

Internationalization of Firms:
Antecedents, Speed, and Performance Implications
Evidence from the German renewable-energy industry

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Table of contents

Table of contents	I
List of figures	IV
List of tables	V
List of appendices.....	VI
Thesis abstract	VII
Statement of original authorship	IX
Acknowledgements of contribution	X

1 Introduction to thesis.....	1
1.1 Development and advancements of International Business research	4
1.2 Development and advancements of International Entrepreneurship research	7
1.3 Insights on subsequent internationalization of INVs	9
1.4 Shortcomings of current International Business and Entrepreneurship literature	12
1.4.1 Institutional distance.....	13
1.4.2 Speed of internationalization.....	16
1.5 Aim, structure and empirical context of the thesis.....	21
 2 Introduction to Paper I.....	 26

Modelling the moderating impact of institutional distance on subsequent international new venture internationalization

2.1 Introduction.....	27
2.2 Literature review	30
2.2.1 International new venture phenomenon.....	30
2.2.2 Institutional theory.....	35
2.3 Conceptualization of the subsequent international expansion	38
2.3.1 Firm-level antecedents.....	42
2.3.2 Home-country market antecedents.....	45

2.3.3	Moderating role of institutional distance	47
2.4	Future research and implications.....	53
2.4.1	Future research	53
2.4.2	Practical implications	56
2.5	Conclusion	57
3	Introduction to Paper II.....	65
 Drivers of INVs' subsequent internationalization speed – Evidence from the German renewable-energy		
3.1	Introduction.....	66
3.2	Theoretical background.....	68
3.2.1	Time frame of internationalization speed.....	68
3.2.2	Dimensions of internationalization speed	70
3.2.3	Antecedents of internationalization speed.....	71
3.3	Methods, research setting, and design	74
3.4	Research Stage 1: Hypotheses generation through qualitative analysis	77
3.4.1	Qualitative data collection and analysis.....	77
3.4.2	Qualitative findings and hypotheses.....	78
3.4.3	Preliminary conclusion of qualitative findings	88
3.5	Research Stage 2: Hypotheses testing through quantitative analysis	89
3.5.1	Data collection and sample	89
3.5.2	Measurement of variables	90
3.5.3	Data analysis and results.....	94
3.6	Discussion	99
3.7	Conclusion	104
	Appendix for Paper II	108
4	Introduction to Paper III.....	114
 The impact of internationalization speed along its multiple dimensions on firms' international performance – A comparison between INVs and traditional exporters		
4.1	Introduction.....	115

4.2	Speed of internationalization and performance	120
4.2.1	Internationalization speed and performance in IB literature	121
4.2.2	Internationalization speed and performance in IE literature	123
4.3	Dimensions of internationalization speed and hypotheses development	125
4.3.1	Country speed	128
4.3.2	Commitment speed.....	129
4.3.3	Scope speed	131
4.3.4	Equity speed	132
4.3.5	Differing impact of subsequent internationalization speed for INVs and traditional exporters	133
4.4	Method.....	136
4.4.1	Sample and data collection	136
4.4.2	Measurement of variables	138
4.4.3	Analytical approach and measurement validity.....	142
4.5	Results	144
4.6	Discussion and conclusion.....	146
	Appendix for Paper III	152
5	Conclusion to thesis	159
5.1	Theoretical contribution.....	162
5.2	Practical implications.....	164
5.3	Concluding remarks.....	165
	References.....	167
	Appendix	178

List of figures

Figure 1.1 Data collection	24
Figure 2.1: Conceptual model	42
Figure 2.2: Impact of institutional distance over time.....	52
Figure 3.1: Research design	76
Figure 3.2: Themes that emerged during qualitative analysis.....	79
Figure 3.3: Framework of subsequent internationalization speed.....	89
Figure 4.1: Structural equation modelling results for Model 1 (overall sample).....	144
Figure 4.2: Structural equation modelling results for Model 2 (subsample INVs)	145
Figure 4.3: Structural equation modelling results for Model 2 (subsample traditional exporters)	145

List of tables

Table 3.1: Correlation matrix	95
Table 3.2: Results OLS regression	97
Table 3.3: Hypotheses results	98
Table 4.1: Correlation matrix	142
Table 4.2: Goodness-of-fit statistics of models.....	145

List of appendices

Appendix A: Ethics Approval	178
Appendix B: List of conference presentations	180

Thesis abstract

Since the early stages of international business research, scholars have significantly advanced our understanding of drivers, processes, and outcomes of firm internationalization. Due to changes in the global environment and technological progress, internationalization patterns of firms constantly evolve and need to be addressed in scholarly work, to account for such changes.

This thesis addresses shortcomings in existing literature regarding the subsequent international development of international new ventures (INVs) and the internationalization speed of INVs and traditional exporters. By conceptualizing internationalization speed along multiple dimensions, this work adds to a lack of empirical work in this emergent area. While previous international entrepreneurship literature has focused largely on the pre-internationalization period of INVs, this thesis analyzes the subsequent internationalization stage. This study provides a comprehensive conceptual framework depicting relationships of antecedents of INVs' subsequent internationalization process and specifically analyzes the moderating impact of institutional distance. In addition, it empirically identifies INV antecedents of subsequent internationalization speed along its multiple dimensions. Moreover, different speed dimensions are assessed for their individual impact on international performance for INVs and traditional exporters.

This thesis uses a multi-method approach consisting of conceptual and empirical work. Data for empirical analysis was collected from the German renewable-energy industry. A mixed-method approach was used consisting of a qualitative analysis to explore INVs' antecedents of subsequent speed and a quantitative analysis to test hypotheses. Furthermore, based on a sample of 230 firms, this study employs structural equation modelling to test the impact of individual speed dimensions on international performance.

The most important findings highlight that institutional forces play a significant and often-overlooked moderating role for internationalizing INVs. Results indicate that these forces considerably impact the internationalization process. Furthermore, previous international experience of the firm, international growth strategy, and initial speed were found to impact subsequent internationalization speed – yet each in a different manner depending on the dimension considered. With regard to the impact of internationalization speed on international performance, results demonstrate that INVs benefit from expanding rapidly into a high number of markets, swiftly increasing international sales, and using equity entry modes. Traditional exporters, however, only benefit from rapidly increasing international sales. Results of the overall sample show that equity speed can have a negative impact on firms' international performance.

This work is unique in that it sheds light on subsequent speed of INV internationalization and points out shortcomings in existing literature with regard to the speed-performance relationship and its conceptualization. The results of this study help managers to more effectively align their internationalization strategy and highlight the benefits and drawbacks of fast internationalization.

Statement of original authorship

I certify that the work embodied in this thesis, “Internationalization of Firms: Antecedents, Speed, and Performance Implications - Evidence from the German renewable-energy industry”, has been conducted under a cotutelle agreement between Macquarie University and Georg-August-Universität Göttingen and has not been submitted for a higher degree to any other university or institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Undertaking this thesis has involved human subjects, for which I have received approval from the Ethics Committee at Macquarie University (see Appendix A: Ethics Approval), Approval No.

Reference: 5201200479 (D) on 22 June 2012.

A handwritten signature in dark ink, reading 'D. Chahabadi'. The signature is fluid and cursive, with the first letter 'D' being large and stylized.

Dominik Chahabadi

(41821505)

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Acknowledgements of contribution

This thesis by publication includes three papers written in a journal-article format. While I am the principal author of all the papers, I acknowledge the contribution of both my supervisors, Dr. Meena Chavan (Macquarie University) and Prof. Dr. Indre Maurer (Georg-August-Universität Göttingen). I sincerely thank both my supervisors for their constructive feedback, support, and guidance throughout my PhD candidature.

Outlined below are the three papers included in this thesis, listing the co-authorship of each paper.

Paper I

Title: Modelling the moderating impact of institutional distance on subsequent international new venture internationalization

Authors: Dominik Chahabadi and Meena Chavan

Chapter in thesis: Chapter 2

This paper is a revised version of a paper that was invited to be re-submitted to the Australian Journal of Management. Earlier versions of this paper have been accepted in competitive tracks at the Australia and New Zealand International Business Academy (ANZIBA) Conference, Sydney 2013; at the European International Business Academy (EIBA) Conference, Bremen 2013; and at the Academy of International Business (AIB) Conference, Vancouver 2014.

Paper II

Title: Drivers of INVs' subsequent internationalization speed – Evidence from the German renewable-energy

Authors: Dominik Chahabadi, Indre Maurer, and Meena Chavan

Chapter in thesis: Chapter 3

Earlier versions of this paper have been accepted in competitive tracks at the McGill International Entrepreneurship Conference, Santiago de Chile 2014; at the Australia and New Zealand International Business Academy (ANZIBA) Conference, Melbourne 2015; and at the McGill International Entrepreneurship Conference, London 2015.

Paper III

Title: The impact of internationalization speed along its multiple dimensions on firms' international performance – A comparison between INVs and traditional exporters

Author: Dominik Chahabadi

Chapter in thesis: Chapter 4

An earlier version of this paper has been accepted in a competitive track at the McGill International Entrepreneurship Conference, London 2015 and was presented at a Doctoral Colloquium at the University of Göttingen, Göttingen 2015.

For a detailed list of conference presentations see Appendix B.

1 Introduction to thesis

In an increasingly globalized world, businesses expand operations beyond domestic borders and engage in the global marketplace. During the first half of the last century, international operations were mostly limited to large firms, whereas smaller firms began to enter the international stage during the last decades in order to increase market reach and profit, achieve growth, and build competitive advantages (Oviatt and McDougall, 1994; Aharoni and Brock, 2010). In particular, rapid technological advancement, simplified global trade, and cultural convergence have facilitated internationalization, which is why a growing number of firms participate in international operations by sourcing, producing, and selling goods and services across borders (Shrader et al., 2000; Bloodgood et al., 1996).

This development has been accompanied by substantial research in the area of international business (IB). Scholarly work has profoundly advanced our understanding of the drivers, outcomes, and processes of internationalizing firms. Literature in this field can be broadly distinguished between two streams, each devoting attention to different types of firms. First, traditional IB research focuses on large and mature multinational enterprises (MNEs) as well as on firms that follow an incremental international growth pattern (Johanson and Vahlne, 1977; Buckley, 2002). Second, scholars in the area of international entrepreneurship (IE) have largely dedicated their analyses to the international new venture (INV) phenomenon. This phenomenon describes young ventures internationalizing at a rapid pace shortly after inception instead of following an incremental approach (Oviatt and McDougall, 1994; Knight and Cavusgil, 1996). Generally, IE literature can be seen as a sub-field of IB literature. However, this thesis distinguishes between the two terms by referring to IB literature as work that employs more traditional internationalization theories (e.g., incremental internationalization of MNEs). The term IE literature is used to refer to work dealing in particular with internationalization of INVs. Although accomplishments of past research in both streams are

significant, internationalization processes as well as macro-environmental conditions constantly evolve, which need to be addressed in future research.

Thus, for example, since the discovery of the INV phenomenon, IE scholars have focused on drivers and effects of early and rapid internationalization, which in the early stages was explained mostly as a result of changes in the global business environment and an effect of internationally experienced entrepreneurs (Madsen and Servais, 1997). However, until recently most IE scholars have ignored how these firms develop in the long run (Autio et al., 2000; Hagen and Zucchella, 2014; Almor et al., 2014; Knight and Liesch, 2015). During the subsequent stage of internationalization (i.e., time period since firms commence international operations), INVs undergo significant changes (Gabrielsson et al., 2008; Nummela et al., 2014). They are exposed to new environmental conditions (Kiss and Danis, 2010; Almor and Hashai, 2004) that might ultimately alter their subsequent internationalization process. With further international expansion, forces stemming, for instance, from increased institutional and psychic distance – referring to differences between countries in terms of regulation, business conventions, and culture (Johanson and Vahlne, 1977; Kostova et al., 2008; Scott, 2008) – are likely to strongly impact the international expansion process of INVs. While the role of such country differences has been analyzed to a great extent in IB research (Brouthers, 2002; Meyer et al., 2009; Johanson and Vahlne, 2009), IE research falls short in addressing such influences during INVs' subsequent internationalization (Bruton et al., 2010; Sui et al., 2012). Furthermore, due to the convergence of global markets and increased international competition, rapid expansion into international markets has become crucial for many firms, which aim to benefit from first-mover advantages and increase their revenue base. Thus, more research is required in the area of internationalization speed (e.g., number of foreign expansions of a firm within a specific time period) to understand what drives internationalization speed for INVs and for firms following an incremental internationalization approach (Vermeulen and Barkema, 2002; Prashantham and Young, 2011). Moreover,

researchers and practitioners need more information about whether internationalization speed also translates into better performance for firms.

By addressing the research gaps mentioned above – to be further elaborated in more detail in the remainder of this introduction – this thesis contributes to extant literature by analyzing the subsequent internationalization of firms. Acknowledging the role of institutional differences between countries, this thesis provides new insights on how these forces might shape an INV's subsequent internationalization process with regard to speed, geographic scope, and market entry mode. Thereafter, the thesis focuses on speed within the subsequent internationalization process of firms and contributes to literature in this emergent area in two ways: First, by identifying what contributes to rapid subsequent internationalization speed of INVs; and second, by analyzing in a comparative study how subsequent internationalization speed impacts international performance of both INVs and firms internationalizing incrementally. Therefore, this thesis is embedded within both IE and IB fields.

The remainder of this introduction is structured as follows: A thorough overview of dominant scholarly work of IB and IE research establishes the foundation of the thesis. This includes an analysis of the historical development, definitions, as well as the most recent advancements of both research streams. Having provided a general overview of the research field, closer attention is paid to three research areas to highlight shortcomings of current literature that motivated this thesis: (1) the subsequent stage of INV internationalization, (2) institutional distance and its role in subsequent internationalization of INVs, and (3) subsequent internationalization speed for INVs and incrementally internationalizing firms. Finally, the research aim, thesis structure, and the empirical context of this thesis are outlined.

1.1 Development and advancements of International Business research

IB research is a relatively young field that originated in the United States six decades ago (Wright, 1970; Aharoni and Brock, 2010). It has constantly evolved, providing rich insights into why and how firms internationalize (Buckley, 2002; Eden, 2009). Overall, IB literature deals with the underlying mechanisms of firm internationalization in a global environment, which can be defined as the process of increasing involvement in international operations (Welch and Luostarinen, 1988). It is mostly centered around decisions regarding entry modes, market selection, and international organizational structures (Andersen, 1997; Buckley, 2002; Oesterle and Wolf, 2011). Buckley (2002) broadly classifies the IB research agenda along three stages of evolution. Initially focusing on explaining flows of foreign direct investment (FDI), scholars then moved towards explaining the existence, strategy, and organization of MNEs, and later analyzed internationalization in light of a highly globalized environment.

Several noteworthy theories of firm internationalization have emerged since inception of the IB field. While early IB research was advanced by the monopolistic-advantage theory (Hymer, 1976) and the product-lifecycle theory (Vernon, 1966), three internationalization theories in particular strongly shape current IB research: (1) Internalization approach (Buckley and Casson, 1976), (2) OLI-Paradigm (Dunning, 1980), and (3) the Uppsala internationalization process model (Johanson and Vahlne, 1977). The *internalization approach* is based on the idea of market imperfections, which firms need to overcome during their international expansion by way of internalizing transactions between “markets” and “hierarchies”. Transaction costs caused by market imperfections and uncertainty need to be reduced by vertically internalizing transactions to the point where costs would outweigh the benefits of internalization (Williamson, 1979; Hennart, 1988; Buckley and Casson, 1976). The *OLI-Paradigm* describes advantages of internationalization that are based on ownership, location, and internalization of international operations (Dunning, 1988). Ownership advantages can lie in specific assets firms obtain, such as superior experience, skills, production techniques, and large size

(Dunning, 2000). Location advantages refer to positive impacts from operating in foreign markets stemming from infrastructure, market potential, culture, and costs of production. Internalization advantages describe the positive effect from choosing high-control entry modes to internalize transactions that would otherwise result in significant costs (Dunning, 1993). While the two above-mentioned theories are prominent in IB research, this thesis places great importance on the Uppsala internationalization process model (in the following referred to as Uppsala model), since it describes in detail how firms internationalize in a gradual manner. Therefore its underlying concepts will be discussed in more detail below.

The *Uppsala model* – also referred to as the stages model or internationalization process theory – is one of the most influential theories, describing firm internationalization as an incremental process along the establishment chain (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977). The process is considered incremental as the theory assumes that firms start with ad-hoc export in close geographical markets. They successively increase entry mode commitment by moving from non-equity to equity modes and expanding into new markets that are more distant from the home country. The underlying mechanism of this incremental internationalization approach is explained by two important concepts Johanson and Vahlne (1977) label psychic distance and experiential knowledge. First, *psychic distance* is the differences between a firm's home and host country and describes distance in terms of cultural, economic, and political differences. These differences are expressed through language, education, industrial development, and business practices. Second, firms rely on *experiential learning* to acquire essential knowledge to continue expanding internationally. Accumulated experiential knowledge helps firms to perceive foreign market opportunities, reduce risk perception, and more efficiently adapt internationalization strategies. Both psychic distance and experiential knowledge cause firms to internationalize in smaller steps by first entering culturally and geographically proximate markets with low-commitment entry modes and subsequently increasing commitment when they obtain knowledge of markets and

internationalization processes (Johanson and Vahlne, 1977). One of the reasons why the Uppsala model has continued to maintain its efficacy might be that Johanson and Vahlne (2009) have revisited their model since its introduction to account for substantial changes in the global and business environment. In the revisited model the authors account for the crucial role of networks within the internationalization process (Johanson and Vahlne, 2009). Networks have been shown to be a significant driver of firm internationalization, as all firms form part of a formal or informal network that enables knowledge acquisition through which the internationalization process is facilitated (Autio et al., 1997; Welch and Welch, 1996; Coviello and Munro, 1997). Furthermore, some scholars argue that foreign markets themselves can be seen as borderless network relationships through which firms expand internationally and consequently international activities occur through network expansion (Johanson and Vahlne, 2009).

