeddedness changes over time.

KEYWORDS

Small-and-Medium-Sized Enterprises (SMEs), Foreign Market Entry, Transaction Cost Economics, Uppsala Internationalization Model; Structural Embeddedness

1. INTRODUCTION

The internationalization of firms and the associated choice of entry mode is one of the predominant subjects of the international management literature of the 1990s and 2000s (Aharoni & Brock, 2010; Werner, 2002). On a very high level, two distinctly different streams of theoretical foundation can be distinguished: behavioral theories and economic theories. The main representatives of these two streams are Johanson & Vahlne's (1977, 1990, 2009) Uppsala Internationalization Model (UIM) and Williamson's (1985, 1998, 2010) Transaction Cost Economics (TCE) respectively. The UIM was specifically created to explain the process of international ventures. TCE on the other hand was developed to explain governance decisions in general and became the economic theory of choice to explain a company's international commitment decision. Another fundamental difference lies within the dynamic nature of the UIM in contrast to the often criticized static nature of the TCE.

TCE suggests that companies choose governance modes based on their efficiency. As higher control modes tend to be accompanied by higher transaction costs, the default hypothesis posits that lower control modes are generally preferred (E. Anderson & Gatignon, 1986). In situations of high levels of asset specificity however, higher control modes that can act as safeguards against adverse behavior are believed to be more efficient (E. Anderson & Gatignon, 1986; K. D. Brouthers & Brouthers, 2003; K. D. Brouthers, Brouthers, & Werner, 2003; Erramilli & Rao, 1993; Gatignon & Anderson, 1988; Makino & Neupert, 2000). Results have often been inconclusive though and some researchers have not or at least not consistently found the association between asset specificity and entry mode (K. D. Brouthers & Brouthers, 2003; Delios & Beamish, 1999; Hennart, 1991; Taylor, Zou, & Osland, 1998). However, only few scholars have investigated in which situations asset specificity influences the level of commitment (K. D. Brouthers & Hennart, 2007) and whether this influence varies over time. Investigating the time perspective would require the TCE framework to overcome its lack of dynamics. The academic literature provides various discussions on a dynamic TCE framework (Argyres & Liebeskind, 1999; Blomqvist, Kyläheiko, & Virolainen, 2002; Langlois, 1992; Nooteboom, 1992; Williamson, 1999). With regard to these discussions, Williamson suggests

that the subject of learning has largely been absent from the TCE framework and could lead the way towards a more dynamic structure (Williamson, 1999).

The original UIM posits that the stages of the establishment chain indicate increased commitment as a consequence of increased knowledge and experience (Johanson & Vahlne, 1977). Furthermore, the model suggests that internationalization commences in countries with little psychic distance or foreignness to the home country and gradually extends into countries with higher psychic distance. The authors of the UIM have taken critical discussions about the establishment chain and the learning mechanisms as inducement to revisit the original model (Johanson & Vahlne, 2009). Outsidership has succeeded foreignness as central liability for internationalizing companies, highlighting the importance of the structural environment in which companies are embedded. From an economic perspective, the behavioral UIM framework has two crucial explanatory shortfalls. First, efficiency as central economic criteria is not part of the equation. The UIM suggests that commitment change is determined by the market risk, omitting the cost benefit dimension altogether. Second, market commitment in the UIM is defined as a combination of the amount of resources committed and the difficulty of finding an alternative use for the resources (Johanson & Vahlne, 1977). In economic frameworks, this construct is known as asset specificity which influences the market commitment rather than representing it, a small but important difference.

The illustrated advantages or – depending on the perspective – limitations of both models are highly relevant factors for the internationalization of small and medium sized enterprises (SMEs). First, as many SMEs tend to change their international commitments over time, a dynamic perspective which can be found in the UIM but is largely absent in the TCE helps to improve the predictive power of an SME internationalization model. SMEs often possess limited experience with international endeavors. As a consequence, they initially prefer commitments perceived as less risky and often choose export as entry mode (Calof, 1994). When experience and knowledge about the foreign market increase, SMEs decide to subsequently expand their commitment. Second, due to severe resource constraints, the economic factors efficiency and asset specificity which can be found in TCE but are absent in the UIM are crucial elements of an SME internationalization model. SMEs are more

susceptible to the financial risks associated with international endeavors than larger firms (Erramilli & D'Souza, 1993). Resource constraints lessen error margins and hence increase a company's risk for failure. Poor managerial decisions not only jeopardize the specific investments but may endanger the survival of the firm.

The aim of this paper is to develop a dynamic framework to investigate SME commitment decisions over time. We introduce a structural embeddedness perspective drawing upon the behavioral UIM and the economic TCE. The paper analyzes the effect of asset specificity on the level of commitment and investigates to what extent this relationship is moderated by the structural environment in which SMEs are embedded. In order to test differences over time, hypotheses are derived and tested for both the initial commitment decision as well as a subsequent decision.

With the present paper we believe to make valuable contributions to the international management literature. First, we strive to forge a link between traditional UIM and TCE reasoning to develop a structural embeddedness perspective for the commitment choice and change of SMEs. Derived from Granovetter's (1985) critique against TCE as being undersocialized, we define structural embeddedness as the level of a firm's involvement in its environment. It entails the elements international experience, international network, and best practice imitation, representing a firm's ability to access and absorb crucial information about the foreign market. Second, we explicitly focus on SMEs. Even though entry mode scholars have successfully commenced to study SMEs (e.g. Burgel & Murray, 2000; Cheng & Yu, 2008; Erramilli & D'Souza, 1993; Holmlund & Kock, 1998; Lu & Beamish, 2001; Nakos & Brouthers, 2002; Shrader, 2001), the majority of entry mode literature focuses on large enterprises (K. D. Brouthers & Hennart, 2007). Third, we employ moderator analysis to further investigate and better understand the often inconclusive relationship between asset specificity and the level of commitment. Fourth, using the two data points initial commitment and subsequent commitment provides interesting insights into the effect of asset specificity and the structural embeddedness variables over time.

In the next section we develop the theoretical framework of dynamic embeddedness and derive hypotheses. In order to do so, we first summarize the critical discussions of TCE and UIM with relevance for our model. Thereafter we present the empirical data and outline the results of our tested hypotheses. Finally, we discuss the empirical findings and conclude by pointing at limitations and draw implications for future research.

2. THEORETICAL MODEL

2.1 TRANSACTION COST ECONOMICS AND THE DYNAMICS DISCUSSION

A common critique against TCE is its supposedly static nature (Foss & Klein, 2010). While Williamson points out that TCE has been an “exercise in adaptive, intertemporal economic organization from the outset” (Williamson, 2010, p. 9), he acknowledges that “featuring adaptive differences among alternative models of governance and making provision for intertemporal transformations are primitive forms of dynamics” (Williamson, 2010, p. 9). However, although he acknowledges that TCE can benefit from more dynamics, he refuses to accept the undifferentiated critique that TCE is static (Williamson, 1999).

Argyres and Liebeskind (1999) argue that prior contractual agreements can limit a company’s ability to alter governance arrangements in the future, a condition they call governance inseparability. Firms may rely on governance structures that seem inefficient but are reasonable in a long-term process. Accepting the necessity to include history into the equation, Williamson (1996) introduced the concept of remediableness. He posits that a chosen mode can be considered inefficient when it is remediable, meaning that an alternative outcome is both feasible and implemented with net gains (Williamson, 1996).

Building on evolutionary theory, Nooteboom (1992) advocates the concept of dynamic efficiency and defines it as “efficiency in innovation, which is characterized by shifts of knowledge, technology and preference” (Nooteboom, 1992, p. 282). Innovation is largely dependent upon knowledge and learning. The transition from static to dynamic efficiency hence requires an understanding of how

knowledge, preferences, and meaning are acquired. The interactions with users, suppliers and competitors are of particular relevance for this process.

A related line of reasoning is pursued by scholars suggesting dynamic capability and competence approaches (e.g. Kogut & Zander, 1992; Langlois, 1992). Langlois (1992) argues that capabilities are dynamic when markets and firms learn, implying information or knowledge costs. These dynamic transaction costs are hence “the costs of persuading, negotiating, coordinating, and teaching others” (Langlois, 1992, p. 99) to transfer the firm’s capabilities to the market or the other way around. In other words, they are “the costs of not having the capabilities you need when you need them” (Langlois, 1992, p. 113). Williamson points out that “what was missing but needed to be introduced was an examination of contracting in its entirety – to include contract execution and contract renewal” (Williamson, 1999, p. 1100).