The above-mentioned approaches have considerably contributed to understanding and modelling the internationalization behavior of firms, but have not been without criticism (Andersen, 1997; Andersen, 1993). In particular, the Uppsala model has been criticized for being too static and deterministic in nature (Andersen, 1993; Reid, 1983; Keupp and Gassmann, 2009). Furthermore, much of the empirical work undertaken to validate the proposed paradigms was conducted on large and often mature MNEs (e.g., Johanson and Vahlne, 1977; Buckley and Casson, 1976), which does not reflect the internationalization patterns of newly established ventures that internationalized shortly and rapidly after inception (Oviatt and McDougall, 1994). These critiques have motivated scholars to analyze in more detail the internationalization path of entrepreneurial and small firms.

1.2 Development and advancements of International Entrepreneurship research

In the mid-1990s several scholars made the empirical observation that a considerable number of firms deviate from the internationalization path predicted by traditional internationalization theories (Oviatt and McDougall, 1994; Rennie, 1993; Knight and Cavusgil, 1996; Madsen and Servais, 1997; McDougall et al., 1994; Bell, 1995). In the seminal work by Oviatt and McDougall (1994), the concept of the so-called INV was introduced for the first time, defined as a “business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (p. 49). This type of firm rapidly internationalizes by making use of FDIs and hybrid entry-mode structures shortly after inception instead of following an incremental approach to internationalization (Oviatt and McDougall, 1994; Knight and Cavusgil, 1996). The aftermath of these early works resulted in increased research to understand the internationalization process of this set of firms – predominantly SMEs – and ultimately contributed to the creation of the IE field (Autio, 2005; Oviatt and McDougall, 2005; Keupp and Gassmann, 2009). In general, IE research deals with “the discovery, enactment, evaluation, and exploitation of opportunities – across national borders – to create future goods and services” (Oviatt and McDougall, 2005: p. 540).

Co-existing terms, such as born-globals (Knight and Cavusgil, 1996; Rennie, 1993), global start-ups (Oviatt and McDougall, 1994), and early internationalizing firms (Rialp et al., 2005) are used to describe the INV phenomenon associated with rapid and early internationalization, although minor differences in definition endure between the terms (see Jones et al., 2011). The reason why these firms did not follow a traditional approach to internationalization, as described in previous IB theories, was initially explained by macro-environmental changes (Oviatt and McDougall, 1994; Oviatt and McDougall, 2005). For instance, “new market conditions, technological developments in the areas of production, transportation and communication, and finally more elaborate capabilities of people, including the founder/entrepreneur” (Madsen and Servais, 1997: p. 565) were considered to be the main

drivers contributing to the INV phenomenon. Much research on INV internationalization has been conducted in high-technology industries, as firms in these industries seem to be particularly impacted by globalization effects such as increased competition, short product lifecycles, and protection of proprietary knowledge (e.g., Autio et al., 2000; Coviello and Munro, 1995; Jones, 1999; Burgel and Murray, 1998; Freeman et al., 2006). Building on macro-environmental changes and technological progress has helped explain why traditional internationalization theories might lose their efficacy for certain firms and has helped to understand the rapid increase in INVs. However, INVs are distinct from other firms mainly because firm-level factors – in particular the entrepreneur – expedite internationalization (cf. Oviatt and McDougall, 2005; Rialp et al., 2005; Zahra and George, 2002). Although new ventures are considered to be strongly constrained by a lack of resources resulting from liability of newness and size, INVs manage to overcome these impediments to rapid internationalization by greatly relying on the previous international experience and the network of the founder (Oviatt and McDougall, 1994; Burgel and Murray, 1998; Oviatt et al., 1995; Bloodgood et al., 1996; Coviello, 2006; Preece et al., 1999). Previous international experience of the entrepreneur and top management team gained through studying or working abroad compensates for a firm's lack of experiential knowledge (Reuber and Fischer, 1997; Harris and Wheeler, 2005; Madsen and Servais, 1997). Thus, instead of experiential knowledge on the organizational level (Johanson and Vahlne, 1977; Clarke et al., 2013), INVs benefit from such experience on individual level and rapidly expand internationally (Zucchella et al., 2007). Furthermore, the personal characteristics of the entrepreneur, such as proactive and opportunity-seeking behavior, risk perception, and networking capabilities significantly aid international expansion of INVs (Jones and Coviello, 2005; Dimitratos et al., 2012; Oviatt and McDougall, 2005; Gabrielsson et al., 2014; Nummela et al., 2004). As also acknowledged by Johanson and Vahlne (2009) in their revisited Uppsala model, networks play a crucial role in a firm's internationalization process and are paramount for INVs. Thus, Harris and Wheeler

(2005) conclude that international relationships “can be regarded as [...] firms’ most important assets” (p. 204). The entrepreneur’s network is decisive for fast internationalization (Oviatt and McDougall, 2005; Coviello and Munro, 1995) as it helps to overcome constraints of internationalization (Freeman et al., 2006) and significantly influences the selection of foreign markets (Coviello and Martin, 1999; Coviello and Munro, 1997). Summing up, it can be concluded that IE research has pointed out several enabling factors helping firms to overcome the hurdles of early and fast internationalization and explains why and how INVs deviate from more traditional internationalization patterns (Autio, 2005).

Moving from a broad overview of the theories, concepts, and research foci of IB and IE literature, the subsequent internationalization of INVs will be elaborated in more detail in the following section. All studies presented in the thesis are placed within the subsequent internationalization stage of firms. Since its inception, IB research has implicitly focused on the subsequent rather than the pre-internationalization stage, whereas IE scholars have only recently started to explore the subsequent stage of INV internationalization (Hashai, 2011; Morgan-Thomas and Jones, 2009; Almor, 2013). Therefore, the most recent developments on subsequent internationalization of INVs are discussed below.

1.3 Insights on subsequent internationalization of INVs

Internationalization theories embedded in traditional IB literature have focused on the antecedents, developments, and outcomes of firm internationalization over time. However, IE scholars have long studied the pre-internationalization stage of INVs instead of analyzing how these firms develop in the long run (Mathews and Zander, 2007; Autio, 2005). Thus, little is known about how INVs develop after starting international operations and whether they continue to rapidly expand internationally (Jones and Coviello, 2005; Mudambi and Zahra, 2007; Knight and Liesch, 2015). Despite some early IE work that distinguishes between the

initial and the subsequent stage of internationalization (e.g., Autio et al., 2000; Bloodgood, 2006), only recently have researchers turned their attention to the subsequent international development of INVs (e.g., Hagen and Zucchella, 2014; Almor, 2013; Morgan-Thomas and Jones, 2009; Hashai, 2011). The research focus on the subsequent stage of internationalization can be broadly categorized along three foci: antecedents, speed of internationalization, and overall growth.

The first focus is on *antecedents* of subsequent growth and changes of firm level factors (e.g., Hagen and Zucchella, 2014; Glaister et al., 2014). A recent study by Hagen and Zucchella (2014) provides a framework depicting the relevant drivers of subsequent internationalization behavior of INVs. The authors differentiate between entrepreneurial characteristics, internal firm factors, and macro-environmental factors that drive subsequent internationalization of INVs. Although the framework is novel in that it focuses on the subsequent international expansion process, the factors considered do not significantly differ from antecedents identified for INVs' initial internationalization. However, results of the authors' qualitative study highlight that previous international experience, networks, and knowledge acquisition need to be constantly enlarged in order for a firm to continue expanding internationally. The study of Nummela et al. (2014) analyzes the decision-making process in light of the subsequent international expansion of INVs and explains how the decision-making process changes over time and how management characteristics influence this process.

The second focus of subsequent internationalization of INVs is on *speed of internationalization* (e.g., Prashantham and Young, 2011; Morgan-Thomas and Jones, 2009; Oviatt and McDougall, 2005). Speed of internationalization was a main factor that sparked initial research interest in INVs (Jones et al., 2011; Oviatt and McDougall, 2005). As outlined earlier, many studies have focused on explaining what drives early and rapid internationalization of INVs. Given the high importance IE literature places on internationalization speed, it seems surprising that most of

these scholars conceptualize internationalization speed as the time span between firm foundation and its first international market activity (Autio et al., 2000). Thus, it only encompasses the pre-internationalization stage of INVs (Autio et al., 2000; Casillas and Acedo, 2013). Although Autio et al. (2000) highlighted this issue more than a decade ago and distinguish between initial speed (i.e., time to first internationalization) and speed of subsequent internationalization growth, only recently have INV scholars paid closer attention to the subsequent internationalization speed of firms. The important work of Autio et al. (2000) shows that rapid initial internationalization speed leads to faster subsequent internationalization speed, suggesting that early internationalizing INVs also internationalize more rapidly in the long run. This notion is also supported by Morgan-Thomas and Jones (2009), who find that INVs are more likely to enter a greater number of markets than are traditional exporters. Prashantham and Young (2011) emphasize the role of knowledge accumulation, specifically market and technological knowledge, as being strong facilitators of rapid subsequent speed.

The third focus of research is concerned with the *overall growth* in terms of products, markets, and survival (e.g., Sui et al., 2012; Hashai and Almor, 2004; Sleuwaegen and Onkelinx, 2014). According to Almor (2013), INVs can grow internationally by expanding customer, country, and product scope and by choosing different strategies such as FDI expansion or network strategies depending on the scope of growth anticipated. Most studies dealing with subsequent international expansion of INVs focus in particular on country or geographic spread of INVs to understand whether the growth of these firms is actually global, as predicted by INV scholars (Hashai and Almor, 2004; Lopez et al., 2009; Bell et al., 2001; Freeman et al., 2012b). Results of these studies often challenge the born-global idea – which implies that INVs' operations rapidly span the globe – indicating instead that these firms show a preference for regional internationalization (Lopez et al., 2009; Almor and Hashai, 2004; Sui et al., 2012). For instance, Almor and Hashai (2004) analyze subsequent internationalization growth patterns of

knowledge-intensive INVs and conclude that despite the fact that INVs internationalize early and generate the largest proportion of sales abroad, they share many similarities with larger MNEs' international growth patterns in the subsequent stage. Results indicate that, similar to the expectations of the Uppsala model, INVs internationalize in regionally close markets first before expanding to psychically distanced markets, and follow an incremental approach in terms of market entry modes (Almor and Hashai, 2004). A similar observation was made by Lopez et al. (2009), who find that INVs internationalize quickly within one geographic region where most of their sales are derived. These results support the theory of regional multinationals suggested by Rugman and Verbeke (2005), who, based on transaction-costs economics, show that MNEs have a clear preference for operating in regional markets. Further studies support this notion, reasoning that operating in institutionally and geographically distant markets requires significantly greater resources, more experience, and a dramatic adaption of operational routines, ultimately leading to a preference for regional internationalization (Barkema and Drogendijk, 2007; Rugman and Verbeke, 2007; Johanson and Vahlne, 2009). INVs following a more regional approach to internationalization instead of expanding rapidly on a global scale also have higher survival chances, as past research has shown (Sleuwaegen and Onkelinx, 2014; Sui and Baum, 2014). Overall, it can be argued that INVs differ significantly in their early stage of internationalization from firms following a traditional approach to internationalization, but are equally constrained by psychic distance in the subsequent stage of internationalization and show a regional preference instead of striving to become truly global.

1.4 Shortcomings of current International Business and Entrepreneurship literature

Based on the discussion on subsequent internationalization of INVs as well as the general background of IB and IE literature, the main theoretical context of the thesis has been outlined. However, several shortcomings remain that require further attention. Two in

particular will be addressed in this thesis: institutional distance in IE literature and the conceptualization of internationalization speed as a multidimensional construct in both IB and IE research.

1.4.1 Institutional distance

Insights on the psychic-distance concept of the Uppsala internationalization process model (see section 1.2) as well as on the subsequent internationalization of INVs as they mature and grow (see section 1.3) highlight the important role of country differences. These differences are often considered as impediments to fast and further international growth. Psychic distance is one of the major reasons for firms' gradual expansion or regional internationalization preferences (Johanson and Vahlne, 2009; Barkema and Drogendijk, 2007). The psychic distance construct describes "the sum of factors preventing or disturbing the flow of information between firms and markets" (Johanson and Wiedersheim-Paul, 1975: p. 308) and has been widely studied in IB research (Brewer, 2007; Dow and Karunaratna, 2006; Child et al., 2009; Freeman et al., 2012a). Factors causing psychic distance stem from differences in economic development, culture, education, business practices, and language (Johanson and Vahlne, 1977). However, an increasing number of IB scholars include influences and differences of the institutional environment in their studies – a concept derived from institutional theory originating in social science – to explain internationalization behavior of firms and to derive performance implications (e.g., Brouthers, 2002; Meyer et al., 2009; Kostova and Zaheer, 1999; Gaur and Lu, 2007). Compared to psychic distance, institutional distance encompasses a much larger scope of environmental difference and is theoretically more established.

Institutional theory is centered around the influence of the institutional environment on social and organizational behavior (Scott, 1995; DiMaggio and Powell, 1983). According to Scott's (2008) definition "institutions are comprised of regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning

to social life” (p. 48). These three pillars of institutions – regulative, normative, and cultural-cognitive – conceptualize the most important elements forming the institutional environment and help explain the ubiquity of institutions in an internationalization process as well as the concept of institutional distance (Scott, 1995).

Institutional distance describes the differences among the three institutional pillars between countries (Kostova and Zaheer, 1999). Differences between institutional environments cause information asymmetries resulting from market imperfections, which firms need to overcome during the international expansion process (Meyer et al., 2009). Large institutional distance increases the difficulty of establishing and maintaining legitimacy in a host country (Kostova and Zaheer, 1999). Thus, a large body of literature has analyzed how institutions influence entry-mode behavior of firms to identify the most suitable entry mode choice depending on conditions of the institutional environment (Brouthers, 2002; Xu and Shenkar, 2002; Hilmersson and Jansson, 2012; Gaur and Lu, 2007). However, findings are inconclusive, as some studies suggest that high institutional distance leads firms to favor high-equity entry modes (Gaur and Lu, 2007; Yiu and Makino, 2002), while others propose low-entry mode commitment to enter markets with high institutional distance (Xu and Shenkar, 2002; Brouthers, 2002; Delios and Beamish, 1999). Furthermore, another academic debate needs to be resolved in order to understand whether it is the actual institutional environment that shapes international expansion decisions of firms or whether the firms’ key-decision makers’ perception of institutional differences is the driving force (Brouthers, 2013). Thus, Brouthers (2013) argues that strategic choices of management are based on subjective perceptions, whereas outcomes of an internationalization strategy are strongly impacted by the actual institutional distance. Despite ambiguous findings and a great need for further investigation on differences caused by the institutional environment, scholars commonly agree that institutional forces significantly impact the internationalization process and often constrain firms with regard to geographic scope, entry mode decisions, and speed of internationalization

(Chao and Kumar, 2010; Coeurderoy and Murray, 2008; Meyer et al., 2009; Sui et al., 2012; Kiss and Danis, 2008).

The literature review (see sections 1.2 and 1.3) has shown that IE studies have thoroughly analyzed the drivers and processes of the early internationalization of INVs, and scholars have recently shifted attention to analyzing the subsequent international growth of maturing INVs. While studies on the latter issue have provided first insights about how INVs continue to grow after commencing international operations (e.g., Hagen and Zucchella, 2014; Gabrielsson et al., 2014), the research falls short by failing to consider the role of institutional forces acting upon INVs' international expansion process. This fact is surprising, since findings from these studies often point out that country institutional differences prevent firms from rapidly internationalizing on a global scale (e.g., Sui et al., 2012; Lopez et al., 2009; Hashai and Almor, 2004; Kiss and Danis, 2008; Freeman et al., 2012b). Thus, although INVs seem to be less constrained by institutional forces in their earliest stages of internationalization, research has not provided any indication that this relationship holds true in the subsequent stages (cf. Schwens et al., 2011; Kiss and Danis, 2008). This lack of restraint is unlikely, considering studies on MNE internationalization that indicate that institutional differences act as strong impediments to further internationalization (Meyer et al., 2009; Brouthers, 2002; Rugman and Verbeke, 2005). Although models depicting driving forces of subsequent INV internationalization consider environmental factors, these are mostly limited to changes based on globalization or information technology and do not explicitly analyze the role of institutional distance (e.g., Hagen and Zucchella, 2014; Oviatt and McDougall, 2005). This thesis therefore aims at contributing to closing the identified research gap (cf. Sui et al., 2012; Bruton et al., 2010):

Shortcoming 1: Lack of consideration of the institutional environment, and in particular institutional distance in research on subsequent international expansion of INVs.
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1.4.2 Speed of internationalization

Speed of internationalization presents an important factor of a firm's international expansion process and has received increased attention in IB research. Chetty et al. (2014) define speed "as a relationship between the internationalization distance covered and the time passed to reach this" (p. 640). Scholars have long focused on explaining why, where, and how MNEs internationalize and have largely neglected the time dimension – *when* firms internationalize (Eden, 2009). IE scholars in particular put internationalization speed on top of the research agenda by analyzing early and rapid internationalization of INVs (Jones et al., 2011; Oviatt and McDougall, 2005). Rapid internationalization stands in stark contrast to the original Uppsala model, which regards internationalization as an incremental process resulting from constraints set by psychic distance and experiential knowledge (Johanson and Vahlne, 1977; Autio, 2005).