Williamson appears to be generally open-minded about various dynamic approaches. However, he argues that the missing conceptualization of organizational learning is the key to a more dynamic framework. He contends that “economic actors have the capacity to look ahead and recognize contractual hazards and investment opportunities” (Williamson, 1999, p. 1104) while pointing out that “the requisite recognition will come as a product of experience” (Williamson, 1999, p. 1104). Williamson acknowledges certain deficiencies and leads the way with suggestions. Nevertheless, he has not suggested a revisited TCE framework to this point.

2.2 THE UPPSALA INTERNATIONALIZATION MODEL AND ITS REVISION

Johanson and Vahlne developed the original UIM in 1977 (Johanson & Vahlne, 1977). The central issues of the model constitute how organizations learn and how learning affects their investment behavior (Forsgren, 2002). The establishment chain posits that internationalization occurs in stages. SMEs often prefer export as entry mode due to a lack of resources and advantages (Calof, 1994). Furthermore, companies tend to commence their internationalization in countries of lower psychic distance to the home country, subsequently moving into markets with higher psychic distance. The

general mechanism is that *experience* leads to an increase in *market knowledge* which in turn influences the *commitment decisions*, potentially leading to increased *commitment*.

The first critical UIM discussion with relevance for our study observes the rigid sequence of the establishment chain. Oviatt and McDougall (1994), who introduced the concept of international new ventures (INV), argue that particularly younger firms often do not abide to the rules of staged internationalization. Despite resource constraints and little international experience, INVs may choose to start their internationalization with a JV or even subsidiary and select countries of higher psychic distance. Bell (1995) sees a key weakness of stage theories in their use of linear models to explain complex, dynamic, interactive and frequently non-linear behavior and suggests the use of network approaches. The linearity of the establishment chain was likely more valid in the 1970s. However, changes in the environment and the way of doing business require rethinking. While in the past, goods were generally produced domestically and then exported, the trend advanced towards international production through foreign direct investments (Raff & Ryan, 2008).

The second critical discussion with relevance for our study examines alternative learning processes. In his assessment of knowledge acquisition in the UIM, Forsgren (2002) argues that learning not only comprises experiential learning as stated in the original model. Companies can learn from network relationships with other firms without having to have the same experiences (Levitt & March, 1988). With imitative learning the institutional theory offers another relevant learning mechanism (DiMaggio & Powell, 1983; Levitt & March, 1988). Acquiring and hiring knowledge bearers in the form of other organizations and experienced people can act as a short-cut in the learning process (Barkema & Vermeulen, 1998). Lastly, organizations can conduct focused search for new information (G. P. Huber, 1991).

Johanson and Vahlne have taken the controversial discussions as stimulus to revisit the UIM (Johanson & Vahlne, 2009). The key change is the acknowledgement that firms are embedded in a both enabling and constraining business network (Johanson & Vahlne, 2009), a necessity already acknowledged at an earlier stage (Johanson & Vahlne, 1990). The UIM keeps its main structure of

change and state elements and thus its dynamic nature. However, the *network position* has taken over the role as central state variable, highlighting the liability of outsidership rather than foreignness as key determinant. The state variable *learning through current activities* was extended towards *learning, creating and trust-building*, in order to include the network element. Figure 1 summarizes both the original UIM of 1977 (Johanson & Vahlne, 1977) and the revisited model of 2009 (Johanson & Vahlne, 2009).

FIGURE 1 GOES ABOUT HERE

2.3 THE PRINCIPLES OF THE DYNAMIC EMBEDDEDNESS MODEL

The underlying assumptions of TCE and UIM based arguing are largely congruent. Both Williamson (1985) and Johanson and Vahlne (1977) define uncertainty and bounded rationality as grounding principles. Williamson emphasizes behavioral uncertainty in the form of opportunism. In the TCE framework actors are generally susceptible to a business partner's opportunistic behavior. In combination with the actor's bounded rationality, this uncertainty requires contracts, which in turn incur transaction costs. In the original model, Johanson and Vahlne highlight environmental uncertainty represented by liabilities of foreignness (Hymer, 1976). Firms start to internationalize in countries that are close to the domestic market in terms of psychic distance and progress gradually into countries with higher psychic distance (Johanson & Vahlne, 1977). In the present paper, we consider both behavioral and environmental uncertainty as underlying principles.

From the many contributions we have mentioned above, we take four key observations in order to derive our dynamic embeddedness model. First, commitment decisions do not follow a rigid sequence (Bell, 1995; Oviatt & McDougall, 1994). While this observation was important for the extension of UIM as behavioral staging model, it is integral to TCE. Alternative commitment options are not seen as a sequence but as a decision of transaction costs and efficiency. The most efficient governance mode is chosen from the continuum between market and hierarchy, including hybrid modes (Coase,

1937; Williamson, 1975, 1985). Second, previous commitment decisions influence future decisions. The second observation in turn is integral to the UIM while the TCE has largely neglected this relationship. Third, dynamic transaction costs are the costs of not having the knowledge you need when you need it (Langlois, 1992). This element has neither been part of the UIM nor the TCE. The UIM entails the mechanism of learning but does not consider its costs. The TCE on the other hand considers costs but has thus far neglected the mechanisms of learning. Fourth, knowledge acquisition can occur in a multitude of different ways. In their revisited model, Johanson and Vahlne (2009) emphasize the network position a company upholds as central state variable.

In order to forge a link between UIM and TCE, we introduce the concept of structural embeddedness and define it as the level of a firm's involvement in its structural environment. A higher level of structural embeddedness increases a company's knowledge base and facilitates the access to new knowledge. We derive structural embeddedness from Granovetter's (1985) critique against TCE as being undersocialized, a critique which Williamson still meets with special interest (Williamson, 2010). The term structural embeddedness clearly distinguishes it from other dimensions found in the academic literature like political, cognitive, and cultural embeddedness (Zukin & DiMaggio, 1990).

2.4 THE ELEMENTS OF THE DYNAMIC EMBEDDEDNESS MODEL

Following the set-up of the UIM, we distinguish state and change elements. The central state element is *asset specificity*, Williamson's (1985) "big locomotive" to which TCE owes much of its explanatory power. Asset specificity has proven its stance as central determinant of TCE based internationalization arguing (e.g. Anderson and Gatignon 1986; Gatignon and Anderson 1988; Erramilli and Rao 1993; Makino and Neupert 2000; Brouthers and Brouthers 2003; Brouthers, Brouthers et al. 2003). It is defined as the investments that are specific to the transaction and will lose value in alternative use. When making specific investments, actors are vulnerable to a business partner's potentially opportunistic behavior. As contracts can never be perfect, actors choose hierarchies as safeguards in order to remain in control. TCE's asset specificity is largely congruent with UIM's market commitment. Johanson and Vahlne (1977) defined market commitment as the

product of two factors: the amount of resources committed and the degree of commitment, where the latter is the difficulty of finding an alternative use for the resources and transferring them to it. A sizeable investment in saleable goods does not indicate a strong commitment, focusing on customer needs does (Johanson & Vahlne, 2009, p. 1412).

The second state element of the dynamic embeddedness model is *knowledge*. An international venture requires a specific set of information and knowledge. According to the liabilities of foreignness (Hymer, 1976), this is the reason why domestic companies have a competitive advantage over foreign companies entering their market. The foreign company either lacks the crucial set of information about the market or has difficulties interpreting the available information. This asymmetry of information may result in higher susceptibility to opportunistic behavior by transaction partners. Information asymmetries and associated liabilities of foreignness can be lessened with the help of the required set of information (Rooks, Raub, Selten, & Tazelaar, 2000). Johanson and Vahlne (2009) have introduced the concept of liabilities of outsidership, emphasizing the importance of access to networks and membership therein. The idea for our model is the same though. Not the foreignness leads to information asymmetries but the lack of embeddedness in the social environment.