However, as outlined earlier (see section 1.3), INV researchers have mostly considered speed as the time to internationalization (i.e., initial internationalization speed), therefore focusing on the pre-internationalization stage. Studies on initial speed of INV internationalization have mostly focused on antecedents of rapid internationalization (Musteen et al., 2010; Andersson et al., 2014; Pla-Barber and Escribá-Esteve, 2006; Ramos et al., 2011) and to some degree on outcomes of internationalization speed (Zhou and Wu, 2014; Puig et al., 2014; Autio et al., 2000). Although these studies have helped to clarify the role of initial internationalization speed with regard to firms' international expansion process, the conceptualization of initial speed is quite limited, as it only encompasses the pre-internationalization stage and does not consider any subsequent stages of firm internationalization (Autio et al., 2000). Few works have been carried out on speed during the subsequent internationalization phases of INVs (Prashantham and Young, 2011; Casillas and Acedo, 2013). Despite some studies analyzing explicitly or implicitly the subsequent speed of INV internationalization, focusing on drivers and outcomes (Morgan-Thomas and Jones, 2009; Prashantham and Young, 2011; Sleuwaegen and Onkelinx, 2014; Hagen and Zucchella, 2014; Weerawardena et al., 2007), literature

remains scarce in this domain. This seems surprising given the strong focus on speed during the INVs' early stages of internationalization.

The driving forces that lead to high subsequent internationalization speed remain especially under-researched, and research to date fails to explain whether antecedents of initial speed also retain their efficacy in the subsequent stage of internationalization (Hagen and Zucchella, 2014). Oviatt and McDougall (2005) as well as Hagen and Zucchella (2014) provide some first insights on what drives subsequent internationalization speed. However, the first study lacks empirical data to validate the relationships. The second study remains relatively ambiguous with regard to the relationship between antecedents and speed as well as its conceptualization. By focusing in particular on firm-level drivers of subsequent internationalization speed of INVs, this thesis therefore addresses the following research gap (Oviatt and McDougall, 2005; Autio et al., 2000; Hagen and Zucchella, 2014):

Shortcoming 2: Empirical identification and corroboration of antecedents impacting subsequent internationalization speed of INVs.

When analyzing the subsequent speed of internationalization, a further aspect deserves greater attention from both IB and IE scholars, namely the multidimensionality of the construct.

Oviatt and McDougall (2005) as well as Casillas and Acedo (2013) have provided important conceptual works that highlight the significance of considering speed as a multidimensional construct, calling for a more detailed reflection of speed in future research. Oviatt and McDougall (2005) develop a model depicting the driving forces of internationalization speed and differentiate among initial entry speed, country scope speed, and commitment speed. While initial entry speed has been discussed earlier, the dimensions of country scope speed and commitment speed require further explanation. Speed of country scope can refer to either

speed of the number of increase of countries entered, or speed of the number of psychically distant markets entered. Commitment speed, on the other hand, refers to the speed of increase in the percentage of foreign revenues. Although Oviatt and McDougall (2005) point out the different dimensions of internationalization speed, their work does not provide a more detailed discussion of how these dimensions are operationalized and what drives the individual dimensions. In a later study, Casillas and Acedo (2013) address this shortcoming, providing a more detailed analysis of internationalization speed sub-categorized in three dimensions. The first dimension, labeled (1) speed of international growth, reflects the commitment speed dimension of Oviatt and McDougall (2005). The second dimension, referred to as (2) speed of the dispersion of international markets, can be seen as an extension of Oviatt and McDougall's (2005) country scope dimension. Casillas and Acedo (2013) suggest that this dimension can be measured in terms of number, variety, and distance of foreign markets. Speed of dispersion of international markets includes not only the number of countries in which firms operate through export or equity modes, but also reflects the physical and cultural distance between these markets and the firm's home country. The third dimension is (3) speed of increased commitment of resources to foreign activity, and can include assets of firms held abroad, employees working in foreign markets, or entry mode commitment.

The above-mentioned studies have significantly contributed to conceptually understanding the multiple dimensions of internationalization speed. To date, the majority of empirical studies on internationalization speed have only adopted a unidimensional conceptualization. However, unidimensional measures were by no means used in a homogenous manner across the different studies, but instead focus on different facets of internationalization speed.

In the seminal work of Vermeulen and Barkema (2002), the authors measure speed as the number of foreign subsidiaries a firm has established within a certain period of time. This

conceptualization most strongly relates to the proposed dimension by Casillas and Acedo (2013), labeled speed of increased commitment of resources, which refers to entry mode commitment. Other studies on MNE internationalization speed have conceptualized speed differently and analyzed it in terms of increase in foreign-sales-to-total-sales within a certain period of time (Wagner, 2004; Tan and Mathews, 2015; Bonaglia et al., 2007). This measurement reflects the speed of international growth dimension according to Casillas and Acedo (2013) and the commitment speed dimension of Oviatt and McDougall (2005), which are – despite their different terms – conceptually similar. This conceptualization has also been adopted by IE scholars analyzing the subsequent internationalization speed of INVs, as can be seen in the study of Morgan-Thomas and Jones (2009). In contrast, the applicability of the speed measurement by Vermeulen and Barkema (2002) that only considers FDI expansion of firms is less suitable for INVs. These firms often rely on non-equity or hybrid entry modes to pursue subsequent international expansion, which is why IE scholars suggest measuring speed as the increase of number of countries entered within a certain time span (Prashantham and Young, 2011). This measurement therefore reflects the country speed dimension highlighted by Oviatt and McDougall (2005).

The variety of measurements of internationalization speed used in previous empirical studies emphasizes the notion of speed as a multidimensional rather than a unidimensional construct. A unidimensional consideration of internationalization speed hinders scholarly understanding and makes findings of studies less comparable. This is particularly obvious when looking at results of studies analyzing the relationship between internationalization speed and firm performance. Studies in this area remain inconclusive, as it has been suggested that speed can either influence performance negatively (Vermeulen and Barkema, 2002), positively (Chang and Rhee, 2011), or in a non-linear way (Wagner, 2004).

The issue of omitted empirical analysis of speed as a multidimensional construct as well as inconclusive findings on the speed-performance relationship were addressed in a recent study by Chetty et al. (2014). The authors provide a multidimensional measurement of internationalization speed, which is tested by analyzing the relationship between speed and international performance. However, the speed measurement developed by Chetty et al. (2014) differs from the dimensions and measurements described above and relates directly to core ideas of speed as implied in the Uppsala model. Their formative measurement of internationalization speed consists of speed of learning and speed of commitment as dimensions of internationalization speed. Their findings suggest that internationalization speed increases the international performance of firms. One drawback of measuring speed as a formative construct is that valuable information is lost on how individual speed dimensions impact an outcome variable or interact among each other. Gaining insights on the individual relationship is important, however, to understand whether all speed dimensions similarly contribute to international performance or whether certain dimensions are more effective than others (cf. Casillas and Acedo, 2013).

Arguing that the multidimensionality of speed needs to be examined to understand the individual impact of its dimension on outcomes of speed, another consideration is how antecedents of internationalization speed individually impact the different dimensions. Referring to Shortcoming 2 presented earlier, it might be unlikely that antecedents of subsequent internationalization speed impact the different dimensions equally. Thus, a more in-depth analysis is required to understand the antecedent-speed relationship.

In order to overcome ambiguous findings regarding the speed-performance relationship (Vermeulen and Barkema, 2002; Wagner, 2004; Chetty et al., 2014) – potentially stemming from a different conceptualization of internationalization speed – as well as to gain a more detailed picture of the relationship between antecedents of the individual speed dimensions,

further research is required. Consequently, this thesis addresses the issue of the prior limited consideration of speed as a multidimensional construct and contributes to closing the following research gap (cf. Oviatt and McDougall, 2005; Casillas and Acedo, 2013; Chetty et al., 2014):

Shortcoming 3: Lack of empirical consideration of speed of internationalization as a multidimensional construct hinders scholarly understanding of drivers and performance implications of internationalization speed during firms' subsequent stage of internationalization.

1.5 Aim, structure and empirical context of the thesis

Motivated by the shortcomings in current literature, the overall aim of this thesis is to shed light on the subsequent international expansion of firms and specifically focuses on speed of internationalization as a crucial component of this process. In particular, this study aims to (1) contribute to INV research by providing a conceptual framework of the subsequent international expansion of INVs in light of the moderating impact of institutional distance. Further, an empirical analysis aims to (2) identify and test drivers of INVs' subsequent internationalization speed along its multiple dimensions. Finally, this study also intends to (3) untangle the relationship between different dimensions of internationalization speed and international performance of firms.

In order to address the shortcomings of previous scholarly work and the overarching aim of this thesis, three papers written in a journal-article format are included in the thesis and will be presented in individual chapters.

Paper I presented in Chapter 2 is a conceptual work examining the international expansion of INVs once they internationalize. A comprehensive framework is provided, depicting the relationship of factors contributing to subsequent international expansion and the moderating

impact of institutional distance on an INV's international expansion process. This conceptual work demonstrates that institutional forces play a significant and often neglected moderating role for internationalizing INVs. Paper I aims to advance current research and motivate future studies in the area of subsequent international expansion of INVs in order to understand how these firms develop over time. Findings have important implications for managers and scholars in understanding how the wider institutional environment shapes the international expansion of maturing INVs.

Paper II presented in Chapter 3 follows a mixed-method approach and aims to explore and corroborate drivers of INVs' subsequent internationalization speed. A qualitative methodology is applied to explore new and relevant drivers of speed of internationalization once INVs have started international operations. Based on hypotheses derived from this analysis and quantitative data collected, antecedents are tested using multiple dimensions of internationalization speed. In particular, the dimensions of country, commitment, scope, and equity speed are considered. Results show that antecedents are not equally relevant to all dimensions of internationalization speed, but rather that their effectiveness depends on the dimension considered. Overall, results show that international growth strategy and initial speed in particular increase subsequent internationalization speed. However, while international growth strategy seems to be one of the strongest drivers increasing subsequent speed along two dimensions, results indicate that initial speed only increases internationalization speed on one dimension. The paper contains important implications for managers, showing which capabilities are required to internationalize quickly along a certain dimension.

Paper III presented in Chapter 4 analyzes the impact of internationalization speed on international performance of firms along the four dimensions applied in Paper II. Using structural equation modelling to test the relationship between these speed dimensions and

international performance shows a positive impact of country and commitment speed and a negative impact of equity speed. A group analysis separately comparing this impact for INVs and traditional exporters shows that INVs benefit to a greater extent from the positive effects of country and commitment speed than do traditional exporters, and in contrast to expectations, show that equity speed positively impacts INVs international performance. These findings are of great importance to managers, as they highlight which speed dimensions are more desirable to achieve in order to increase international performance.

The empirical context of this thesis is the German renewable-energy industry. This industry has been chosen for several reasons. First of all, firms in this industry are highly international given the global demand of renewable-energy products and services (Lehr et al., 2012; Baum et al., 2011a; Tan and Mathews, 2015; Bergmann, 2009). Second, previous studies have confirmed the suitability of this industry to study internationalization patterns of INVs and firms following a more traditional approach to internationalization (Schwens et al., 2010; Baum et al., 2011a). Third, the renewable-energy industry is of relatively high importance to the German economy and has experienced significant growth in the last decade (Lehr et al., 2012; Benkenstein et al., 2009).

The research design underlying this thesis is a multi-stage process and sequential data collection was undertaken. Figure 1.1 graphically illustrates the different stages of data collection.

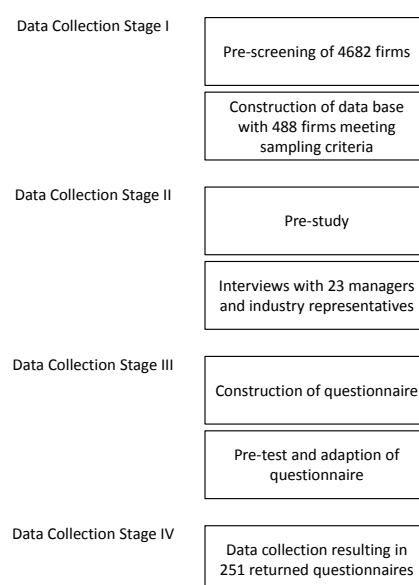


Figure 1.1 Data collection

Given the relatively young age of the German renewable-energy industry, no comprehensive database exists listing all firms with international operations. An extensive pre-screening was required to identify firms meeting the sample criteria of being a German-owned for-profit firm that operates internationally and derives its major revenue within the renewable-energy industry. Based on a variety of sources, including, among others, a database covering the German renewable-energy industry provided by a German governmental institution and membership registries of main industry associations, 4682 firms were screened. This resulted in 488 firms that met sampling criteria. Once firms were identified, a large pre-study was conducted by attending major trade fairs and industry events, where first insights were gained. At these venues managers of firms were approached to inquire about potential interest in participating in the study. Subsequently, 23 managers and industry representatives were interviewed at participants' sites or over the phone in 2013, providing deep insights into firms' internationalization processes and industry particularities. This helped validate the research question, confirmed suitability of the industry, and assisted in developing the questionnaire for quantitative data collection. The questionnaire was developed based on established scales from previous IB and IE literature and aimed at capturing general information about the firm

and respondent as well as specific information about the firm's internationalization process. The original items in English were translated into German. Forward and backward translation was used to increase validity of the questionnaire. The questionnaire was pre-tested and successively adapted by changing the order of questions, clarifying statements to avoid ambiguity, and validating items (cf. Podsakoff et al., 2003).

The questionnaire survey was conducted in 2014. All firms meeting the sample criteria were contacted personally either at industry events or via telephone to seek out the most suitable respondents for the study – which in many cases was the entrepreneur, CEO, or head of sales department, depending on the company structure – and to obtain consent for participation in the study. Confidentiality and anonymized data analysis was assured to the respondents. The respondents were provided with the option of completing and returning the standardized questionnaire either online, via e-mail (i.e., PDF document), via mail, or over the phone, depending on their personal preferences. This process resulted in an overall response rate of 51.4% (251 questionnaires).

This multi-stage sequential data collection provided rich qualitative and sound quantitative data that was used for the empirical papers of this thesis to test hypothesized relationships.

2 Introduction to Paper I

Paper I presented in this chapter provides a detailed background on the subsequent international expansion of INVs. By consolidating literature and drawing from different literature streams, the paper covers all major theoretical concepts that are relevant to the entirety of the thesis. Therefore the paper provides a good starting point to conceptualize the big picture of INV internationalization and considers factors on the firm, home-country, and host-country level. Despite providing a more global picture of the subsequent international expansion process of INVs, the particular contribution of Paper I is in outlining the moderating role of institutional distance. A conceptual framework is proposed and illustrates the antecedents of an INV's subsequent international expansion conceptualized along the dimensions of speed, entry mode, and geographical scope. By including institutional distance as a moderator between antecedents and international expansion, this paper stresses the importance of considering institutional distance in the subsequent stage of INV internationalization, which so far has been rarely acknowledged in scholarly work.

Paper I is the basis for the subsequent papers, which have a narrower research focus and predominantly analyze firm-level factors.

Modelling the moderating impact of institutional distance on subsequent international new venture internationalization

2.1 Introduction

International business (IB) research has long focused on the internationalization of large multinational enterprises (MNEs) (Oviatt and McDougall, 1994). However, as part of the ongoing globalization process, more and more small- and medium-sized enterprises (SMEs) have engaged in the process of international expansion, which is increasingly reflected in academic literature (Oviatt and McDougall, 2005). In particular, the fast internationalization of international new ventures (INVs) – firms that internationalize shortly after inception – has received significant interest (Autio, 2005; Rialp et al., 2005; Keupp and Gassmann, 2009).

While the attention of IB scholars studying MNEs has mostly focused on the international expansion process over time, most of the INV literature focuses on the initial or even pre-internationalization stage (i.e., the time between foundation and first international market activity) (Oviatt and McDougall, 1994; Coviello and Munro, 1997; Brouthers and Nakos, 2004), whereas the subsequent stage remains rarely explored (Autio et al., 2000; Prashantham and Young, 2011; Almor et al., 2014; Hagen and Zucchella, 2014; Casillas and Acedo, 2013). After two decades of INV research it is time to fully explore the actual process of how INVs continue internationalizing after they have become INVs, and thus concentrate on the parameters that influence the subsequent international expansion process. Fortunately, an increasing number of researchers are starting to shift their attention to the post-entry phase, analyzing the decisive period of INVs' growth and survival in order to understand the subsequent development of maturing INVs (Prashantham and Young, 2011; Gabrielsson et al., 2014; Sleuwaegen and Onkelinx, 2014; Sui and Baum, 2014). Recent research has started exploring drivers, processes, and outcomes of subsequent international growth and has tried to untangle

the relationship between factors relevant in the initial and subsequent stage of INVs' internationalization (Hagen and Zucchella, 2014; Nummela et al., 2014; Bloodgood, 2006). Similar to research on the initial internationalization period, studies on subsequent INV internationalization focus largely on firm-specific factors and fail to adequately address the role of the wider environment of international markets. We argue that increasing internationalization of INVs exposes them to challenges from diverse institutional environments that ultimately impact the international expansion of these firms and that their response to these challenges needs to be reflected in future research. Despite the multiple applications of institutional theory – and institutional distance in particular – within IB and international entrepreneurship (IE) literature, it is surprising that both have seldom been acknowledged in INV studies (Bruton et al., 2010; Sui et al., 2012). Hence, it is important to broaden the perspective by shifting attention from firm-, industry-, and home-market related factors to the wider institutional environment in order to comprehend INVs' internationalization process in the long-term.

Previous research on INV initial internationalization has been somewhat heterogeneous, not only in the terminology used to describe a similar phenomenon, but also with definitions and context of analysis, making consolidation of definitions and findings difficult to compare (Oviatt and McDougall, 2005; Jones and Coviello, 2005). As INV scholars embark on the journey of exploring the subsequent stage of internationalization, it is important that the context and definitions of subsequent internationalization are clearly outlined in order to facilitate concise research in this emergent area.

The aim of this paper is therefore to consolidate existing research relevant to the subsequent internationalization of INVs, to develop a model to enhance knowledge in light of the moderating role of institutional distance, and to map out a path for fruitful future research.

In particular, this paper will draw on previously published IB and IE literature as well as institutional theory. The international expansion of INVs is conceptualized along three dominant dimensions: pace (i.e., speed of internationalization), pattern (i.e., market-entry mode), and scope (i.e., geographical spread of markets) (Vermeulen and Barkema, 2002; Khavul et al., 2010; Zahra and George, 2002). INV scholars have identified a multitude of drivers helping INVs overcome the challenges of the liabilities of newness and foreignness (Stinchome, 1965) as well as the challenges related to a lack of resources needed to internationalize early in their lifecycle (Preece et al., 1999; Zucchella et al., 2007; Knight and Cavusgil, 1996). Certain firm- and market-level antecedents have been identified as unique to INVs' rapid internationalization, such as international experience and networking ability of the entrepreneur (Coviello and Munro, 1995; Madsen and Servais, 1997; Oviatt and McDougall, 1994), as well as small domestic markets (Evangelista, 2005), which will be included in the model to enhance the understanding of the most recent findings on the subsequent internationalization of INVs (Hagen and Zucchella, 2014; Prashantham and Young, 2011; Morgan-Thomas and Jones, 2009). A main contribution of this paper to current theoretical developments in the area of subsequent INV internationalization will be an analysis of the moderating role of institutional forces, which have been identified as having a significant impact on the relationship between antecedents and the internationalization process of INVs (Schwens et al., 2011; Kiss and Danis, 2008; Brouthers and Hennart, 2007; Scott, 2008).

After introducing a conceptual model of INV internationalization and discussing its implications, we will also outline repercussions for the subsequent international expansion of firms in light of institutional forces, which will present IE scholars with a robust baseline for further research.

2.2 Literature review

2.2.1 International new venture phenomenon

The INV phenomenon was first introduced in a seminal work by Oviatt and McDougall (1994) and describes firms that “from inception, seek to derive significant competitive advantage through the use of resources and the sale of outputs in multiple countries” (p. 49). This phenomenon challenged and criticized one of the most dominant internationalization theories – the Uppsala internationalization process model – which, in contrast to INVs’ internationalization, describes internationalization as an incremental process along the establishment chain (Johanson and Vahlne, 1977; Johanson and Vahlne, 2009). Research on INVs has gained momentum within internationalization literature based on empirical observations showing that a large number of new ventures internationalize shortly after inception, a phenomenon that contributed to the creation of IE as a new literature stream (Autio, 2005). While terminology to describe the phenomenon remains heterogeneous (Rasmussen and Madsen, 2002) and terms such as born-globals (Knight and Cavusgil, 1996), born-again global (Bell et al., 2001), and early internationalizing firms (Rialp et al., 2005) are used, this paper adopts the term INV.

In this section, we discuss the dominant literature on early internationalization of INVs, drawing on macro-economic and firm-level drivers, before elaborating on more recent approaches elucidating subsequent growth of INVs. Certain environmental factors facilitate rapid internationalization and help firms overcome pre-existing impediments to the process, among them rapid globalization, diminishing trade barriers, and technological progress – especially in the area of information technology and infrastructure (Madsen and Servais, 1997; Oviatt and McDougall, 2005; Zahra and George, 2002; Antoncic and Hisrich, 2000). Thus, information, knowledge, and goods can be transferred more easily within a firm and across borders, increasing the speed of internationalization (Zucchella et al., 2007). However, increased speed of knowledge transfer and a globalized business environment exacerbate the

difficulty of protecting proprietary knowledge on an international level (Baum et al., 2011b). This problem is particularly relevant for high-technology products and goods with a short lifecycle that require fast and sufficiently large revenue to cover expenditures occurred during the research and development phase (Oviatt and McDougall, 1994; Oviatt et al., 1995; Autio, 2005; Schwens and Kabst, 2011). This circumstance explains why firms in knowledge-intensive industries internationalize at a fast pace and their existence contributes to the INV phenomenon. Nevertheless, it should be emphasized that INVs are not restricted to these industries (Rialp et al., 2005). Because of globalization, firms that traditionally competed domestically and with domestic players now compete with international players in the domestic market. This development often results in a faster maturing domestic market and puts pressure on firms to internationalize in order to maintain growth rates (Khavul et al., 2010; Oviatt and McDougall, 2005). It can be expected that the INV phenomenon will increase in importance in the future, as the number of new ventures and SMEs that will internationalize beyond their domestic markets continues to increase (Shrader et al., 2000).

A large part of research on early internationalization of INVs is based on firm-level factors (Autio et al., 2000). The most central role in early internationalization is attributed to the entrepreneur and the entrepreneurial behavior of the firm (e.g., Kuivalainen et al., 2007; Oviatt and McDougall, 1994). More specifically, the entrepreneur's previous personal international experience, international market knowledge, risk-taking attitude, innovation capacity, and networking ability have been identified as important influencing factors in the internationalization process of an INV (Harris and Wheeler, 2005; Andersson, 2000; Coviello and Munro, 1997; Zahra and George, 2002). Knowledge can also be gained through experiential learning by incrementally increasing international commitment, which facilitates the internationalization process, lowering perceived risk of foreign markets (Johanson and Vahlne, 1977; Forsgren, 2002; Schwens and Kabst, 2011; Liesch et al., 2011). The role of international orientation and international growth strategy has also been a central element

driving early internationalization. This implies that a firm strives to grow internationally and is willing to accept risks and proactively deal with problems faced when entering foreign markets (Baum et al., 2011a; McDougall et al., 1994). Additional and more in-depth overviews of factors impacting the initial internationalization stage can be found in several studies providing an excellent meta-analysis of the field (e.g., Rialp et al., 2005; Jones et al., 2011; Aspelund et al., 2007; Zucchella et al., 2007).

Given the significant advances in understanding rapid initial internationalization, scholars have recently begun exploring the subsequent growth of INVs after initial international activity. One of the first studies shifting its focus away from the pre-internationalization stage was conducted by Autio et al. (2000), showing that early initial internationalization also leads to increased subsequent growth. This work has sparked interest among INV scholars to understand how INVs develop over time and to identify antecedents and outcomes of further international growth (Gabrielsson et al., 2008; Prashantham and Young, 2011; Morgan-Thomas and Jones, 2009; Almor et al., 2014; Gabrielsson et al., 2014; Hurmerinta-Peltomäki, 2003). A recent qualitative study examined the drivers of the rapid internationalization behavior of INVs, including firm-specific factors, entrepreneurial characteristics, and environmental context (Hagen and Zucchella, 2014). Many factors identified by Hagen and Zucchella (2014) have also been recognized as relevant in the initial stage of INV internationalization, including resources, networks, business strategy, prior international experience of the entrepreneur, and global orientation, as well as external drivers stemming from increased globalization and industry-specific factors. The authors show that these factors increase subsequent growth of INVs (Hagen and Zucchella, 2014). Gabrielsson et al. (2014) specifically focused on the impact of factors stemming from the international entrepreneurial culture (Dimitratos et al., 2012), consisting of international motivation, market orientation, proactiveness, international learning, and networking as a way to explain the subsequent international growth of INVs. In contrast to some findings of a study by Hagen and Zucchella (2014), they show that certain

characteristics associated with the entrepreneur can negatively influence the subsequent growth of INVs. In particular they find that international motivation, risk-taking attitude, market orientation, innovation propensity, and proactiveness have a negative impact on subsequent growth of INVs (Gabrielsson et al., 2014). Given that ambiguous findings exist, more research is required in this area to reconcile findings and to understand what contributes to a positive or negative impact for firm-level factors on subsequent international growth.

While the above-mentioned studies focus mainly on the antecedents of INVs' international growth, other studies focus more on outcomes of subsequent growth in terms of geographic spread. Results of these studies significantly challenge the basic born-global idea, arguing instead that many firms expand within the same geographic region first before expanding globally (Lopez et al., 2009; Freeman et al., 2012b; Hashai and Almor, 2004). Advocates of the born-regional position postulate that INVs internationalize shortly after inception and achieve significant returns from international activities, but that these returns are mainly generated in regional or psychically closed markets (Lopez et al., 2009). Work by Morgan-Thomas and Jones (2009) supports these findings, showing that rapidly internationalizing firms largely depend on one key foreign market from which most foreign sales are derived. Arguments reinforcing this notion can also be found in more traditional IB literature (Rugman and Verbeke, 2005; Johanson and Vahlne, 2009; Barkema and Drogendijk, 2007). Based on empirical analyses of large MNEs, these scholars show that firms have a clear preference for internationalizing within the same region, which reduces the need to adapt existing operating procedures, requires fewer resources, and reduces the liability of foreignness (Rugman and Verbeke, 2004; Rugman and Verbeke, 2007). Another argument explaining a regional internationalization preference is an inherent concept of the Uppsala internationalization process model, arguing that experiential knowledge is of utmost importance before firms proceed with further international expansion (Johanson and Vahlne, 2009), which seems to also hold true for INVs that need to accumulate organizational learning before pursuing further expansion

(Gabrielsson et al., 2008). Prashantham and Young (2011) analyze the relationship between knowledge accumulation and post-entry speed, suggesting a direct impact of accumulated market and technological knowledge on internationalization speed of INVs. These findings indicate that INVs do not internationalize immediately on a large scale – despite internationalizing early and rapidly – but rather focus on a certain region or follow a specific expansion strategy (Sui et al., 2012; Hashai and Almor, 2004; Hashai, 2011). This expansion process seems to increase survival chances of INVs, as has been demonstrated by Sleuwaegen and Onkelinx (2014), who find higher survival rates with start-ups pursuing a geographically focused international growth strategy than in start-ups operating on a broader global scope. From a practical viewpoint, this seems comprehensible given that internationalizing in a region of similar markets or within a free-trade area presents fewer challenges to INVs (cf. Gabrielsson et al., 2008; Sui et al., 2012).

While the above-mentioned studies have significantly contributed to our understanding of the drivers of INVs' subsequent international expansion process, they fall short of explicitly examining the role of the wider institutional environment. The important role of context and institutional environment in which a firm is embedded is highlighted by Nummela et al. (2014), who in several case studies analyze how the decision-making process within growing INVs changes over time. In addition, previous studies implicitly indicate that INVs seem to be constrained by psychic and institutional differences that significantly impact their international expansion process along the pace, pattern, and scope dimensions (Almor and Hashai, 2004; Almor, 2013; Nummela et al., 2014). Despite increasing globalization and assumed cultural convergence, large macro-environmental differences prevail. Recent research has suggested complementing INV theory with neo-institutional theory, thus widening the perspective from characteristics of the individual firm and its home market to the wider institutional context in which the international expansion process is embedded (e.g., Hilmersson and Jansson, 2012; Child et al., 2009; Schwens et al., 2011; Sui et al., 2012).

2.2.2 Institutional theory

Institutional theory describes the impact of the institutional environment on social and organizational behavior (Scott, 1995; DiMaggio and Powell, 1983) and is now frequently used in the IB literature to study entry mode behavior of firms (e.g., Brouthers, 2002; Meyer et al., 2009; Schwens et al., 2011; Kostova and Zaheer, 1999; Peng et al., 2008). The term “institutions” is used in a variety of contexts and remains ambiguous, as it can exist on different levels – comprising the individual, organizational, field, and societal (Greenwood et al., 2008). Institutions can include legal frameworks, information systems, and regulatory regimes that influence societal transactions in the areas of politics, law, and society (Peng et al., 2008; Meyer et al., 2009). According to Scott’s (2008) definition, “institutions are comprised of regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (p. 48). The first of the “three pillars of institutions” (Scott, 1995) is regulative, and refers to institutions that set rules and make laws, and monitor compliance with them in a society. The regulative pillar is assumed to be the most visible and the easiest to identify, as it often consists of formally written or unwritten – that is, conscious – codes of conduct. The normative pillar refers to values and norms of society upon which individuals or organizations are expected to act. The last, the cultural-cognitive pillar, refers to shared beliefs, common understandings, and cultural frameworks through which meaning is made. It focuses on how the external environment is interpreted and perceived subconsciously or “internally” (Scott, 2008). These three pillars help us to understand the ubiquity of institutions in an internationalization process and are strongly related to the neo-institutional concept of institutional distance.

Institutional distance refers to the differences among the three institutional pillars between two countries (Kostova and Zaheer, 1999). Similar to Johanson and Vahlne’s (1977; 2009) claims on the importance of psychic distance, great institutional distance between home and host country increases the complexity of conducting business abroad (Meyer et al., 2009). The

higher the institutional distance, the higher the risk and the more problems and business costs the firm might encounter and incur, which can only be controlled by adopting an efficient international expansion process (Schwens et al., 2011; Gaur and Lu, 2007). Overcoming market imperfections caused by a particular institutional environment and information asymmetry in a country is a primary goal of managers when selecting a market entry strategy (Meyer et al., 2009). Kostova and Zaheer (1999) suggest that a greater institutional distance will increase an organization's difficulty in establishing and maintaining legitimacy in the host country.

Many scholars have researched the impact of institutional distance on entry mode strategies, with the intention of predicting the most suitable entry mode (e.g., Brouthers and Hennart, 2007; Schwens et al., 2011; Gaur and Lu, 2007; Xu and Shenkar, 2002). Thus, Xu and Shenkar (2002) have analyzed the issue of institutional distance more closely, differentiating between normative, regulative, and cognitive distance, and focusing on its impact on host-country selection and foreign-market entry strategy. Generally, regard regulative distance as less impactful on market choice because differences can be more easily understood and incorporated into organizational routines. Other researchers have combined normative and cognitive distance into a single factor because of their similarities, investigating the impact of only regulative and normative distance (Gaur and Lu, 2007; Chao and Kumar, 2010). Likewise, Schwens et al. (2011) have distinguished between merely two types of institutional distance dimensions, formal and informal distance, whereby the first refers to political, legal, and economic rules and the latter to cultural and ideological differences. Despite studies using different terminology or factors for analyzing institutional distance, it is also important to consider whether institutional distance is analyzed as an independent or moderating variable on entry mode choice, speed, or performance as this might lead to different findings.

Most scholars have investigated the effects of institutional distance as an independent variable on entry modes and performance (e.g., Delios and Beamish, 1999; Gaur and Lu, 2007).

However, studies reveal inconsistent findings and the research conducted in this area has been relatively inconclusive (see Brouthers and Hennart, 2007; Schwens et al., 2011). For example, Gaur and Lu (2007) suggest that a wholly owned subsidiary is preferred when regulative distance is high and high equity ownership in joint ventures is favored when the normative distance is large. Xu and Shenkar (2002) propose the opposite relationship. The findings of Eden and Miller (2004) remain ambiguous, suggesting that high regulative distance will either cause firms to opt for a wholly owned subsidiary or very low equity ownership. These inconsistent findings show that the strategic choice of whether to enter a market with a non-equity, low-equity, or an equity mode cannot be solely predicted by applying institutional theory (Schwens et al., 2011). Schwens et al. (2011) focus on the moderating impact of institutional distance between international experience, proprietary know-how, strategic importance and equity-based entry modes of SMEs, rather than including institutional distance as an independent variable. However, their findings do not show a strong relationship between host-country institutions and entry mode choice either. Chao and Kumar (2010) study the relationship between international diversity and firm performance, testing a moderating effect of regulative and normative distance. As hypothesized, they find that regulative distance negatively moderates the relationship between international diversity and performance, but results reveal a positive impact of normative distance on this relationship. While the latter relationship was unexpected, the authors elucidate that given their sample of highly international and very large firms with long international histories and high levels of international experience, normative distance might have a negative impact in the first years of international activity, but becomes less relevant in the long run. Thus this study is limited to large MNEs and results cannot be assumed to hold true for smaller INVs.

Despite these prior studies on the impact of institutional distance on entry mode strategies (e.g., Brouthers and Hennart, 2007; Schwens et al., 2011; Gaur and Lu, 2007; Xu and Shenkar, 2002), more research is required to understand the impact of institutional distance on other

dimensions of the international expansion process of firms. A noteworthy conceptual work was done by Kiss and Danis (2008), who, instead of looking at entry mode decisions, analyzed the moderating impact of institutional contexts between INVs' networks and speed of internationalization. The study shows that the positive relationship between the number of strong and weak ties of the entrepreneur's network on internationalization speed is moderated depending on the level of a country's institutional development. Their propositions are based on the assumption that different institutional contexts require different network tie strengths, pointing out that in countries of high institutional development, weak ties are more effective for achieving high internationalization speed, whereas in countries with low institutional development, strong ties are more efficient (Kiss and Danis, 2008).