The first change element we observe is the *commitment decision*. The UIM grounds commitment decisions on the comparison of the maximum tolerable market risk (a function of the firm's resource position and risk approach) and the existing market risk situation (the product of existing market commitment and market uncertainty) (Johanson & Vahlne, 1977). Scale-increasing decisions will be taken when the existing market risk situation is smaller than the maximum tolerable market risk. Uncertainty-reducing commitments are preferred when the relationship is reversed. Because TCE was developed to explain governance decisions in general rather than international mode choices in particular, TCE arguing tends to be less deterministic than the UIM. The central proposition suggests that the most cost effective governance arrangement will be selected (Hesterly, Liebeskind, & Zenger, 1990). Due to different interpretations and operationalizations, little agreement can however be found about which determinants increase or decrease transaction costs and to what extent. In addition to asset specificity, which we investigated earlier, Williamson names uncertainty and frequency as TCE

determinants (Geyskens, Steenkamp, & Kumar, 2006). As is the case with asset specificity, uncertainty was operationalized in a multitude of different ways and results have often been equally inconclusive (K. D. Brouthers & Hennart, 2007). According to Williamson, uncertainty is only problematic when asset specificity is high. It makes contracting inefficient and actors susceptible to hold-up situations. As a consequence, companies choose integration over market. While this interaction was observed at the outset of TCE based internationalization literature (E. Anderson & Gatignon, 1986; Erramilli & Rao, 1993; Gatignon & Anderson, 1988), uncertainty measures have largely been entered directly thereafter. The two most common measures for environmental uncertainty are cultural distance and country risk (Zhao, Luo, & Taewon, 2004).

The second change element is *learning*, as suggested by Williamson (1999) and employed by Johanson and Vahlne (1977, 2009). Williamson argues that economic actors possess foresight, the ability to look ahead and recognize contractual hazards. However, he does acknowledge that often “the requisite recognition will come as a product of experience” (Williamson, 1999, p. 1104). Williamson’s understanding of learning is hence largely congruent with the original definition of learning in the UIM. Following Forsgren’s (2002) critical review of the UIM learning mechanisms we add two learning mechanisms by including international networks and best practice imitation. As discussed earlier, a successful international venture requires a specific set of information and knowledge. If this knowledge cannot be derived from individual experience, a company best uses its network relationships to compensate the lack of knowledge (Ellis, 2000). Hence, the most important feature of networks for our study is the ability to influence the quality and flow of information (Granovetter, 2005). Furthermore, networks can act as punishment and reward (Granovetter, 2005) and provide access to resources (Grandinetti & Rullani, 1994). The last feature is of particular importance for SMEs, given their generally troubling resource constraints (Holmlund & Kock, 1998). If a company does not have enough international experience and lacks relevant network contacts, it can attempt to imitate other organizations that are perceived as best practice. While mimetic behavior may not result in the highest possible efficiency (Lu, 2002), it is a common means to reduce uncertainty (DiMaggio & Powell, 1983). According to institutional theory, internationalizing

companies strive for legitimacy in the foreign country and will make use of established concepts or seek guidance from experiences from other organizations in similar situations (Forsgren, 2002).

Structural embeddedness is a synoptic element in our model, summarizing the change element learning and the state element knowledge. Structural embeddedness describes a company's environment from a sociological perspective, suggesting that companies are nested within networks of social relations. The sociological view on the choice of entry mode has only recently emerged (Cheng & Yu, 2008). Studies in this area promote the importance of international experience (e.g. Herrmann & Datta, 2002) and international networks (e.g. Ellis, 2000; Ellis & Pecotich, 2001) as safeguards against uncertainties. The idea of social embeddedness goes a little step further and includes non-network relationships; other organizations that a firm does not have formal or informal relationships with but may be considered as best practice. The hybrid natures of the three learning mechanisms suggest a joint observation of the change element learning and the state element knowledge. International experience can be seen as a means or prerequisite of acquiring new knowledge as well as a distinct set of knowledge. Similarly, a firm's international network can act as learning channel, source of knowledge or substitute for knowledge. Finally, firms can compensate their lack of knowledge through imitation and at the same time acquire knowledge about legitimized actions.

FIGURE 2 GOES ABOUT HERE

Figure 2 summarizes the key elements and mechanisms of our dynamic embeddedness model. The central effect is represented by the relationship between the state element asset specificity and the change element commitment decision. Structural embeddedness has an impact on both elements as well as the relationship between them. First, an increasing level of structural embeddedness in a foreign market increases a firm's understanding about that market and the ability to safeguard against uncertainties. At the same time, a firm increases its understanding about the specific needs of customers and may increase the specificity of their products. Second, structural embeddedness impacts

the commitment decision when a firm imitates other organizations in the foreign market or bases decisions on gathered international experience. Finally, structural embeddedness has a moderating impact on the relationship between asset specificity and the commitment decisions. Depending on the level of embeddedness, the importance of asset specificity as determinant for the commitment decision may increase or decrease.

2.5 HYPOTHESES

In order to empirically test the dynamic embeddedness model, we derive hypotheses for both the initial commitment choice as well as subsequent choices. By defining individual hypotheses for the initial and subsequent commitment, we make suggestions about the varying effects of asset specificity and the importance of the structural embeddedness elements over time. Figure 3 summarizes the research model including all hypotheses.

FIGURE 3 GOES ABOUT HERE

Asset Specificity. TCE reasoning builds on the fundamental assumption that market outcome is efficient when competition is high. A low level of ownership is generally favorable until proven otherwise, an assumption that Anderson and Gatignon (1986) labeled default hypothesis. Upon making specific investments, actors become susceptible to their business partners' opportunistic behaviors, a situation commonly known as holdup (K. D. Brouthers & Hennart, 2007). It can be faced by employing authority, observing behavior, and offering specific incentives, actions that require the application of higher control entry modes (E. Anderson & Gatignon, 1986). Firms with high levels of asset specificity tend to internalize when the costs of vertical integration are at least offset by the benefit of this arrangement (Erramilli & Rao, 1993), a relationship that is especially pronounced for SMEs. As we have seen, smaller firms ground their existence on a limited set of products which makes them particularly vulnerable to opportunism. A holdup situation would not only endanger their investment but may jeopardize their existence. Furthermore, a limited set of resources prohibits

extended financial risk taking. Hence, SMEs tend to internalize transactions under high levels of asset specificity.

According to Erramilli and Rao (1993) this is only valid when two conditions apply: (1) the costs of integration are always high and (2) the only benefits of integration are a reduction of transaction costs. Regarding the first condition, the scholars suggest that the cost of integration for certain service firms (e.g. management consultancies) is relatively low for all modes of entry (Erramilli & Rao, 1993). While this may be true, we follow the general TCE arguing which posits that integration is associated with higher costs. Regarding the second condition, the internationalization literature offers a number of alternative benefits: A higher level of integration ensures a larger share of the profits generated in the foreign market (E. Anderson & Gatignon, 1986), it facilitates the implementation of global strategies in multinational enterprises (Hill, Hwang, & Kim, 1990), and helps reducing the inherent problems of shared ownerships (Contractor & Lorange, 1988). While we generally support these arguments, we believe that there are temporal differences in the decision making of SMEs. Asset specificity can reduce over time when the technological novelty wears off and becomes a commodity. On the other hand, asset specificity may increase when a firm learns about the demands of the foreign market and makes specific investments. Given their limited resource base, we believe that the reduction of transaction costs is the overriding objective for SMEs when selecting the initial commitment. In subsequent commitment selections, however, we believe that other objectives gain importance, particularly the increase in profits. When asset specificity remains high or increases, a firm does not feel obliged to increase its commitment. The firm has gathered experience with the foreign market and can safeguard its investments with any type of commitment mode while gaining attractive profits due to the uniqueness of its products. When asset specificity decreases or remains low, the company will try to increase its market share or profits by increasing its commitment in the foreign market. A low level of asset specificity is hence a sign for increased subsequent commitment.

Hypothesis 1.1: SMEs that enter a foreign market with high levels of asset specificity tend to prefer higher initial commitments.

Hypothesis 1.2: SMEs that change their commitment in a foreign market with low levels of asset specificity tend to prefer higher subsequent commitments.