The previously highlighted studies show the important role of institutional forces in the pace, pattern, and scope of an INV's international expansion process. These institutional forces are particularly relevant for INVs in their subsequent stage of internationalization when they expand into a broader set of countries with differing levels of institutional development. This reality requires firms to adapt their internationalization strategy and build in capabilities to account for differences stemming from the institutional environment. Understanding the underlying theories and concepts of the international expansion process of INVs is important and required in order to better comprehend the forces that impact the pace, pattern, and scope of the internationalization process and to what degree these three dimensions are impacted.

2.3 Conceptualization of the subsequent international expansion

The foregoing literature review has given a broad overview of significant factors of the international expansion of INVs and has highlighted the importance of the wider institutional environment. The conceptual framework presented in Figure 2.1 depicts the relationships

between the triggering and moderating factors on the subsequent international expansion of INVs. We conceptualize the subsequent international expansion along three dominant dimensions: pace, pattern, and scope (Vermeulen and Barkema, 2002; Khavul et al., 2010; Zahra and George, 2002; Zahra et al., 2000; Kutschker et al., 1997).

Pace of internationalization describes the speed with which firms internationalize into different markets. Speed has been a core concept of the INV phenomenon and most commonly refers to the timespan between inception of a firm and its first international activities (Zahra et al., 2000; Knight and Cavusgil, 1996; Oviatt and McDougall, 1994). This definition, however, focuses on the pre-internationalization phase rather than the pace by which firms increase international activity over time. In the conceptual model here, pace is therefore conceptualized as post-entry speed, referring to the time since the firm's first international activity (Prashantham and Young, 2011; Morgan-Thomas and Jones, 2009; Vermeulen and Barkema, 2002). Speed of internationalization is a multidimensional construct and can be measured on different levels by juxtaposing a certain outcome against time (Oviatt and McDougall, 2005; Morgan-Thomas and Jones, 2009; Casillas and Acedo, 2013; Hurmerinta-Peltomäki, 2003). Thus speed can, for example, refer to the number of markets entered, the foreign turnover achieved, or the level of resources committed to entry modes within a given period of time (Casillas and Acedo, 2013; Oviatt and McDougall, 2005). The multidimensionality of pace as a construct is of lesser importance to the proposed conceptual model, as all dimensions indicate a rapid increase in international operations of a firm, but need to be reflected when empirically testing the proposed relationships (Chetty et al., 2014).

The second dimension considered is the *pattern* of international expansion, which refers to market entry modes chosen by a firm over time. Market entry modes are considered to be an important strategic decision during the internationalization process, as they have important implications in terms of the level of control of foreign-market activities and the level of

resources committed to a market (Andersen, 1997; Brouthers and Hennart, 2007; Pan and Tse, 2000). There is no common agreement within the literature about how many different entry modes exist, but in general they can be distinguished between contractual and equity modes of entry (Hennart, 1988; Hennart, 1989; Pan and Tse, 2000). Entry modes considered in the international process theory include infrequent export, export via independent agents, joint venture, sales subsidiaries, and production and manufacturing plants (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977; Johanson and Vahlne, 2009). Entry mode decisions play a significant role in light of the institutional context, as previous research has shown that depending on the institutional distance, certain entry modes lead to better performance (Brouthers, 2002).

The third and last dimension considered in the internationalization expansion of a firm is *scope*. Scope refers to the geographic spread of firms over time and can be considered on two slightly different levels: either as the total number of markets a firm operates in (George et al., 2005; Casillas and Acedo, 2013) or as the number of geographic regions in which a firm maintains operations (Oviatt and McDougall, 2005; Vermeulen and Barkema, 2002). International operations enable a firm to diversify risk across different countries and regions in order to achieve higher returns (Kim et al., 1993). Broadening the international scope of a firm also facilitates acquisition of knowledge of institutionally distant markets, which can help create a competitive advantage. However, if a firm diversifies too much or too quickly, these actions could negatively impact a firm's profits (Hitt et al., 1997; Vermeulen and Barkema, 2002; Ruigrok et al., 2007; Sui and Baum, 2014). In addition to conceptualizing scope as the number of international markets, it could also be expressed as the degree of internationalization, referring to the percentage of sales generated in an international market or international region, compared to the total sales or domestic sales generated (Hitt et al., 1997; Sullivan, 1994).

The framework in Figure 2.1 is structured as a sequential model, starting with the antecedents as identified by INV scholars representing the independent variables, followed by the subsequent international expansion along its three dimensions, which represent the dependent variables. We acknowledge that the list of factors included in the model is by no means exhaustive, but rather focuses on the most prominent antecedents of the international expansion process discussed in literature (cf. Hagen and Zucchella, 2014). Furthermore, only antecedents that are assumed to have a positive impact on firms' international expansion are considered. Although the graphical presentation in Figure 2.1 is highly simplified, the complexity of the individual relationships between antecedents and outcomes needs to be considered. The relationships will therefore be discussed subsequently. We will first start by consolidating literature to outline the drivers of subsequent international expansion of INVs. Afterwards the moderating impact of institutional distance will be discussed to understand its role during the subsequent international expansion of INVs. This will provide essential insights into the internationalization process of INVs.

Antecedents in the model are distinguished between firm-level factors and home-country market factors and are partly based on insights gained from the framework presented by Hagen and Zucchella (2014). The overall impact of antecedents on pace, pattern, and scope is assumed to be positive (Hagen and Zucchella, 2014; Oviatt and McDougall, 2005; Zucchella et al., 2007) and is illustrated by the two arrows of firm- and home-country factors on the international expansion of INVs.

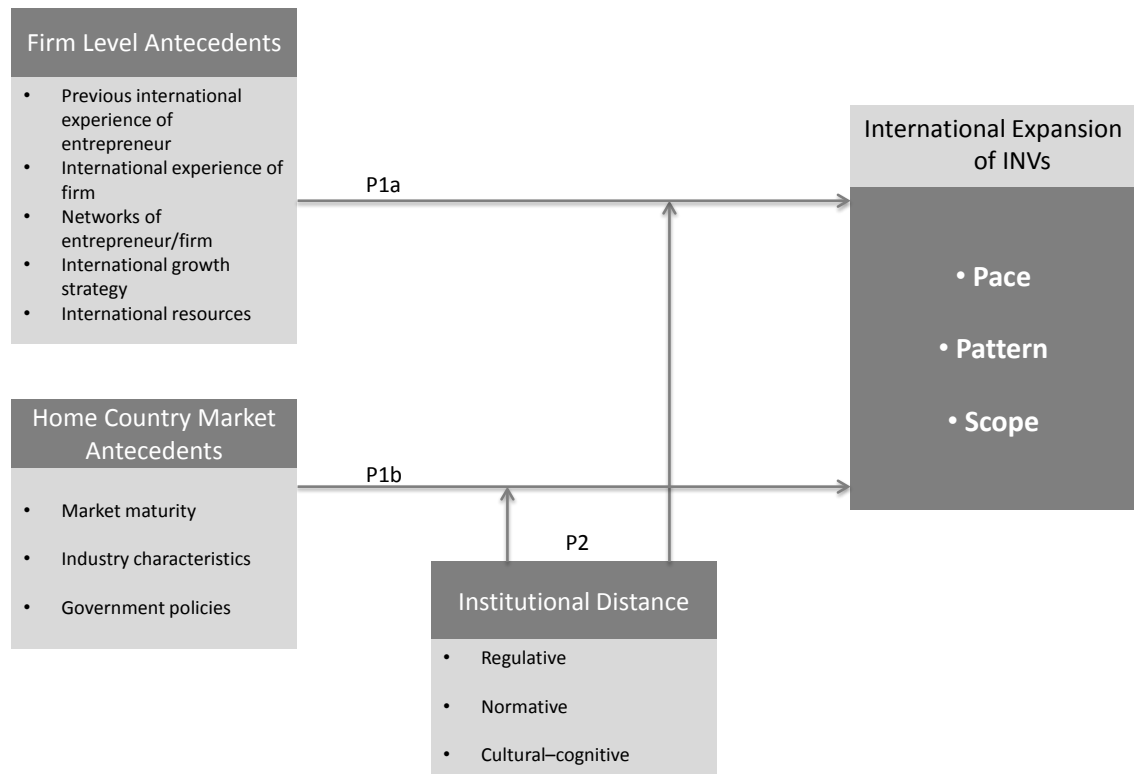


Figure 2.1: Conceptual model

2.3.1 Firm-level antecedents

With regard to firm-level antecedents, we include two different dimensions of international experience that have been previously demonstrated to strongly impact the internationalization behavior of firms: *previous international experience of the entrepreneur* and the *international experience of the firm* (Harris and Wheeler, 2005; Reuber and Fischer, 1997; Eriksson et al., 1997; Johanson and Vahlne, 2009). The former is based on personal experience, and in particular the personal international experience within one or several markets where entrepreneurs gained country-specific knowledge (Reuber and Fischer, 1997; Lee and Park, 2008; Bloodgood et al., 1996). At the firm level, experience is shared by many actors who gain knowledge through international operations of their respective firm, representing the information and processes required to conduct further market activities as part of the internationalization process (Eriksson et al., 1997; Johanson and Vahlne, 2009; Prashantham and Young, 2011; Mjoen and Tallman, 1997). The impact of the entrepreneur's

or top management team's previous international experience has been shown to positively impact pace, pattern, and scope of INVs' international operations (Zucchella et al., 2007; Almor and Hashai, 2004; Burgel and Murray, 1998; Bloodgood et al., 1996). Although this impact might prevail in the long run, we assume that despite a positive impact of previous international experience on pace, pattern, and scope, the impact will weaken in the later stage of internationalization compared to the early stage (cf. Nummela et al., 2014; Gabrielsson et al., 2014; Hashai, 2011). This is because previous international experience is often country specific. INVs might therefore internationalize more quickly initially and on a broader scale, but stay within a particular geographic region, where experience was gained and in which pace and pattern is increased (Morgan-Thomas and Jones, 2009; Freeman et al., 2012a; Rugman and Verbeke, 2005). In order to maintain a positive impact of previous international experience in the long-term, INVs need to add internationally experienced managers to the top management team (Hagen and Zucchella, 2014; Nummela et al., 2014). Thus, in the long run, additional knowledge and experience of the firm is required to facilitate further international expansion. This is why we argue that in the subsequent stage an INV benefits in particular from firm-level experience gained through international operations during the early internationalization stage, as knowledge on procedures and how to internationalize will be obtained to successfully expand along the three dimensions of internationalization (Johanson and Vahlne, 2009; Hashai and Almor, 2004; Ruokonen and Saarenketo, 2009).

The role of *networks at the founder and firm level* is paramount for the international expansion process of INVs (Oviatt et al., 1995; Coviello, 2006; Gabrielsson et al., 2008). Networks help INVs overcome resource constraints by gaining access to new resources and reduce liability of foreignness due to enhanced knowledge obtained on the foreign market (Hagen and Zucchella, 2014; Gabrielsson et al., 2014; Kiss and Danis, 2008; Coviello, 2006). Through strong and weak ties with partners, firms obtain facilitated access to markets and valuable information that ultimately increases the pace and scope of INV internationalization (Jones and Coviello, 2005;

Coviello and Munro, 1997; Autio et al., 2000; Zahra, 2005; Kiss and Danis, 2008; Musteen et al., 2010). The impact of networks on pattern is less easily established and might decisively depend on whether weak or strong ties prevail that can either lead to a preference of equity or non-equity entry modes (cf. Kiss and Danis, 2008; Bell, 1995; Freeman et al., 2006; Johanson and Vahlne, 2009; Peng, 2003).

Another important aspect positively affecting the international expansion of INVs is the *international growth strategy* (Chetty and Campbell-Hunt, 2004). Previous studies on initial and subsequent internationalization of INVs indicate that a well-executed international growth strategy is a prerequisite to rapidly expand across markets and achieve higher international sales (Autio et al., 1997; Baum et al., 2011a; Hagen and Zucchella, 2014). Firms with an inherent international growth orientation are less risk averse and put greater emphasis on achieving rapid growth, high scope, and entry modes that might require a greater number of resources (Baum et al., 2011a; Knight and Cavusgil, 2004). Recent findings by Gabrielsson et al. (2014) might challenge the idea of a positive impact of firm-level attributes associated with international growth strategy on INVs subsequent growth, as they find a negative influence of international risk attitude and international market orientation on INV growth in the subsequent stage. However, given that their study specifically investigates the impact of international entrepreneurial culture on firm growth, the focus is different from the relationship proposed in our conceptual model (cf. Gabrielsson et al., 2014).

The final firm-level antecedent included in our model is the availability of *international resources* and refers to monetary and non-monetary resources, such as capabilities and expertise (Preece et al., 1999; Sapienza et al., 2006). While during the initial stage of internationalization the entrepreneur is seen as the main resource in the internationalization process, during the subsequent stage, a higher level of resources are required to increase

scope, pattern, and pace of the international expansion process (Preece et al., 1999; Bloodgood et al., 1996).

Based on the discussion of antecedent factors of subsequent international growth of INVs, we derive the following overarching proposition:

Proposition 1a: Firm-level antecedents are positively related to pace, pattern, and scope of the subsequent international expansion of INVs.

2.3.2 Home-country market antecedents

Antecedents relating to home-country market factors represent external antecedents driving the subsequent international expansion of INVs. With regard to initial internationalization, many INV scholars have argued that small domestic markets increase the likelihood of expanding internationally at a fast pace (Evangelista, 2005; Coviello and Munro, 1995). Thus, it has often been claimed that firms originating from smaller domestic markets tend to internationalize more quickly than do firms established in large domestic markets (Evangelista, 2005; Madsen and Servais, 1997; Gabrielsson et al., 2008). A similar impact can be found with firms operating in *domestic markets* that have reached *maturity*, which gives them an incentive to expand internationally (Winch and Bianchi, 2006; Evans et al., 2008). In order to survive and expand the revenue base, INVs internationalize at a faster pace and explore new patterns. When regionally close markets show a similar degree of maturity, firms need to grow their business outside their geographic and cultural region and thus might also expand their scope. *Industry characteristics* also play an important role and describe the unique patterns of the industry such as the level of knowledge intensity or the maturity of technology (Oviatt and McDougall, 1994; Autio, 2005). Baum et al. (2011b) have shown that high knowledge intensity and differentiation of a firm's products are positively related to the likelihood of internationalizing at a fast pace. This is particularly relevant to high-technology products and

goods with a short lifespan (Oviatt and McDougall, 1994; Oviatt et al., 1995; Autio, 2005), which is why we assume a positive impact of these industry factors on scope as well as on pattern, which need to be adapted depending on the product offered and the country context. Academic research also stresses the impact of *government policies* on the internationalization of an industry, such as subsidies, support programs, and legal regulations (Schwens et al., 2010; Lewis and Wiser, 2007; Bauer et al., 2011; Liesch et al., 2007). Lewis and Wiser (2007) have shown that a direct support mechanism, like export credit assistance, is particularly impactful on the internationalization of, for example, German renewable energy firms into developing countries. With government assistance, firms obtain additional resources that enable them to broaden their scope of internationalization (Preece et al., 1999), choose entry modes more carefully, and internationalize at a faster pace (cf. Gençtürk and Kotabe, 2001). Summing up, we can conclude that the factors identified above ultimately impact pace, pattern, and scope of the subsequent international expansion of INVs and we can derive the following overarching proposition:

Proposition 1b: Home-country market antecedents enhance the pace, pattern, and scope of the subsequent international expansion of INVs.

The above-mentioned relationships present the baseline model of subsequent international expansion of INVs as derived by consolidating previous literature. Given that firms internationalize on a broader scale in the subsequent stage of internationalization, institutional forces will play an increasingly important role, which will be discussed in the following section.

2.3.3 Moderating role of institutional distance

As highlighted previously, the institutional context, and in particular institutional distance, has a significant impact on the pace, pattern, and scope of a firm's internationalization process (Brouthers, 2002; Kiss and Danis, 2008; Kostova and Zaheer, 1999). The greater the institutional distance, the greater the complexity of conducting operations in these markets, which is often a result of information asymmetries involving market particularities (Meyer et al., 2009). Thus, if firms originating from countries with high levels of institutional development enter markets with low institutional development, the international expansion process needs to be adapted accordingly and firms might not be able to rely on existing capabilities and knowledge to enter these new markets in the same way as they have in the past (cf. Gaur and Lu, 2007; Schwens et al., 2011). This is why we can assume an overall negative moderating impact of high institutional distance between the antecedents-outcome relationship proposed earlier. Despite this proposed negatively moderating impact, the strength of the impact differs depending on the antecedent considered. We will elucidate the differing impacts of the antecedents included in the proposed model below.

Looking at previous international experience of the entrepreneur or top management team, it is assumed that country-specific knowledge has been obtained. If the INV ventures into countries where previous international experience was obtained by the entrepreneur, the negative moderating impact of institutional distance will be significantly lower given better knowledge about the underlying rules and norms dominating in the foreign market (cf. Hutzschenreuter and Horstkotte, 2013). This assumption also implies that if knowledge of a particular institutionally distant market has been obtained, other markets with a relatively similar institutional context can be entered more easily with regard to pace and pattern (cf. Schwens et al., 2011). This experience will ultimately also increase a firm's scope. However, if previous international experience was obtained in markets with an institutional context similar to the home country, the moderating impact of high institutional distance will be highly

negative, due to a lack of knowledge about conducting business in institutionally different markets, ultimately reducing the speed of international expansion and scope in these markets. Given the higher risk and lower level of knowledge about these markets, entrepreneurs might tend to prefer market entry modes with low commitment (Brouthers and Nakos, 2004; Brouthers, 2002).