International experience. The internationalization decision is an important strategic direction for SMEs and is therefore influenced or undertaken by an SME's owner or founder (Holmlund & Kock, 1998). Of supreme importance is the decision maker's past experience and present competences or ambitions (Madsen & Servais, 1997). An international venture requires a set of general and market specific knowledge (Madsen & Servais, 1997) that can best be derived from individual experience (Delios & Beamish, 1999). Companies with little or no international experience tend to overestimate risks and underestimate potential gains and hence often struggle with the management of their international operations (Agarwal & Ramaswami, 1992). International experience enhances the understanding, competence, and confidence of the company and improves the perception of risks and returns (Gatignon & Anderson, 1988). Experience from previous foreign endeavors can be utilized to reduce uncertainties of the focus market and safeguard against a partner's potential opportunistic behavior (Henisz & Delios, 2002, p. 22). SMEs with profound international experience can hence reduce the risk of losing the specific investments or endangering their existence. While international experience is important for the initial commitment decision, we believe that its relevance fades over time and hence suggest that there is no significant relationship between international experience and subsequent commitment choices.

Hypothesis 2.1: SMEs that enter a foreign market with high levels of international experience tend to prefer higher initial commitments.

Hypothesis 2.2: The impact of international experience on the level of commitment decreases for subsequent commitment decisions for SMEs.

Not only do we ascribe a direct effect to international experience on the initial commitment, we also believe it has a moderating impact on the relationship between asset specificity and initial commitment. As international experience can act as safeguard against uncertainty in the foreign market, we suggest that asset specificity as driver for higher commitment selections weakens in light

of high levels of experience. As was the case for the direct effect of international experience, we believe that the moderating impact fades over time.

Hypothesis 3.1: High levels of international experience weaken the influence of asset specificity on the commitment for SMEs that enter a foreign market.

Hypothesis 3.2: The moderating impact of international experience on the influence of asset specificity on the commitment decreases for subsequent commitment decisions for SMEs.

International network. Scholars have demonstrated that companies with a lack of individual international experience may be able to rely on international networks instead (Barkema, Bell, & Pennings, 1996; Delios & Beamish, 1999). Given their specific liabilities of smallness, networks are of particular relevance for SMEs. By relying on networks for information, SMEs can be innovative and successful despite severe resource constraints (Malecki & Veldhoen, 1993). Furthermore, the nature of network relations has a significant impact on strategic decisions of SMEs due to their easy influenceability (Coviello & Munro, 1997). The relevance of networks builds on three key benefits. First, network participation provides access to the knowledge and information that is required to safeguard against uncertainty in the foreign market (Granovetter, 2005). Second, networks offer mechanisms of collective sanctions to protect against adverse behaviors (Granovetter, 2005). Third, networks grant access to relevant resources which may help reducing the required investments altogether (Grandinetti & Rullani, 1994). Once again, we believe that the impact of international networks is time dependent. We believe that internationalizing SMEs are likely to choose higher initial commitments than companies with little or no international networks. As for the subsequent commitment, Oviatt and McDougall (1994) point out that networks are a powerful resource-conserving alternative to internalization. Once the SME has established a stable business in the foreign market, networks can act as alternative governance modes. We hence believe that the impact of international networks decreases for subsequent commitment decision.

Hypothesis 4.1: SMEs that enter a foreign market with high levels of international networks tend to prefer higher initial commitments.

Hypothesis 4.2: The impact of international networks on the level of commitment decreases for subsequent commitment decisions for SMEs.

All three functions of international networks can act as safeguards against potential behavioral uncertainty, protecting the specific investments from opportunism. Research has shown that at increasing levels of network embeddedness, opportunistic behavior of individuals will decline (Provan, 1993, p. 841). Consequently, we believe the impact of asset specificity on the initial commitment to weaken in situations of strong international networks. As per the direct effect, we believe the moderating impact to weaken for subsequent commitment decisions.

Hypothesis 5.1: High levels of international networks weaken the influence of asset specificity on the commitment for SMEs that enter a foreign market.

Hypothesis 5.2: The moderating impact of international networks on the influence of asset specificity on the commitment decreases for subsequent commitment decisions for SMEs.

Best practice imitation. Imitation is of significant importance for SMEs due to their easy influenceability (Cheng & Yu, 2008). Referring to authors like Meyer and Rowan (1977) or Scott (1987), organizations not only have to be efficient, they must also be legitimated. Legitimacy can be acquired by adopting structural elements that socially constructed environments regard as rational (DiMaggio & Powell, 1991; Zucker, 1987). Commonly undertaken actions become legitimized and their success is taken for granted (Forsgren, 2002). Particularly in situations of high uncertainty, actions and decisions increase the legitimacy of similar actions and decisions (DiMaggio & Powell, 1983). Through the replication of companies that are seen as best practice, SMEs strive to overcome liabilities of foreignness and gain cognitive legitimacy (Henisz & Delios, 2001). Other companies' behaviors are observed and analyzed when acting in the same market. Due to limited access to the foreign market, we assume the relevance of imitative behavior for the initial commitment choice of SME to be limited. Once the SME has established a solid business in the foreign country and chooses to extend its activities, we believe imitation to have a more relevant impact. Because an established firm has already chosen its initial commitment and commitment

reductions are rare, we believe that imitation has a positive effect on the level of subsequent commitment.

Hypothesis 6.1: Best practice imitation is of little importance for the choice of initial commitment for SMEs that enter a foreign market.

Hypothesis 6.2: Best practice imitation gains importance for subsequent commitment decisions and leads to higher subsequent commitments for SMEs that expand in a market.

Scholars found that cognitive pressures can have more explanatory power than transaction cost arguments (Lu, 2002). The commitment levels perceived as best practice may therefore be chosen despite lower efficiency. Hence, even in situations where asset specificity is high, SMEs may choose lower control modes to gain legitimacy or vice versa. We believe this moderating impact to be particularly relevant for the subsequent commitment selection and less or not relevant for the initial choice.

Hypothesis 7.1: The moderating impact of best practice imitation on the influence of asset specificity on initial commitment is of little importance for SMEs that enter a foreign market.

Hypothesis 7.2: High levels of best practice imitation weaken the influence of asset specificity on subsequent commitment for SMEs that expand in a foreign market.

3. METHODS

3.1 DATA

Our empirical analysis grounds on data gathered from German small and medium sized enterprises. Based on the classification of the German Institute for SME (Institut für Mittelstandsforschung, 2004) and in line with prior research (e.g. Lu, 2002), we define SMEs as companies with up to 500 employees. Using the Hoppenstedt enterprise database, we found 2,549 companies with this criteria and international activities. Standardized questionnaires were sent to firm owners and CEOs. This target group was chosen for its paramount importance in strategic decision

making in SMEs. The sample solely included German firms and all questions were in German. Established back-translation literature for internationally accepted items was taken into consideration for the present paper (Brislin, 1970; Hui & Triandis, 1985; Van de Veijver & Hambleton, 1996). 257 questionnaires were completed and returned resulting in a 10.1% response rate. Due to missing data, our final sample entails 206 companies. The average size of companies was 241 employees, with a standard deviation of 130. The companies were asked about their most important international market. All items were collected for the initial commitment choice of this market and – if applicable – a subsequent commitment change in that market. Out of the 206 companies, 89 companies changed the initial commitment and form our second sample. We conducted tests as suggested by Little and Rubin (1987) and Allison (2002) due to missing data, also finding no significant results. Finally, we controlled for non-response bias according to Armstrong and Overton (1977), comparing early and late respondents in terms of selected constructs. A *t*-test delivered no significant differences.

3.2 MEASUREMENT

To measure the variables of our empirical model, we adapt established items from international business and institutional theory literature. For our dependent variables *initial commitment* and *subsequent commitment* we follow Brouthers, Brouthers and Werner (2000), who distinguish three modes: wholly-owned modes, cooperative arrangements (including joint ventures and strategic alliances), and independent modes (such as franchising and licensing). In order to reflect the large number of pure exports as initial commitment in our sample, we further split the third group into export and long-term contracts. We hence distinguish the four groups (1) export, (2) contractual agreement, (3) cooperative arrangements, and (4) wholly-owned subsidiary.

TABLE 1 GOES ABOUT HERE

Independent variables were largely collected using 5 point likert-scales. All questions were asked for the initial commitment decision and a subsequent commitment decision in the same market if

applicable. We executed principal component factor analyses based on the variables of interest in both samples and found clean factor loadings for all variables.