While there might be no clear-cut line when distinguishing between firm- and entrepreneur-level experience, international experience of the firm equates to general and experiential knowledge of internationalization. Experiential knowledge of the firm is gained through its international activities and ultimately reduces uncertainty of foreign operations (Johanson and Vahlne, 1977). Thus the greater the international experience of the firm, the more knowledge it has about international expansion and the lower the moderating impact of institutional distance on pace, pattern, and scope of internationalization (cf. Casillas and Moreno-Menéndez, 2014; Dow and Larimo, 2009). This lowered moderating impact, however, does not imply that the impact is eliminated, but rather that its negative impact is reduced. For the subsequent internationalization stage it can be concluded that institutional distance negatively moderates the relationship between previous international experience of the entrepreneur more strongly with regard to pace, pattern, and scope than does the relationship between international experience of the firm and its international expansion.

Although we have proposed an overall negatively moderating impact of institutional distance on the relationship between networks and the subsequent international expansion of INVs, the relationship is multifaceted. Depending on the networks of the firm and its ties, the moderating impact stemming from the institutional context can vary significantly (Kiss and Danis, 2008). Given the complexities in institutionally distant markets, firms can significantly benefit from having networks, particularly strong ties with partners in the host country helping them to obtain valuable information on business processes and facilitate operations, which

will assist in mitigating the negative effects of the institutional environment (cf. Bell, 1995; Autio et al., 2000; Johanson and Vahlne, 2009; Kiss and Danis, 2008; Hilmersson and Jansson, 2012) and thus lessening the moderating impact of institutional distance. The negative impact of institutional distance will, however, be much stronger if firms only possess networks with weak ties, which will ultimately lead to slower pace, entry mode commitment, and scope (cf. Kiss and Danis, 2008).

The moderating impact of institutional distance between the relationship of international growth strategy and availability of resources with regard to the subsequent international expansion of INVs is relatively straightforward. Although both antecedents impact pace, pattern, and scope positively, a higher institutional distance will negatively moderate the relationship, given an increased complexity of operating in these markets and a greater number of resources required. Thus, INVs are likely to internationalize at a slower pace, require greater resources for entry modes, and limit increases in their scope (cf. Peng et al., 2008; Meyer et al., 2009; Kostova et al., 2008).

Similar to firm-level antecedents, the relationship between home-country market factors and the INV international expansion is also proposed to be negatively moderated by institutional distance. Home-country market factors included in the model have triggering effects increasing international activity, but must usually be considered alongside firm-level factors to predict certain internationalization behavior of firms. If INVs increase pace, pattern, and scope dimensions due to a mature domestic market or industry-specific characteristics, the moderating impact of institutional differences is likely to be strongly negative (cf. Schwens et al., 2011). The negative impact arising from high levels of institutional distance can only be mitigated through firm-level factors such as networks and international experience.

With regard to government policies, the moderating impact of institutional distance greatly depends on the type of policy or subsidy considered. If credit assistance is provided, this might

help firms to overcome financing obstacles in host countries. Similarly, export promotion programs might facilitate access to networks and knowledge, which in turn will weaken the general negative impact of institutional distance. Given that government policies are an external trigger of further international expansion, however, institutional distance will negatively moderate this relationship with regard to increasing pace, pattern, and scope.

The previous discussion shows a general tendency of institutional distance having a negatively moderating impact on the relationship between antecedents of subsequent growth and the subsequent international expansion of INVs. Although we acknowledge that individual relationships might be more complex, we derive the following overarching proposition:

Proposition 2: High institutional distance negatively moderates the relationship between firm-level antecedents and home-country market factors and pace, pattern, and scope of the subsequent international expansion of INVs.

The moderating impact of institutional distance on INVs' subsequent international expansion described above requires further consideration with regard to the various dimensions of the institutional environment. It could be argued that the regulative, normative, and cultural-cognitive dimension have a differing moderating impact on the international expansion of INVs (cf. Chao and Kumar, 2010). Based on studies analyzing different dimensions of the institutional environment, we argue, however, that the moderating impact as proposed in our model will be negative along all three pillars (Xu and Shenkar, 2002). But because the regulative institutional environment is the most visible of the three dimensions and can be more easily identified, firms might be able to adapt their international expansion process more easily (cf. Scott, 2008). Thus the actual impact of institutional distance stemming from the regulative environment might be lower than the impact from the normative and cultural-

cognitive dimensions, which are more implicit and more difficult to account for (Xu and Shenkar, 2002). We therefore propose:

Proposition 3: The moderating impact of institutional distance stemming from regulative differences is lower than the impact stemming from normative and cultural-cognitive differences.

Our proposed model highlights the most important factors driving the subsequent international expansion of INVs once they have started international operations. While factors depicted in the model are assumed to maintain their efficacy throughout the international expansion, the model does not display time dimensions or different growth stages in INV development. Taking into consideration that INVs develop over time, we argue that the moderating impact of institutional distance is strongest in the medium-to-long run of INVs' international growth. This is because the early stage of international expansion is driven by the entrepreneurs' previous international experience and personal network, often resulting in market entries where the entrepreneur is well connected and most experienced (cf. Johanson and Vahlne, 2009). Thus, INVs might be able to enter institutionally distant markets or regions even in their early stage of internationalization and overcome hurdles stemming from different institutional contexts through previous experience and networks consisting of strong ties (Freeman et al., 2012a; Freeman et al., 2006; Williams and Gregoire, 2015). As the firm proceeds with further expansion, though, they will find that their previously gained knowledge is often country-specific, and that unfamiliarity with institutionally distant markets presents a high risk. This idea is supported by findings showing that INVs prefer to internationalize within the same geographic and cultural region in their early internationalization stages (Sui et al., 2012; Hashai and Almor, 2004). During the later international expansion stages, where INVs expand into geographically and culturally unrelated markets, institutional distance will have

the strongest negative impact on the relationship between drivers of subsequent growth and subsequent international expansion. Once a firm has truly become global, gained international experience, and expanded its network in a variety of institutionally distant markets, the moderating impact of institutional distance will gradually weaken (Chao and Kumar, 2010). We therefore assume the relationship depicted in Figure 2.2 and propose:

Proposition 4: The strength of the moderating impact of institutional distance depends on the internationalization stage of INVs and can be depicted as an inverted U-shaped relationship between the moderating impact of institutional distance and time. This principle implies that in the early and late stages of INV international expansion, the relationship is weaker than in the medium-to-long run.

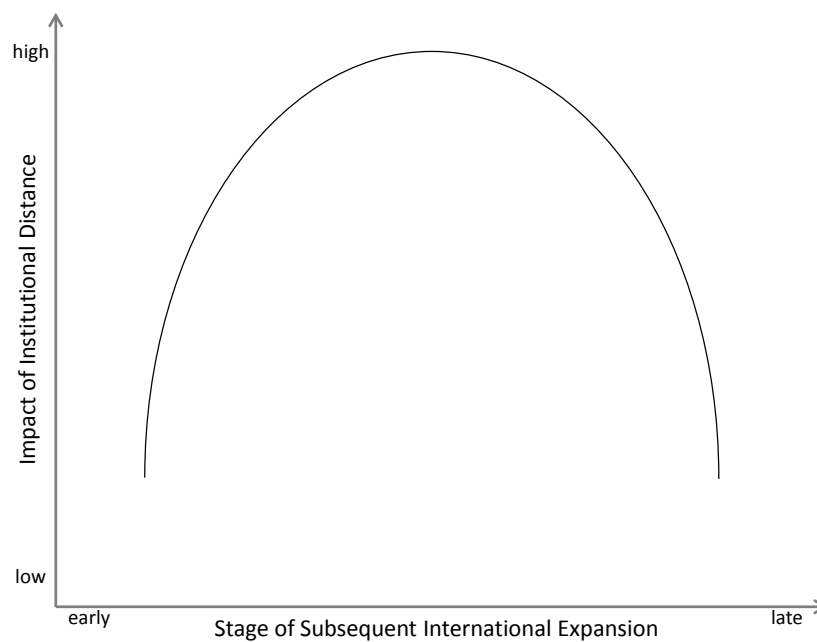


Figure 2.2: Impact of institutional distance over time

2.4 Future research and implications

The presented model helps to consolidate increasing literature of subsequent internationalization behavior of INVs by displaying the antecedents of pace, pattern, and scope of the international expansion. The propositions presented help to close a research gap by encompassing institutional forces, showing their vital role in the subsequent internationalization stage of INVs. Despite firms' quick and early internationalization and their overcoming of impediments to internationalization, institutional distance will significantly increase in importance the more an INV ventures out on a global scale. The propositions developed in our study entail several implications to be considered in future research.

2.4.1 Future research

First of all, future research should analyze our first set of propositions outlining the relationship between antecedents and pace, pattern, and scope of the subsequent international expansion of INVs. Given that our model entails multidimensional factors and includes multiple levels, the individual relationships should be empirically analyzed to understand complex interactions among factors included. Depending on the international growth stage of an INV, the importance of antecedents might change over time. Thus it could be expected that home-country market factors become less important in the later stage of INV internationalization. It has also been argued that INVs follow a rather similar growth pattern in their subsequent internationalization phase than is predicted by the Uppsala internationalization process model (cf. Hashai and Almor, 2004; Sui et al., 2012) and comparative studies could show whether INVs remain distinct from MNEs with regard to growth drivers and patterns in their subsequent stage of internationalization. Future research should analyze additional antecedents not considered in our conceptual model that might also exhibit a negative impact on the international expansion of INVs. Such antecedents may include for example static routines of INVs that prevent a more flexible adaption of internal and external processes necessary for further internationalization (Sapienza et al., 2006).

Furthermore, weak institutions in the home country may also hinder INVs originating from these markets to access sources of financing or an educated labor force to pursue international expansion (Busenitz et al., 2000) and should be considered. In a similar vein, future research could also adopt additional concepts from institutional theory and for example analyze how isomorphic pressures in the home and host country can impact subsequent international expansion of INVs (cf. Meyer and Rowan, 1977).

Second, empirically testing our propositions regarding the impact of institutional distance might set certain challenges for future research. While measurements for antecedents and outcomes are widely available, measuring the institutional distance and contexts is less clear. Given that the institutional environment is complex and partly abstract, research in the area entails the danger of over-simplification (Bruton et al., 2010). This could be the case if institutional distance is measured using only one or a few items to reflect Scott's (1995) pillars (Brouthers, 2002; Delios and Beamish, 1999) or is simply relied upon as a proxy of the construct. Other more refined measurements of the institutional environment can provide a more holistic view, mostly using measurement items from reports such as the Economic Freedom Index, Global Competitiveness Report, World Competitiveness Yearbook, Euromoney indices, Hofstede values or other country risk ratings (Gaur et al., 2007; He et al., 2013; Gaur and Lu, 2007; Demirbag et al., 2007). However, it is important for researchers to thoroughly consider which items of such reports are best suited to reflect the institutional environment, as this can vary significantly between industries considered.

Third, our model does not include performance implications of the subsequent international expansion process of INVs. The dimensions pace, pattern, and scope represent a strategic set along which managers can design the international expansion strategy, which will ultimately relate to international performance of INVs. It would be particularly interesting to analyze the interaction effects, to understand how the three dimensions should be combined in an INV's

internationalization process in order to successfully internationalize. Thus, it could be argued that a fast pace and wide scope, as well a highly resource-committed pattern might negatively impact firm performance (cf. Coeurderoy and Murray, 2008; Sapienza et al., 2006; Ruigrok et al., 2007), as it can have destabilizing effects on INVs (Chetty and Campbell-Hunt, 2004). Current IB and IE research could be advanced by understanding how these dimensions should be combined to achieve the most beneficial outcome for a firm. This will provide valuable insights for managers to identify efficient internationalization strategies.

Finally, we argue that IE scholars could make a valuable contribution in analyzing performance implications by expanding our model and considering the institutional environment. Early work on INVs has highlighted the crucial role of the entrepreneur in the internationalization process of new ventures. With regard to the decision-making process, Nummela et al. (2014) show that in maturing INVs, this process is also highly personalized, mainly driven by the founder and other members of the management. In the same vein, Brouthers (2013) has argued that managers make strategic choices based on their subjective perception of institutional distance and foreign-market risk. Therefore he argues that instead of considering the actual institutional distance between markets, managers develop internationalization strategies based on their personal perception of institutional distance. He further reasons that performance outcomes of these strategic decisions depend on the actual institutional context rather than the perceived distance. Given that IE scholars have a long tradition of analyzing the entrepreneurs' role within the firm (Oviatt and McDougall, 2005), they might considerably expand our understanding of whether internationalization decisions based on a correctly estimated institutional distance lead to better performance. Analyzing this "misperception" of institutional distance at the decision-maker level might also provide guidelines about how to overcome misperception, particularly with regard to the less feasible pillars (i.e., normative and cultural-cognitive) of the institutional environment, which will ultimately contribute to

recent advances of the application of institutional theory and help managers overcome hurdles set by differing institutional contexts.

2.4.2 Practical implications

Our paper contains important implications for entrepreneurs and managers of INVs with regard to subsequent international growth and reducing the negative impacts of institutional distance. First of all, managers need to be aware that the impact of institutional forces will increase in the long run. Although the entrepreneur might not perceive that institutional distance increases risk or presents greater challenges during the initial stages of internationalization, this perception is often related to previous personal international experience. However, as this experience is mostly country specific, the impact of institutional distance will be much stronger during subsequent stages of internationalization, when expanding on a broader scope. In order to reduce this impact, the entrepreneur can expand the management team, hire internationally experienced managers with particular market knowledge, or seek external advice (cf. Nummela et al., 2014). Furthermore, managers need to accumulate experience by expanding internationally to be well aware of the challenges arising during the internationalization process, derive best practices, and expand capabilities that can help with future expansion (cf. Prashantham and Young, 2011). Third, the role of networks can play a crucial role in reducing negative influences stemming from differing institutional contexts and can lower information asymmetries (Kiss and Danis, 2008). Risk can be significantly lessened by broadening personal and firm-level networks, by actively participating in industry associations and events, and by hiring employees with large personal networks in the target region. Certain government assistance programs can also be helpful in reducing the negative impact of the institutional environment through credit assistance, export promotion, and bilateral governmental networks. Finally, managers need to take into account that if the international expansion process is mainly triggered by external drivers (i.e., market maturity and industry characteristics), the impact of institutional distance can be highly negative.

Entrepreneurs need to ensure that their firm obtains sufficient firm-level capabilities to internationalize more rapidly and on a broader scope to avoid risky international expansion.

2.5 Conclusion

INV research has mostly neglected institutional forces in the expansion process of the firm by focusing on the antecedents and enabling factors of internationalization. Our proposed model helps to overcome these shortcomings by including institutional distance as a moderator of INV's international expansion and by shifting attention toward the subsequent stage of internationalization of maturing INVs. We show that institutional distance can act as a moderator, altering the impact of the antecedents on pace, pattern, and scope.

Despite the apparent limitation of our work due to its conceptual nature, we also indicate and discuss possible pathways for future research. By doing this we want to encourage researchers to focus their attention on more mature INVs and understand whether INVs remain a distinct set of firms when reaching a more mature stage and also investigate how their internationalization process develops. The model provides a solid basis to explore the different facets of an INV's subsequent international expansion and, based on the discussion above, can also be a starting point to analyze which international expansion strategies lead to higher performance and thus help firms to remain competitive. The door for future research in the area of the subsequent internationalization of INVs remains wide open and further enquires are needed to advance this area of IE research.

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3 Introduction to Paper II

While Paper I provides a broad overview of factors impacting subsequent internationalization of INVs with regard to speed, entry mode, and scope, Paper II analyzes in detail antecedents of subsequent internationalization speed. It thus focuses specifically on testing the relationship included in the first proposition in Paper I. Therefore, the focus shifts from the macro- and micro-level of Paper I to a firm-level analysis in Paper II.

Due to the fact that literature on subsequent internationalization speed of INVs is very scarce, this paper explores and identifies antecedents of subsequent internationalization speed by analyzing qualitative data obtained by conducting interviews in the German renewable-energy industry in 2013. Antecedents identified in the paper include, among others, the international experience of the firm, international growth strategy, and initial internationalization speed. Based on the qualitative analysis, hypotheses are derived that are afterwards tested using quantitative data from the same industry collected via a questionnaire survey in 2014. Using quantitative data enables the paper to precisely measure speed along four different dimensions (i.e., country, commitment, scope, and equity speed). Thus, results not only test whether the relationships between antecedents and subsequent internationalization speed hold true – as hypothesized based on the qualitative inquiry – but also shows how the individual antecedents impact each dimension of internationalization speed. This paper therefore provides detailed insights on subsequent internationalization speed and its antecedents.

Drivers of INVs' subsequent internationalization speed

Evidence from the German renewable-energy industry

3.1 Introduction

Since Oviatt and McDougall's (1994) seminal work on international new ventures (INVs), a large body of international entrepreneurship research has investigated the phenomenon that has advanced our knowledge of a unique internationalization process. The core of the INV phenomenon is that these firms have an exceptional capability to internationalize at rapid speed shortly after inception, setting them apart from traditional exporters (Jones et al., 2011). While there has been significant progress in the field regarding the antecedents of these firms' initial internationalization speed (Jones et al., 2011; Zucchella et al., 2007; Rialp et al., 2005), scholars have mainly focused on the pre-internationalization stage of INVs as a way of explaining their rapid internationalization (Autio et al., 2000). This focus has hindered scholarly understanding of the subsequent internationalization speed of INVs. Compared to traditional international business (IB) literature describing the internationalization process of multinational enterprises (MNEs) and traditional exporters (e.g., Johanson and Vahlne, 1977; Vermeulen and Barkema, 2002), INV scholars have yet to discover the full scope of how fast INVs continue to internationalize in the subsequent stage of internationalization and what drives internationalization speed in the long run (Prashantham and Young, 2011; Casillas and Acedo, 2013; Morgan-Thomas and Jones, 2009). This paper addresses this research gap by qualitatively investigating and quantitatively testing hypotheses about the subsequent internationalization speed of INVs.

Previous research has revealed manifold factors that are distinct to INVs and that allow them to achieve quick initial internationalization (Madsen and Servais, 1997). Firm-level factors contributing to initial internationalization can be broadly sub-categorized as (1) the individual experience of the entrepreneur, (2) the resource endowment of the firm, and (3) its underlying strategy (cf. Zahra and George, 2002; Zucchella et al., 2007; Chetty et al., 2014). The previously

obtained international experience of the entrepreneur or members of the top management team (TMT) has shown to facilitate rapid initial internationalization because individuals can draw on and exploit their experiences immediately without having to build up this experience in a time-consuming process (e.g., Harris and Wheeler, 2005; Baum et al., 2011a; Johanson and Vahlne, 2009; Oviatt and McDougall, 1994). In addition, young firms often lack resources because they suffer from the effects of the liability of newness (Mudambi and Zahra, 2007). If the existing firm resources are dedicated to the internationalization process, this determination can greatly influence a firm's fast internationalization, as this process requires financial capital, time, and extensive networks (Brouthers and Hennart, 2007; Winch and Bianchi, 2006; Autio et al., 1997; Hagen and Zucchella, 2014; Coviello, 2006). Finally, prior studies have shown that firms with a clear strategy for international growth that is consistently pursued and that orient their actions toward international expansion can expedite the internationalization process because, among other things, they are willing to take greater risk or are better able to accommodate such risk (Baum et al., 2011a; McDougall et al., 1994; Kuivalainen et al., 2007; Nummela et al., 2004; Liesch et al., 2011).

Acknowledging previous research on drivers of INV internationalization speed, it needs to be pointed out that internationalization speed in INV literature is pre-dominantly defined as the time lag between foundation of a firm and its first international activity (i.e., initial internationalization speed) (Autio et al., 2000). By focusing on the pre-internationalization stage rather than on the international activity of a firm per se, this definition explicitly excludes the speed of internationalization after a firm's first foreign market entry (i.e., subsequent internationalization speed). Moreover, this general definition falls short of acknowledging the different dimensions in which speed can manifest (Oviatt and McDougall, 2005). As a consequence, there is a dearth of knowledge on the factors driving the subsequent internationalization speed of INVs in its various dimensions (Hagen and Zucchella, 2014; Oviatt and McDougall, 2005). To close this gap and understand how INVs continue to internationalize

after their first market entry and whether drivers of initial internationalization speed retain their efficacy in the subsequent stages of internationalization, this paper explores and corroborates firm-level antecedents of subsequent internationalization speed. Thereby, our study distinguishes between initial and subsequent internationalization speed (i.e., internationalization speed since first international activity of a firm), focuses on the latter, and acknowledges subsequent speed as a multidimensional construct. The theoretical foundation of this study is based on research on INV internationalization as well as on general internationalization-speed research. However, because the factors driving INVs' subsequent internationalization speed remain unclear, this paper follows a mixed-method approach. We rely on qualitative interviews to explore the factors driving subsequent speed and propose related hypotheses. Then, we use large-scale data to test these hypotheses. Empirically, this paper draws on data collected in the German renewable-energy industry, which includes a high proportion of INVs and a strong international focus (Schwens et al., 2010). The results will help academics and practitioners better understand how fast internationalization of an INV can be achieved in the long run and which factors are most relevant.

3.2 Theoretical background

3.2.1 Time frame of internationalization speed

Internationalizing firms are constantly confronted with decisions about where, when, and how to internationalize, major questions that form the basis of a firm's internationalization strategy (Williams and Gregoire, 2015). While all facets of an internationalization strategy need to be carefully considered, the management's decision about how fast a firm should internationalize is a particularly crucial strategic decision that can strongly impact the performance of a firm (Chetty et al., 2014). Increased performance through fast internationalization is premised on the notion of first-mover advantage, in which firms outpace global competitors and achieve a larger revenue base (Lieberman and Montgomery, 1988). Speed of internationalization is

broadly viewed as the average rate of international expansion of a firm (Casillas and Acedo, 2013; Zahra and George, 2002). Unfortunately no rigorous definition has been established yet and measurements of speed remain heterogeneous (Hurmerinta-Peltomäki, 2003; Chetty et al., 2014). Most scholars – especially INV scholars – refer to internationalization speed as the time span between establishment of a firm and its first international activity, which describes the initial speed rather than speed of international expansion once international operations have started (Zahra and George, 2002; Casillas and Acedo, 2013; Chetty et al., 2014; Autio et al., 2000).

Speed of internationalization sparked research attention several decades ago when Johanson and Vahlne (1977) presented their model on the internationalization process of a firm, and this interest intensified with the discovery of quickly internationalizing new ventures (Oviatt and McDougall, 1994). While researchers have been greatly interested in the internationalization speed of larger MNEs (e.g., Vermeulen and Barkema, 2002; Wagner, 2004), this topic has been the overriding focal point of interest of INV scholars (e.g., Oviatt and McDougall, 1994; Knight and Cavusgil, 1996; Kalinic and Forza, 2012). These scholars were intrigued by the phenomenon that small and resource-poor firms, facing liability of newness and foreignness, managed to internationalize at a fast pace shortly after inception (Oviatt and McDougall, 2005). Much work has been undertaken to shed light on this phenomenon and has helped us to understand what sets these firms apart from traditional exporters and MNEs, and which enabling factors contribute to overcoming constraints believed to be inherent in the nature of new ventures (Oviatt and McDougall, 1994; Knight and Cavusgil, 1996; Madsen and Servais, 1997). This phenomenon also shifted the time frame for studying the internationalization speed of INVs to these firms' initial international activity. Accordingly, and as mentioned above, the context of INV research identifying antecedents to fast internationalization has mostly been the pre-internationalization phase of the firm (cf. Zucchella et al., 2007) and sometimes even pre-foundation (Coviello, 2006). Despite the significant interest in initial

internationalization of INVs, subsequent internationalization and the process of how INVs continue internationalizing over time remains under-researched (Casillas and Acedo, 2013; Morgan-Thomas and Jones, 2009; Hagen and Zucchella, 2014; Gabrielsson et al., 2014). However, according to the conceptual work of Prashantham and Young (2011), it is particularly in the subsequent stage of internationalization where the actual challenge for INVs begins, as it is a decisive phase for the survival of a firm. While it is assumed that INVs continue to internationalize at a fast pace and begin to embrace global operations, which leads to managing a large number of market entries, acquiring resources, gaining knowledge and further international experience (Prashantham and Young, 2011; Weerawardena et al., 2007; Kiss and Danis, 2010), we still lack empirical studies to more closely examine this assumption (Knight and Liesch, 2015).

3.2.2 Dimensions of internationalization speed

Besides a narrow time frame and focus on initial internationalization speed within current INV literature, internationalization speed is also predominantly analyzed in a unidimensional way in both INV and more traditional IB literature (Chetty et al., 2014; Casillas and Acedo, 2013). Dominant speed measures include, for example, the pace in terms of international sales increase (e.g., Tan and Mathews, 2015; Wagner, 2004; Morgan-Thomas and Jones, 2009), the number of markets entered (Prashantham and Young, 2011), and the number of foreign direct investments undertaken (Vermeulen and Barkema, 2002; Chang and Rhee, 2011). However, several scholars put forward that internationalization speed is comprised of multiple dimensions that should be considered in order to provide a more thorough perspective on internationalization speed. In their conceptual work, Oviatt and McDougall (2005) highlight three vital aspects of internationalization speed of new ventures: initial entry, country scope, and commitment. By including country scope speed and commitment speed in addition to initial speed into their overall measure of speed, they acknowledge the speed with which operations in psychically distant countries are undertaken as well as the rapidity of increase in

foreign sales. Similarly, Casillas and Acedo (2013) conceptualize internationalization speed as a multidimensional construct consisting of speed of internationalization growth (i.e., export intensity), speed of increased commitment of resources (i.e., assets held abroad), and speed of the dispersion of markets (i.e., number, variety, and distance of markets entered). Only a few empirical studies to date have adopted a multidimensional measure of internationalization speed. Chetty et al. (2014), for example, measure internationalization speed as speed of learning and speed of commitment to analyze its impact on international performance. The lack of empirical research conceptualizing speed as a multidimensional construct makes it difficult to compare and consolidate current findings. Moreover, we still lack a more fine-grained picture of the outcomes of internationalization speed as well as the factors driving speed.

3.2.3 Antecedents of internationalization speed

Drivers contributing to increased internationalization speed can either reside within the environment, and are therefore exogenous, or within the firm, and thus endogenous (Zucchella et al., 2007; Madsen and Servais, 1997). Changes in the macroeconomic environment, and in particular globalization, have been considered as a root cause for the rise of the INV phenomenon (Oviatt and McDougall, 1994; Autio, 2005; Zahra, 2005). Exogenous drivers are, for example, the advancement of information technology as well as a significant reduction of trade barriers and creation of free trade agreements, all of which facilitate the process of operating globally and moving goods and services across countries – particularly for newly established firms (Madsen and Servais, 1997; Hilmerston and Jansson, 2012; Oviatt and McDougall, 2005). Furthermore, it has been shown that the industry context can also lead to accelerated internationalization, as is the case in high-technology industries, where firms with short-lifecycle products requiring high levels of proprietary knowledge need to quickly expand their revenue base internationally to break even and compensate for high research and development costs (Oviatt and McDougall, 1994; Oviatt et al., 1995; Autio, 2005; Schwens and

Kabst, 2011). Furthermore, home-country market factors such as a small domestic market (Evangelista, 2005) or market maturity (Winch and Bianchi, 2006; Evans et al., 2008) can also speed up the internationalization process of INVs.

While exogenous drivers play an important role for the development of INVs, a large body of literature has focused on firm-level endogenous drivers to understand the underlying mechanisms that assist INVs in internationalizing shortly after inception. Among these antecedents, a focal object of investigation has been the role of the entrepreneur or management of the firm (Oviatt and McDougall, 1994; Zucchella et al., 2007; Zahra and George, 2002). The entrepreneur's impact on accelerated internationalization stems from his or her previously obtained international experience (Harris and Wheeler, 2005; Andersson, 2000; Coviello and Munro, 1997; Zahra and George, 2002). It is argued that entrepreneurs with previous international experience, gained, for example, through studying and working abroad or by having learned foreign languages, are more likely to be internationally oriented and therefore their enterprises will tend to internationalize more quickly (Reuber and Fischer, 1997; Harris and Wheeler, 2005). This idea relates to the concept of experiential learning, as discussed in the Uppsala internationalization process model by Johanson and Vahlne (1977), whereby it is assumed that increasing international experience lowers risk perception of foreign markets and leads to further internationalization (Johanson and Vahlne, 1977; Forsgren, 2002; Schwens and Kabst, 2011). But instead of gaining experiential knowledge on the firm level, INV scholars see this experience on the individual entrepreneur level as essential for accelerated internationalization (Zahra and George, 2002). Furthermore, scholars advancing traditional internationalization theories and INV theory also concur that the resource endowment of the firm plays a significant role within the international expansion process (Sapienza et al., 2006; Sui and Baum, 2014; Welch and Luostarinen, 1988). Resources important for rapid international expansion include, among others, financial capital for export funding (Preece et al., 1999), time to develop new partnerships (Hagen and Zucchella, 2014),

and social capital to increase knowledge accumulation (Prashantham and Young, 2011). Many of these studies stress the specific role of networks (Freeman et al., 2006; Zhou et al., 2007; Coviello and Munro, 1997; Gulati et al., 2000) – particularly the founder’s network (McDougall et al., 1994) – as a way to gain access to valuable resources such as information, financing, and additional contacts (Coviello, 2006; Oviatt and McDougall, 1994), thus accelerating internationalization (Musteen et al., 2010; Kiss and Danis, 2008). Research on the role of networks has also challenged well-established internationalization theories, which ultimately triggered Johanson and Vahlne (2009) to revisit their original internationalization model to include a network perspective. A final antecedent worth considering is the international growth strategy of the firm. An international growth strategy, which includes both orienting the firm internationally and prioritizing internationalization as one of the prime objectives of the firm, provides a sound base for rapid expansion (Baum et al., 2011a; McDougall et al., 1994). A strategy that reflects the entrepreneurial orientation of the firm with regard to international growth has been found to be positively related to the international growth of firms (Moreno and Casillas, 2008). This is due to the fact that international growth orientation is, for example, associated with lower risk aversion, higher willingness to commit resources to international expansion, and more proactive behavior, all of which ultimately also increases the international performance of a firm (Nummela et al., 2004).

We acknowledge that experience, resources, and strategy as the antecedents of initial internationalization speed are by no means exhaustive. However, they highlight the most dominant firm level factors discussed in the literature. The preceding review consolidates the research findings on INV initial internationalization. Despite the significant interest in initial internationalization of INVs, subsequent internationalization and the process of how INVs continue internationalizing over time remains under-researched and insights remain limited (Casillas and Acedo, 2013; Morgan-Thomas and Jones, 2009; Hagen and Zucchella, 2014; Gabrielsson et al., 2014).

With regard to the impact of fast initial internationalization on subsequent internationalization, Morgan-Thomas and Jones (2009) find that INVs are more likely to operate in a higher number of markets and utilize a larger variety of entry mode strategies than are traditional exporters. A recent qualitative study conducted by Hagen and Zucchella (2014) analyzes the long-term growth of INVs by developing a conceptual framework depicting antecedents of subsequent internationalization behavior of INVs with regard to speed, scope, and intensity. While their findings are similar to those of Sleuwaegen and Onkelinx (2014), who show that INVs can take very different internationalization paths in the subsequent stage with regard to speed of internationalization, their empirical analysis of these relationships does not provide any detailed insights on how individual antecedents impact subsequent internationalization speed of INVs (Hagen and Zucchella, 2014).

This broad overview shows that scholars have started to embark on the journey of exploring the subsequent internationalization phase of INVs; however, the door for future research in the area, and in particular analyses of the factors driving subsequent internationalization speed, remains wide open. Therefore, this paper aims at gaining further insight on the firm-level factors driving internationalization speed of INVs once they have commenced international activity (i.e., subsequent internationalization speed) to obtain a more comprehensive picture of the INV development in the long run.

3.3 Methods, research setting, and design

The data of used in this study was derived from a large survey on firms' internationalization processes conducted in the German renewable-energy industry. A single-sector study was chosen to highlight context-specific differences between firms, as the internationalization process can be strongly impacted by the industry (Coviello and Jones, 2004; Coviello and Martin, 1999; Evangelista, 2005; Jones, 1999). The renewable-energy industry was chosen

because it is highly international and relatively young, consisting of manufacturing and service firms with a high number of INVs (Baum et al., 2011b; Lehr et al., 2012). As INV definitions remain inconsistent, we adopt the original definition proposed by Oviatt and McDougall (1994): INVs are firms that “from inception seek to derive significant competitive advantage through the use of resources and the sale of output in multiple countries” (p.49). To be considered INVs, we required firms to have internationalized within three years after inception, which is a commonly used cut-off point (Knight and Cavusgil, 2004; Madsen, 2013). Our research design is based on a two-stage process using a multi-method approach and thus follows the call for reconciliation of interpretive insights with positivist measurement (Coviello and Jones, 2004). A mixed-method approach was considered most appropriate due to the newness of the research – exploring the drivers of subsequent internationalization speed – which allows for a broader exploration of the topic (Hurmerinta-Peltomäki and Nummela, 2006). Combining qualitative and quantitative data within one study helped us to obtain a thorough reflection of the drivers of subsequent internationalization speed and thus add to existing knowledge (Creswell, 2009; Hurmerinta-Peltomäki and Nummela, 2006). We used sequential data collection and analysis, which particularly helped us to gain a sound understanding of the industry and its actors, and therefore facilitated the interpretation of results. The research design was subdivided into two stages to enable qualitative and quantitative analyses (see Figure 3.1).

Research Stage 1: First, we started pre-screening firms from the renewable-energy industry. Firms considered for the study had to derive their major revenue base from activities related to renewable-energy technology, such as solar, wind, biomass, and biogas and maintain operations outside their domestic market (i.e., Germany). Because the industry is relatively young, a comprehensive and up-to-date database of firms does not exist. In order to identify the population size, we relied on a large database from a governmental institution covering the German renewable-energy industry. This database also included firms that exclusively

operate domestically as well as other industry actors that were not relevant to the purpose of this study (e.g., foreign firms, non-governmental and governmental organizations). In order to ensure that the database included all relevant firms we additionally checked membership lists of all relevant industry associations and clusters, as well as exhibitor lists from trade fairs. In total, 4682 firms were screened to assess whether they fulfilled the sampling criteria of being German (owned) for-profit firms, which derive their main revenue from the renewable-energy industry (i.e., solar, wind and bio energy), and are operating internationally. In total, 488 firms met all criteria, and these firms were then used to construct a database for the research project. Most of the firms screened were excluded because they were not internationally operating, were associated with different industries (e.g., banking, consulting, software), or only derived a low percentage of their revenue from the renewable-energy industry. In a pilot study, we conducted interviews with twelve managers and industry representatives at the organizations' sites or at industry events to validate the practical relevance of our research and

Research Stage 1

Pre-screening of 4682 firms
Pilot study with 12 managers and industry representatives
Selection and interviews with 6 INVs and 5 industry representatives
Qualitative analysis and hypotheses generation

Research Stage 2

Large scale questionnaire based survey
Quantitative analysis and hypotheses testing
Comparative analysis and discussion of results
Implications for research, managers and public policy makers

Figure 3.1: Research design

gain a thorough understanding of the industry.