To measure the central independent variable *asset specificity*, we used a three-item scale (Cronbach's $\alpha_1 = 0.693$ / $\alpha_2 = 0.659$) (Geyskens, et al., 2006). In order to measure the specificity of investments related to the internationalization, we asked questions like "The foreign venture utilizes new firm-internal technologies" or "significant firm-internal know-how was transferred into the foreign venture" (1 = low extent, 5 = high extent).

International experience was based on the management's international experience (Bloodgood, Sapienza, & Almeida, 1996) and the company's experience as a whole (Burgel & Murray, 2000). It was measured using a three-item scale (Cronbach's $\alpha_1 = 0.822$ / $\alpha_2 = 0.796$) and included questions like "Before entering the foreign market, the management had gathered long-lasting and far-reaching international experience" or "Before starting this foreign venture, your company possessed considerable and long-lasting international experience" (1 = low extent, 5 = high extent).

To measure *international network*, we used a three-item scale (Cronbach's $\alpha_1 = 0.702$ / $\alpha_2 = 0.633$) (Ellis & Pecotich, 2001). Sample items included "The knowledge and the contact to business partners in the foreign market was well established" and "A comprehensive network of business relationships was already established in the foreign market" (1 = low extent, 5 = high extent).

Best practice imitation is operationalized using a three-item scale (Cronbach's $\alpha_1 = 0.690$ / $\alpha_2 = 0.716$). Questions asked were "Other companies in the foreign market were used as examples in the entry mode selection process" and "Companies perceived as 'best practice' were used as examples in the entry mode selection process".

Institutional factors have demonstrated their ability to predict mode choices in the past and have become integral elements of TCE entry mode studies (e.g. Ahmed, Mohamad, Tan, & Johnson, 2002; E. Anderson & Gatignon, 1986; K. D. Brouthers, Brouthers, & Werner, 2002; Delios & Beamish,

1999; Henisz & Delios, 2001; Yiu & Makino, 2002). Hence we included *political constraints* and *cultural distance* to control for effects on the selected commitment.

In order to measure *political constraints* we used the POLCON index, designed and introduced by Henisz. The POLCON index is one of the few indices that add a time component to the geography. Values are not only available for a given country (e.g. China), but also for almost any given year to reflect changes in the political environment. In our case we have chosen the values for the chosen international market and the year of the initial and subsequent commitment respectively.

To measure the *cultural distance* between home and host country we used Kogut and Singh's (1988) well-known construct of cultural distance. However, while the original index included Hofstede's four cultural dimensions, we drew upon GLOBE's nine dimensions (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Javidan & House, 2001). Accordingly, we adapted the original formula to calculate our cultural distance index:

$$CD_i = \sum_{i=1}^9 \left\{ (I_{ij} - I_{ig})^2 / V_i \right\} / 9$$

where I_{ij} represents the i th cultural dimension in the j th country. V_i is the variance of the index of the i th dimension, g represents Germany and CD_i is the cultural distance between Germany and the j th country (Kogut & Singh, 1988).

In order to control for the age effect, we included *age of company* into model 1 and *age of international venture* into model 2. The age of the company is the difference between the year of entering the market and the year of the company's foundation. The age of international venture is the difference between the year in which the first commitment change occurred and the year of entering the market.

As a particular entry mode can affect subsequent mode choices (Chang & Rosenzweig, 2001, p. 747) we include the *initial commitment* as control variable in model 2.

Finally, we included a set of motives as control variables. Structure and impact of motives plays a major role for internationalization (Schwens & Kabst, 2009; Williams, 1992). We therefore included *access to foreign market*, *following competitors*, and *following customers* as internationalization motives.

As most measures applied in our study are self-reported and collected from an identical source, there could be a problem of common method bias. We do not believe this to be a problem in our study. First, our dependent variable is objective in nature rather than based on perception. Second, we tested our data for common methods variance or outliers and found no significant problems (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986).

3.3 ANALYSIS AND RESULTS

According to the correlation coefficients in tables 2 and 3, the risk for collinearity is limited. All values stay well below the critical threshold of 0.7 (D. R. Anderson, Sweeney, & Williams, 1996) with the highest correlation of 0.49 between international experience and international network in model 1 and a correlation of -0.50 between political constraint and cultural distance in model 2. Additionally, we calculated the Variance Inflation Factor (VIF) values to test the potential impact of collinearity. The highest values were 1.369 for asset specificity in model 1 and 1.581 for international network in model 2. both stay well below the critical threshold of 2.5 (Allison, 1999).

TABLE 2 GOES ABOUT HERE

TABLE 3 GOES ABOUT HERE

Because of the ordinal nature of our dependent variables initial commitment and subsequent commitment we chose to conduct ordinal regression analyses. In order to display our results we

defined two models with 5 sub-models each, one for the initial commitment and one for the subsequent commitment. As suggested by Aiken and West (1991), presenting interactions in separate models allows the comparison between models with and without interaction terms. The changes in model fit deliver indicators for the explanatory power of each of the interaction terms. For both models, the first sub-model (1.1 and 2.1) includes the control variables only, followed by the independent variables in the second sub-models (1.2 and 2.2), and the interaction terms in the third to fifth sub-models (1.3 to 1.5 and 2.3 to 2.5).

As detecting interaction effects in regression analyses based on field studies can be difficult, we applied a significance level of 10% (McClelland & Judd, 1993). In order to avoid multicollinearity, we standardized the variables before building the interaction terms. Once identified, the interpretation of interaction effects in logistic regressions can be problematic (Li & Meyer, 2009; Powers, 2005; Shaver, 2005). Direction, magnitude, and statistical significance of the resulting coefficients are not sufficient (Hoetker, 2007). In order to correctly interpret the moderating effects, we calculated, plotted and interpreted the effects in accordance with Ai and Norton (2003) and Jaccard (2001).

Table 4 shows the results of the ordinal regression with the initial commitment as dependent variable. Model 1.1 represents the effect of the control variables on the initial commitment of SMEs. Adding the independent variables in model 1.2 significantly increases the explanatory power of the model. In line with our first hypothesis (H1.1), asset specificity is significantly positively related with the initial commitment. The results for the other independent variables are mixed. We generally find support for the positive effect of international experience (H2.1) and international network (H4.1) on the level of commitment, even though it is weak. The impact of best practice imitation (H6.1) is weak or not existent across all models, thus supporting our hypothesis.

Regarding the interaction effects, we find clearer results with both international experience (H3.1) and international network (H5.1) having a significant moderating effect on the relationship between asset specificity and initial commitment. The interaction plots of the two significant interactions can

be seen in figure 4¹. As suggested, increasing levels of both international experience and international network reduce the influence of asset specificity on the level of initial commitment. The moderating effect of best practice imitation (H7.1) is not significant, also supporting our hypothesis.

As a robustness check we conducted a multinomial regression analysis with the same variables. The results of the ordinal regression were fully supported. Asset specificity plays a consistently significant role across all commitment levels. The structural embeddedness variables are particularly pronounced between the lowest order commitment (export) and the two higher commitments (cooperative arrangement and subsidiary).

TABLE 4 GOES ABOUT HERE

FIGURE 4 GOES ABOUT HERE

Table 5 summarizes the results of the ordinal regression analysis on the subsequent commitment decision. Analogue with the first model for the initial commitment, model 2.1 represents the effect of the control variables on the subsequent commitment choice. Noteworthy is the significant positive effect of the initial commitment on the subsequent commitment choice. Entering the independent variables significantly increases the explanatory power. Once more our central hypothesis regarding the effect of asset specificity on the subsequent commitment (H1.2) can be fully supported. Asset specificity indeed has a significant negative effect on the subsequent commitment. The hypotheses regarding the direct effects of the structural embeddedness variables (H2.2, H4.2, H6.2) can be fully supported. International experience and international network have lost their significant effects on the level of commitment, while best practice imitation is consistently significant and positive.

¹ As representation for all interaction plots, we selected the plot for the first intercept. As coefficients in ordinal logistic regressions remain the same across all intercepts, the other plots show the same slopes shifted along the y-axis.

Regarding the moderating effects, we once more face mixed results. While we hypothesized international experience to not have a significant impact on the relationship between asset specificity and commitment (H3.2), we find it to be significant. The plot in figure 5a suggests that at low levels of international experience, the negative effect of asset specificity on the subsequent commitment reduces. The other two hypotheses (H5.2, H7.2) can be supported. International network has no significant moderating impact, best practice imitation is weakly significant. The plot for the interaction between asset specificity and best practice imitation in figure 5b supports our hypotheses.

As a robustness check we also conducted a multinomial regression analysis with the variables of the second ordinal regression model. Once again, our results were backed by this analysis. While asset specificity remains its relevance across the range of commitment levels, it is particularly pronounced in the decision between levels two (contractual agreement) and three (cooperative arrangement) as well as levels three and four (subsidiary). The structural embeddedness variables are particularly pronounced between levels two and three as well as two and four.

TABLE 5 GOES ABOUT HERE

FIGURE 5 GOES ABOUT HERE

4. DISCUSSION AND CONCLUSION

With our study we believe to make a number of distinct contributions. First, we strive to advance the dynamic TCE discussion in the context of internationalization decisions. Second, we explicitly focus on SMEs, a group of companies that have largely been neglected in the past (K. D. Brouthers & Hennart, 2007). Third, we employ moderator analysis to investigate the relationship between asset

specificity and level of commitment. Fourth, our data with two data points provides interesting insights into the effect of asset specificity and the learning variables over time.

Regarding the first contribution, we showed that the discussion on dynamic TCE has been present in the academic literature for years without satisfying and conclusive results. Attempts to advance the economic framework of transaction costs have largely been made from evolutionary and dynamic capability perspectives. Williamson acknowledges the advantage of a dynamic model, however does point out that “whereas saying dynamics is easy, doing dynamics is hard.” (Williamson, 1999, p. 1101) While we do not strive to revolutionize TCE or develop a new theory altogether, we attempt to show that TCE is not far from being dynamic and that TCE can learn from the often controversially discussed UIM. Little changes are required to the original model in order to move TCE towards a more dynamic set-up in the style of the UIM. The most important element missing so far was the element of learning, as highlighted by Williamson (1999). Since experiential learning falls short of covering the breadth of learning mechanisms (Forsgren, 2002), we introduce the element of structural embeddedness as key towards a more dynamic TCE operationalization, a construct derived from Granovetter’s critique against TCE as being undersocialized (Granovetter, 1985). Firms are embedded within, influenced by and highly dependent upon a micro and macro cosmos of organizations and institutions. This environment is inherently subject to changes. Firms can only succeed in this dynamic environment if they adapt their way of doing business accordingly and as a consequence alter contracts and governance structures if necessary. As is the case with the original TCE model, our dynamic embeddedness model emphasizes efficiency as key determinant for commitment decisions. However, scholars approaching the problem from different perspectives have pointed out that companies may choose inefficient constructs in favor for other benefits. Future research should hence attempt to include mechanisms to offset the efficiency criteria in order to create a broader perspective. Furthermore, the concrete impact of the learning mechanisms should further be investigated.

Regarding our second contribution, we have observed that SMEs have played a limited role in the literature on internationalization in the past. Scholars have successfully commenced to fill this gap (e.g. Burgel & Murray, 2000; Cheng & Yu, 2008; Erramilli & D'Souza, 1993; Holmlund & Kock,

1998; Lu & Beamish, 2001; Nakos & Brouthers, 2002; Shrader, 2001). Due to their importance for economies and the labor markets, larger multinationals have mostly been the subject matter. However, particularly in Germany, smaller firms – commonly labeled as “Mittelstand” – constitute the vast majority of companies and are considered the backbone of the German economy (Institut für Mittelstandsforschung, 2004). The opening of global markets and the reduction of transportation and communication costs have opened up opportunities for smaller firms to internationalize at reasonable expense. Given the specific liabilities of smallness, resource constraints (Erramilli & D'Souza, 1993) and easy influenceability (Cheng & Yu, 2008), these companies deserve special attention. Scholars have demonstrated that most academic theories and empirical results for larger firms are also applicable for smaller firms (K. D. Brouthers & Hennart, 2007). However, we believe that investigating the opposite would be worthwhile as well. Our dynamic embeddedness model should hence be tested with larger firms in future research. Particularly the moderating influences of structural embeddedness, their changes over time as well as the varying impact of asset specificity on the level of commitment over time are interesting questions for further research.

We consider the use of interactions on the relationship between asset specificity and commitment as an important third contribution. Asset specificity as central TCE variable can be found in the vast majority of entry mode studies. From the outset, Williamson considered the specificity of investments as the central determinant of TCE (Williamson, 1985). Particularly for SMEs with a limited resource base, this variable is of crucial relevance. It was hence consequent to introduce asset specificity as central state variable in our dynamic embeddedness model and observe the moderating influence of the structural embeddedness on its relationship with commitment decisions. While some previous studies have suggested similar set-ups (e.g. Cho & Padmanabhan, 2005; Erramilli & Rao, 1993; Gatignon & Anderson, 1988), asset specificity is usually entered as one of many determinants into the equation. By building on moderation analysis, we believe to make a relevant contribution to the field of entry mode literature as it helps gaining deeper insights into the central relationship. This could potentially help to understand why prior research on asset specificity has often been inconclusive.

The fourth critical contribution is the use of data with two data points. The vast majority of entry mode literature focuses on the market entry. While this set-up has helped us gain crucial insights into the impact of various determinants at a certain point in time, little is known about how the commitment decisions vary over time. As Williamson suggested, in order to observe contracting in its entirety, we need to look at contract execution but also contract renewal. Observing subsequent commitment decisions helps us gain deeper understanding how the relevance of asset specificity changes over time and which learning mechanisms are relevant for the initial contracting and for the renewal or extension of existing contracts. While the use of two data points is a key contribution it is probably also a key limitation. Data was gathered retrospectively, questions regarding both initial and subsequent commitment were answered by the same person at the same point in time. The key issue with retrospective reports is that the informant may not accurately recall the past. Inaccurate recall often results from inappropriate rationalization, faulty post hoc attributions, oversimplification, and simple lapses of memory (Golden, 1992; G. Huber & Power, 1985; Wolfe & Jackson, 1987). Asking for information about the two data points may be problematic due to the age of some of the companies in our sample. However, some 78% of the companies are family businesses, in which the CEO often founded the company himself or is closely related to the founder. As we addressed the questionnaire to the CEO, it is very likely that the respondent was involved in the internationalization decisions, which may significantly reduce the risk of informant fallibility (Golden, 1992; Miller, Cardinal, & Glick, 1997). Furthermore, Miller et al. (1997, p. 197) found “[...] that CEO reliability is no lower in retrospective than in nonretrospective reports.”

In addition to the limitations above, our paper faces some methodic limitations, as is the case with most empirical studies. First, the use of indices may be a source for concern. Cultural distance indices assume that the average of a country is an appropriate representation of the national environment (Shenkar, 2001). However, a country's culture may differ significantly internally. This may limit the explanatory power (K. E. Meyer & Nguyen, 2005) of using Kogut and Singh's (1988) method in conjunction with the nine GLOBE dimensions (House, et al., 2004; Javidan & House, 2001). Since the GLOBE dimensions build on various established indices like the World Value Survey, we consider the

resulting index as a good proxy for management and organizational issues. Our second index, the political constraint index (POLCON) should be less problematic. The source for this index is information on the political situation and stability of the observed countries. These questions are usually valid for the country as a whole. Only in situations of unrest would general rules not be valid for the whole country, this however is exactly what the POLCON index attempts to measure. Second, we focus on companies from the same home country entering different foreign markets. Therefore, our study cannot provide an answer to the question whether our results can be generalized to SMEs in other geographies or not.

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Figure 1: The Uppsala Internationalization Models of 1977 and 2009

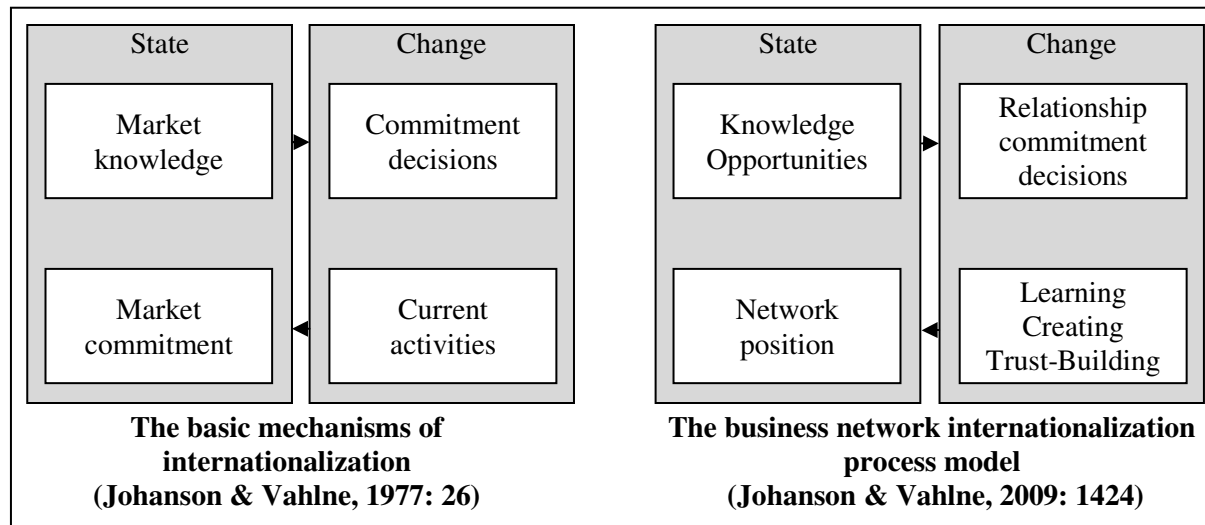


Figure 2: The Dynamic Embeddedness Model

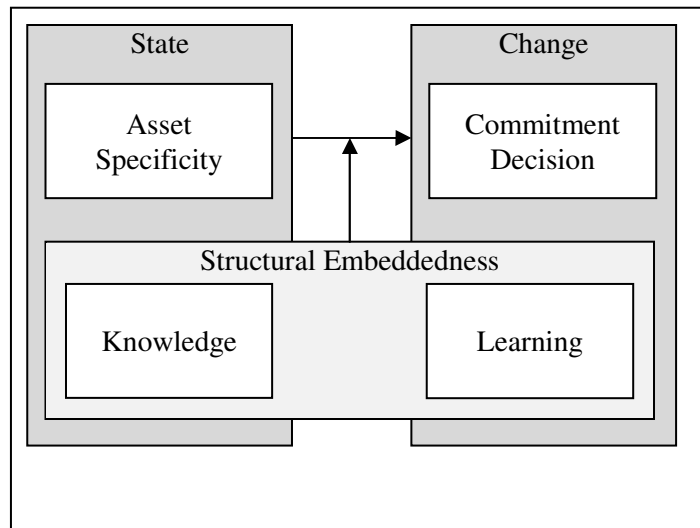


Figure 3: The Research Model

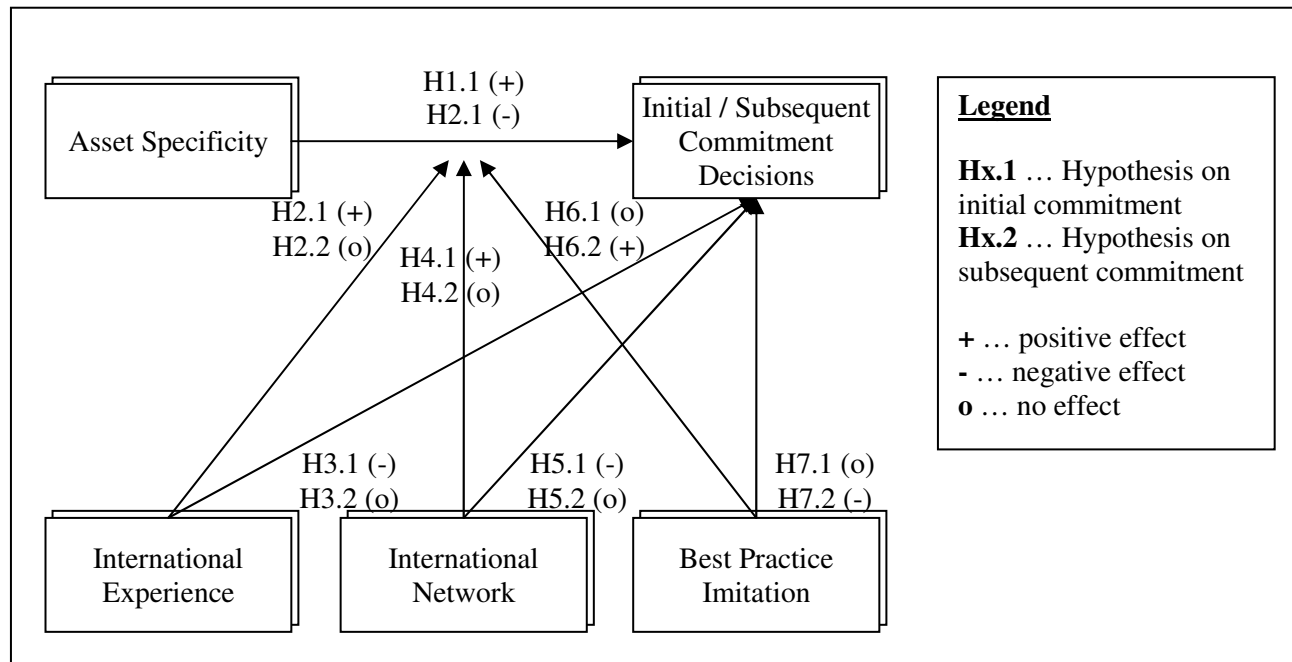


Figure 4a and 4b: Interaction Plots Initial Commitment

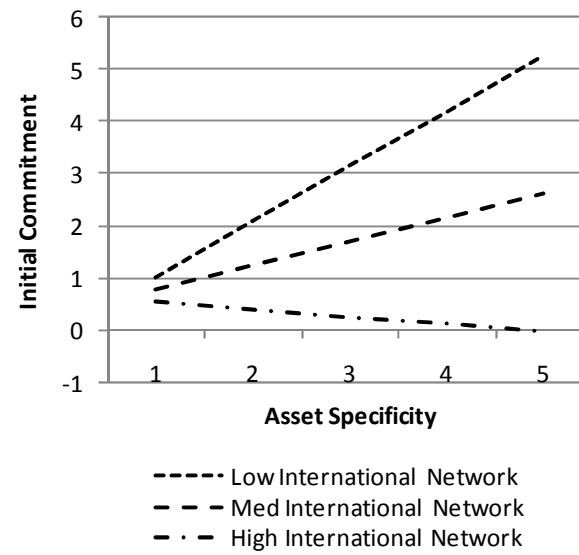
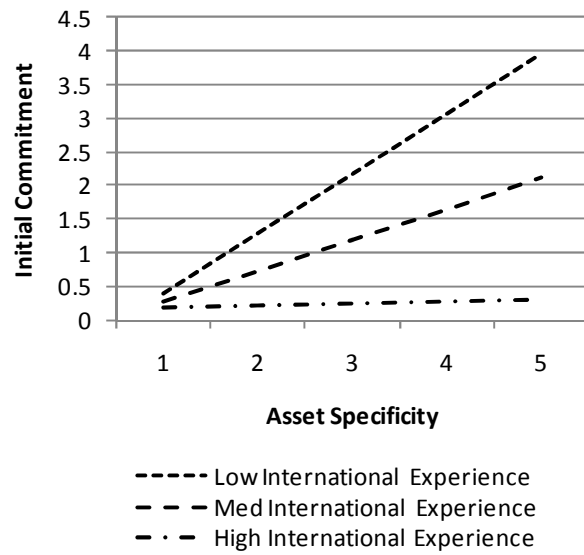
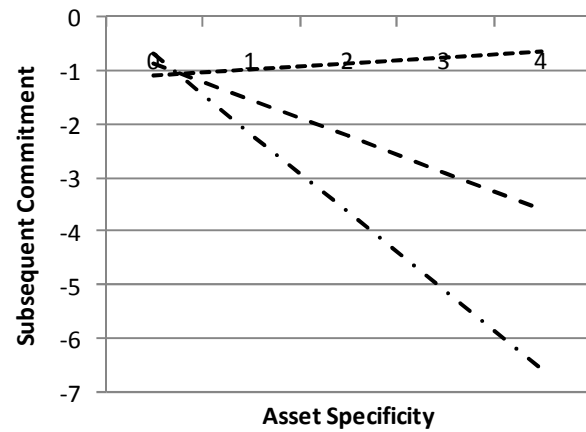
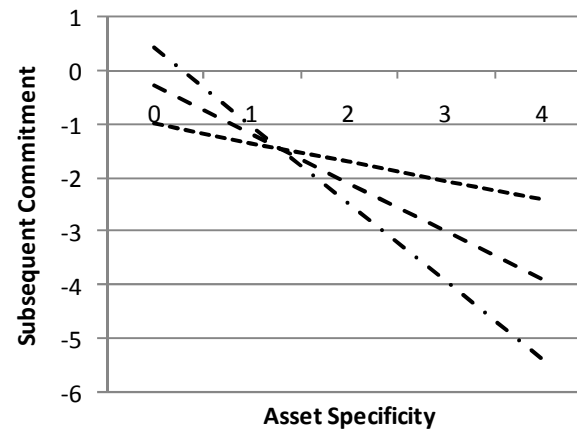


Figure 5a and 5b: Interaction Plots Subsequent Commitment



----- Low International Experience
 ---- Med International Experience
 - · - High International Experience



----- Low Best Practice Imitation
 ---- Med Best Practice Imitation
 - · - High Best Practice Imitation

Table 1: Overview of Initial and Subsequent Commitment Decisions

Initial Commitment	Subsequent Commitment	Commitment Change				No Change	Total
		Export	Contractual agreement	Cooperative arrangement	Subsidiary		
Export		-	22	5	35	17	79
Contractual agreement		1	-	4	16	18	39
Cooperative arrangement		-	-	-	6	7	13
Subsidiary			-	-	-	75	75
Total		1	22	9	57	117	206

Table 2: Mean Values, Standard Deviations, VIF Values and Correlations for Model 1 (Initial Commitment)

	Variables	Mean	SD	VIF	1	2	3	4	5	6	7	8	9	10
1	Entry Mode	2.408	1.321	-										
2	Asset Specificity	2.102	0.847	1.182	.30***									
3	International Experience	2.411	0.866	1.444	.29***	.23**								
4	International Network	2.324	0.769	1.581	.29***	.25***	.49***							
5	Best Practice Imitation	2.310	0.718	1.273	.22**	.15*	.36***	.30***						
6	Political Constraint	0.751	0.121	1.296	.13	.14*	.11	.13	.10					
7	Cultural Distance	2.322	1.436	1.238	-.03	-.02	-.02	-.09	-.04	-.43***				
8	Age at Internationalization	39.59	38.09	1.195	.08	-.06	.12	.13	.21**	-.18*	.16*			
9	Motive: Foreign Market Access	3.568	0.721	1.278	.03	.14*	.10	.32***	.14*	.07	-.16*	-.22**		
10	Motive: Following Customers	1.776	1.061	1.092	-.13	.13	.03	.19**	.21**	.00	.07	.01	.12	
11	Motive: Following Competitors	2.262	0.977	1.183	.10	.04	.29***	.34***	.32***	.08	-.06	.07	.09	.15*

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

Table 3: Mean Values, Standard Deviations, VIF Values and Correlations for Model 2 (Subsequent Commitment)

Variables		Mean	SD	VIF	1	2	3	4	5	6	7	8	9	10	11
1	Entry Mode	3.398	0.865	-											
2	Asset Specificity	2.266	0.849	1.369	-.01										
3	International Experience	2.578	0.812	1.281	.21*	.12									
4	International Network	2.543	0.689	1.335	.13	.03	.38***								
5	Best Practice Imitation	2.351	0.727	1.255	.29**	.01	.30***	.31***							
6	Political Constraint	0.756	0.111	1.219	.06	.20*	.12	.16	.03						
7	Cultural Distance	2.322	1.436	1.311	.07	.01	-.07	-.20*	-.09	-.50***					
8	Age of International Assignment	7.353	8.125	1.218	.07	-.11	.22*	.11	.21*	.10	-.26**				
9	Initial Commitment	2.408	1.321	1.324	.33**	.44***	.05	-.05	-.04	.05	-.03	-.14			
10	Motive: Foreign Market Access	3.589	0.744	1.328	-.09	.02	.08	.42***	.11	.19*	-.22*	-.01	-.27**		
11	Motive: Following Customers	1.821	1.079	1.186	-.08	.03	-.03	.16	.17	-.15	.09	-.14	-.14	.04	
12	Motive: Following Competitors	2.331	1.002	1.257	.24*	-.13	.23**	.29**	.35***	.01	-.09	.15	-.17	.12	.11

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

Table 4: Ordinal Regression for Initial Commitment Decision

Variables	Model 1.1	Model 1.2	Model 1.3	Model 1.4	Model 1.5
Independent Variables					
Asset Specificity		0.39*	0.46**	0.46**	0.40*
International Experience		0.37*	0.32†	0.36†	0.39*
International Network		0.34†	0.34†	0.39*	0.30
Best Practice Imitation		0.28†	0.31†	0.17	0.27
Interactions					
Asset Specificity x International Experience			-0.43*		
Asset Specificity x International Network				-0.61**	
Asset Specificity x Best Practice Imitation					-0.18
Control Variables					
Political Constraint	3.49*	2.28	2.02	2.42	2.28
Cultural Distance	0.12	0.08	0.05	0.04	0.05
Age at Internationalization	0.01†	0.00	0.00	0.00	0.00
Motive: Market Access	0.30	-0.05	-0.09	-0.05	-0.07
Motive: Following Customers	-0.28*	-0.43**	-0.42**	-0.39*	-0.39*
Motive: Following Competitors	0.24	-0.03	0.01	0.01	-0.03
Thresholds					
Initial Commitment = 1	3.70*	0.25	-0.18	0.32	0.14
Initial Commitment = 2	4.58**	1.26	0.85	1.38	1.16
Initial Commitment = 3	4.89**	1.62	1.21	1.75	1.51
Reliability					
Model c^2	16.2*	44.0***	49.6***	54.7***	45.1***
R ² (Nagelkerke)	0.097	0.244	0.271	0.294	0.249
R ² (Cox & Snell)	0.089	0.223	0.248	0.270	0.229

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; † $p \leq .10$

Table 5: Ordinal Regression for Subsequent Commitment Decision

Variables	Model 2.1	Model 2.2	Model 2.3	Model 2.4	Model 2.5
Independent Variables					
Asset Specificity		-0.75*	-0.68†	-0.73*	-0.90*
International Experience		0.35	0.20	0.31	0.43
International Network		0.22	0.12	0.25	0.11
Best Practice Imitation		0.68*	0.83*	0.65*	0.71*
Interactions					
Asset Specificity x International Experience			-0.79*		
Asset Specificity x International Network				-0.20	
Asset Specificity x Best Practice Imitation					-0.55†
Control Variables					
Political Constraint	3.29	4.50	4.23	5.01	5.28
Cultural Distance	0.02	0.12	0.12	0.09	0.08
Age of International Assignment	0.03	0.01	0.00	0.01	0.01
Initial Commitment	1.44*	1.76**	1.95**	1.82**	1.93**
Motive: Market Access	-0.63	-0.53	-0.51	-0.69	-0.62
Motive: Following Customers	-0.18	-0.22	-0.23	-0.22	-0.08
Motive: Following Competitors	0.54*	0.34	0.36	0.31	0.28
Thresholds					
Subsequent Commitment = 1	-1.43	-0.63	-0.88	-0.95	-0.29
Subsequent Commitment = 2	2.25	3.35	3.14	3.01	3.72
Subsequent Commitment = 3	2.84	4.05	3.89	3.72	4.44
Reliability					
Model c^2	17.9*	30.5**	34.9***	30.9**	33.6***
R^2 (Nagelkerke)	0.227	0.359	0.402	0.363	0.389
R^2 (Cox & Snell)	0.192	0.305	0.340	0.308	0.329

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; † $p \leq .10$