This step helped us to prepare the next research stage and design the questionnaires accordingly.

Afterwards, we conducted eleven interviews with six INVs and five industry informants to gain insights into the internationalization process of

German renewable-energy firms. This provided a rich dataset that was used to generate hypotheses. The sample was purposefully selected to maximize variation across firms and institutions (cf. Eisenhardt, 1989), as is common practice in INV research (Coviello and Jones, 2004). Interview partners were approached personally during trade

fairs, congresses, and other industry events and interviews were carried out between June and August 2013. The data was subsequently analyzed and propositions formulated.

Research Stage 2: In the second research stage we tested hypotheses developed in Research Stage 1, and conducted a large questionnaire-based survey with all firms included in the database. For this purpose a questionnaire was constructed, pre-tested, and afterwards completed by the entrepreneur, CEO, or export manager either online, via email, postal mail, fax, or over the phone. In total, 251 questionnaires were returned (51.4%), out of which 150 firms met the INV criteria. The data of these INVs was used to test hypotheses by using a hierarchical regression analysis with SPSS. Subsequently, we compared and interpreted findings from qualitative and quantitative data, which helped us gain a thorough understanding of the drivers of the subsequent internationalization process.

In the following, the analysis and findings of both research stages will be elaborated in detail.

3.4 Research Stage 1: Hypotheses generation through qualitative analysis

3.4.1 Qualitative data collection and analysis

Qualitative data collection took place with six INVs and five industry informants. Interviews were conducted with CEOs or general and senior managers responsible for the internationalization of the respective firm. Interviews were conducted in German, at firms' sites and via telephone, and lasted on average one hour and forty minutes, and were guided by a semi-structured questionnaire. Questions solicited information about the firm's history, internationalization strategy, and processes, as well as potential drivers of subsequent internationalization speed, including the respondent's and the firm's international experience, the resources dedicated to internationalization efforts, as well as the firm's strategy for growth and speed of international expansion. These overarching themes were extracted from the literature on INV initial internationalization (e.g., Oviatt and McDougall, 2005; Madsen and

Servais, 1997; Hagen and Zucchella, 2014). They guided the semi-structured interviews, while at the same time allowed for new themes to emerge. As this study focuses specifically on firm-level drivers of speed, a one-industry and one-country sample that eliminates influences stemming from the macro-environment or industry was suitable.

Each interview involved two researchers and was audio recorded and transcribed to ensure reliability (Eisenhardt, 1989). Transcripts produced a rich dataset for thematic analysis. The transcription resulted in 149 single-spaced pages and 104,097 words. Accuracy of the transcription and translation into English was double checked by the co-researcher. All identifiers, such as names of organizations, interviewers, and participants were substituted by appropriate codes to preserve confidentiality and privacy of the participating organizations and participants, as agreed upon in the consent form signed before participation.

In addition to interview data, we collected secondary data from company documents provided by the firms, web pages, and industry-association reports to validate interview data and gain further information. This step enabled us to obtain significant insights on the history of the firm, geographical scope, its networks, vision, internationalization strategy, and processes.

Open and axial coding aided by NVivo 10 began with reading the transcribed interviews several times to familiarize ourselves with the overall data first, while making notes of ideas or concepts discovered. Subsequently, interview data was coded in the software and overarching themes were identified (cf. Corbin and Strauss, 2008). The codes were analyzed for similarities and relationships, which helped us to identify main drivers of subsequent internationalization speed, group them into categories, and establish interrelationships with regard to the speed of subsequent internationalization.

3.4.2 Qualitative findings and hypotheses

Analyzing the interviews revealed several firm-level drivers that impact subsequent internationalization speed. In line with previous literature on initial internationalization speed,

the overarching categories identified consist of experience, resources, and strategy. Yet our qualitative inquiry allowed new themes and foci to emerge. Thus, we kept some of the themes identified as relevant for initial internationalization speed (i.e., international experience of the entrepreneur/TMT and international growth strategy) and added new ones (i.e., international experience of the firm, the resources dedicated to establishing an international network, and the initial internationalization speed). The presentation of the qualitative findings will be structured according to Figure 3.2. Moreover, anonymized quotes have been selected from interview partners that best reflect codes and themes identified and these are provided below to help gain insights into the results of our analysis.

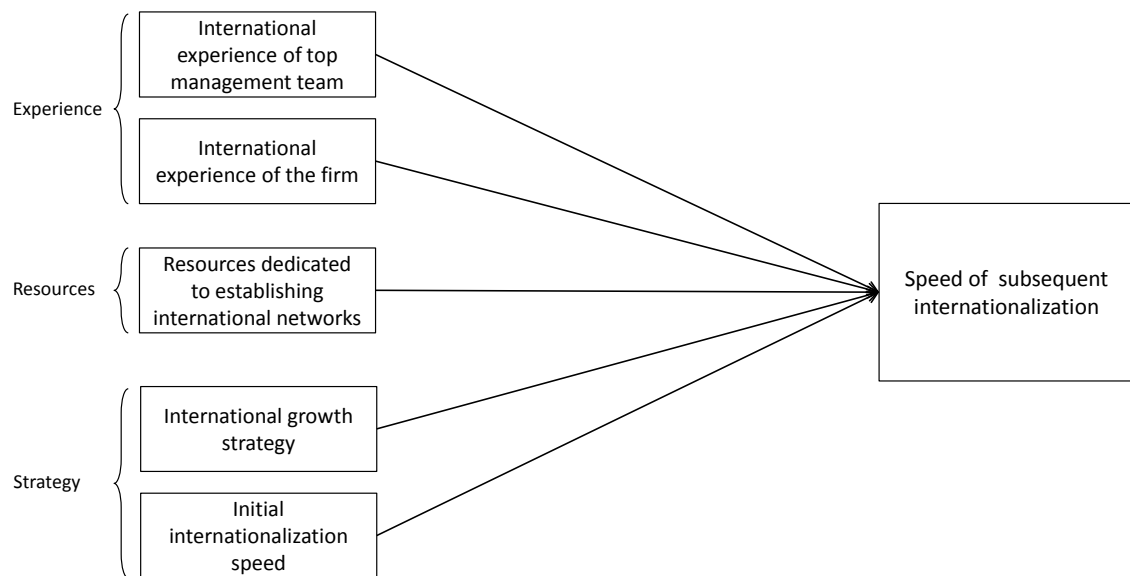


Figure 3.2: Themes that emerged during qualitative analysis

International experience of entrepreneur and top management team

Literature on initial speed of internationalization stresses the importance of the prior international experience of the entrepreneur, which facilitates the early expansion of INVs (Harris and Wheeler, 2005; Zahra and George, 2002). Our interviews indicated that previous international experience of the TMT or entrepreneur continues to play an important role in the long-term expansion process of INVs, as was the case for Firm A's market entries in Eastern

Europe, where the Head of Sales was already familiar with the language and culture of the region:

"I have done my civil service in Czech Republic and know Czech for that reason which is the basis for Slavic languages." (Head of Sales, Firm A)

In the same vein, the CEO of Firm D also confirmed that a recent market entry into Brazil was triggered and facilitated by his prior international experience, which enabled the firm to enter Brazil more swiftly than its competitors:

"In the case of Brazil several factors played a role. First, I have lived a longer period of time – 5 years – in Portugal and have worked there for a German company. I speak the language and my wife is Portuguese. And therefore I have a certain affinity towards the culture and countries where you speak Portuguese. And Brazil presented a great opportunity." (CEO, Firm D)

Both interview partners emphasized that their previous international experience expedited the internationalization in these markets. This notion is also supported when considering that Brazil seemed to be especially difficult to enter for some of the other interviewed firms. Firm A and Firm F have tried unsuccessfully to gain access to the market for several years, but significantly lacked the necessary experience to enter such a culturally different country (Industry Informant 1). This is why Firm D was able to internationalize more quickly into Brazil than its competitors.

A particular reason why firms with internationally experienced entrepreneurs or TMT seem to internationalize in the subsequent stage is their genuine interest in exploring something new and in living abroad, as was the case with some of the general managers of Firms B and E.

“The great thing about our general managers is that they are not at all money driven. They have enough and just want to explore something new, set themselves new challenges, and are curious to see what is happening beyond the national borders.” (Head of Sales, Firm B)

This response shows that subsequent internationalization speed might not only be increased by a direct influence of TMT international experience, but also indirectly, as managers that have international experiences also more proactively seek out market opportunities abroad and are more likely to accept risk, place greater importance on hiring international staff, and dedicate more resources to internationalization (McDougall et al., 1994; Baum et al., 2011b), as was confirmed by most of the interviewees. Given that personal international experience has been gained in a limited number of markets and is often country or region specific, the direct impact of previous international experience to swiftly enter more distant markets is limited. However, we found that firms with internationally experienced entrepreneurs are more open to compensate for their lack of country-specific experience by using external consulting firms as a way to exploit these firms’ particular market knowledge and overcome managers’ lack of personal experience in these markets.

“But our manpower is limited with regard to the required know-how. A lot of experience is required to enter a new market and it is easy to forget critical components, which might be very important [to successfully enter a new market]. Therefore we always work together with a consulting firm [name undisclosed due to confidentiality]. They help us with the entire process.” (Director International Business, Firm F)

“Well to be honest we do everything with a consulting firm [name undisclosed due to confidentiality] because it is just way too difficult to internationalize by ourselves – as a small firm. It might obviously cost more money, but in return it is a lot less risky.” (CEO, Firm D)

We can therefore assume that the entrepreneurs' or TMTs' international experience continues to influence the subsequent internationalization speed either directly or indirectly. For this reason, we propose:

Hypothesis 1: International experience of the entrepreneur/TMT relates positively to subsequent internationalization speed.

International experience of the firm

While literature on INVs' initial internationalization speed mainly emphasizes the individual entrepreneur's international experience that speeds up the internationalization process (Mathews and Zander, 2007; McDougall et al., 1994; Harris and Wheeler, 2005), during the subsequent stage the firm itself has accumulated knowledge and routines to undertake operations in foreign markets. Therefore, the overall international experience of the firm needs to be considered in order to understand subsequent internationalization speed. Experiential knowledge of the firm and its impact on the internationalization process of a firm has been thoroughly elaborated in the Uppsala internationalization process model (Johanson and Vahlne, 1977; Johanson and Vahlne, 2009; Eriksson et al., 1997). Our interviewees indicated that international experience of the firm seems to play a crucial role for INVs in the subsequent stage of internationalization. However, in contrast to what could be expected based on the propositions by Prashantham and Young (2011), most INVs (Firms A, B, E, and F) mentioned that they consciously chose to internationalize more slowly, due to their past experience and the understanding that internationalization can be very risky, as highlighted by Firm A:

"We always try to do it [market entries] with a low commitment of resources and with low risk. (...) This is because of our experience in the last couple of years, where we realized that a market can become completely unprofitable within no time. So the more money we invest, the higher is the risk that it will be lost forever." (Head of Sales, Firm A)

Also, Firm B decreased its internationalization speed based on past experiences:

"Obviously we made mistakes a couple of times. That's part of the business. And thus we decided that we want to do it [expansion into new markets] in a more sustainable way – not too fast. This way we will not be surprised by unexpected and dynamic developments in foreign markets, which can seriously harm our existence. (...) Due to our experience we just waited before going to South Africa." (Head of Sales, Firm B)

Due to past international experience, firms identified the problems associated with fast internationalization, including lack of control over certain procedures in foreign markets in the areas of law enforcement and business conventions:

"And I think I just prefer [to internationalize] slowly – but continuously. You need time. And at the moment we receive a lot of requests [from potential customers overseas] and I could sell all my products in stock within no time, but we don't want that. That doesn't help us. You never know if you are being payed or not [by overseas customers]." (CEO, Firm D)

The picture drawn by the interviewees leads us to the conclusion that INVs tend to be more prudent with regard to fast internationalization in the subsequent stage based on their experience gained during their first market entries. This is mainly rooted in the fact that firms have either lost capital or have realized that they do not have the resources needed to continue internationalizing at fast pace. We therefore propose:

Hypothesis 2: International experience of the firm relates negatively to subsequent internationalization speed.

Resources dedicated to establishing international networks

Prior research has shown that time, knowledge, and capital present resources which, when dedicated to the internationalization process of firm, drive rapid internationalization (Preece et al., 1999; Sapienza et al., 2006). As international network relationships open access to such resources and thus help to compensate for the scarce resource endowments of new ventures, they have been identified as an important ingredient for fast initial internationalization (Jones et al., 2011). Moreover, the revisited Uppsala internationalization process model shows that international network contacts remain an important driver for continuous internationalization of firms (Johanson and Vahlne, 2009). The importance of networks for rapid subsequent internationalization speed of INVs has also been confirmed by all our sample firms. What seems particularly important is the expansion of their international network in order to facilitate and expedite new market entries. Accordingly, our sample firms commonly emphasized that they invested their time and effort in a focused way to build up their foreign network relationships:

"We always had a worldwide network which we try to improve and expand in order to grow together with our partners. But in markets where we really do not know anybody and which is completely new to us, we either start with desk research or if possible we participate in overseas business and networking trips offered by the German chambers of commerce and other institutions. I think that is a very efficient way to get to know the market." (Head of Sales, Firm C)

And although INVs start using their existing network first to enter new markets, the importance of official networking programs or mediators becomes crucial at some stage:

"For us it is common to start doing it [internationalize into new markets] ourselves. But there is always a point where we rely on external help such as the chambers of commerce or a consulting firm [name undisclosed due to confidentiality] who help us doing some market research and to get access to networks." (Head of Sales, Firm B)

In particular, foreign trade fairs and programs offered by the German chambers of commerce or the renewable-energies export initiative seem to provide network access that helps firms to internationalize:

“Up until now we always found our partners by travelling to the target market, which was either realized through the export initiative [business trips offered by the German ministry of economics] or by presenting at trade fairs [facilitated by the German ministry of economics].” (Head of Sales, Firm A)

Using and expanding international networks through these government programs can therefore significantly speed up the internationalization process, as stressed by Industry Informant 3.

“The export initiative [by the German ministry of economics] helps reducing the time of market entry from two to one year – or less. For one week they [representatives of firms] fly to a target market and have a couple of meetings and can present themselves [to local firms and industry actors].” (Industry Informant 3)

Based on these insights, we can conclude that in the subsequent stage of internationalization, the resources dedicated to the internationalization process of the firm, especially for establishing international network relationships, remain crucial for entering markets at a faster pace. During this stage, expanding these networks seems to be achieved mainly by dedicating time and effort to participating in specific government programs, industry events, and trade fairs. We therefore propose:

Hypothesis 3: A high level of resources dedicated to establishing international networks of the firm relates positively to subsequent internationalization speed.

International growth strategy

The overall business strategy of a firm is essential to direct future growth and development of a business (Williams and Gregoire, 2015). Based on the business strategy, resources are allocated and targets are set. For INVs that wish to internationalize further, their internationalization strategy is vital to their internationalization process.

The interviews with the sample firms have shown that internationalization strategies can vary significantly among INVs and that international growth strategies can significantly impact the internationalization process of a firm. Thus, some of the INVs in our sample do not regard rapid international growth as a core objective and therefore purposely decide to internationalize at a slower pace:

“We just do not want it [to internationalize more quickly] and we don’t want to employ ten new employees every year, because it would not be sustainable in terms of growth. And if we grew too fast it would hit us at some stage. (...) We have the resources to do so, as we are conservative and down to earth. But we don’t want that because we don’t know where it will take us. And we know that part of the money you invest will be just gone. That’s the risk.” (Head of Sales, Firm B)

Other INVs see internationalization along a wide geographical scope as an opportunity to diversify risk and therefore implement a growth strategy that fosters expansion at a fast pace to provide a competitive advantage, as is the case with Firm F:

“Part of it [why we internationalize] is to diversify the risk. This is also what constitutes our [financial] strength, where the others [competitors] struggle a lot more.” (Director International Business, Firm F)

This might be one of the reasons why some firms see rapid internationalization as one of the most important goals:

“For three years it was absolutely obvious and important to become an internationally oriented firm. And to build a global presence.” (General Manager, Firm D)

The statements above show that the decision of whether to internationalize rapidly or not is a strategic one. Thus, it seems that a well-executed international growth strategy forms a solid base to enable firms to internationalize faster and pro-actively enter new markets. Hence we propose:

Hypothesis 4: International growth strategy relates positively to subsequent internationalization speed.

Initial internationalization speed

The INV phenomenon is based on the fact that these firms manage to internationalize at a fast pace shortly after inception, which is a strategic decision expected to shape a firm’s future activities (Autio et al., 2000; Sapienza et al., 2006). Some studies have been conducted investigating whether initial internationalization speed also increases subsequent internationalization speed (Sleuwaegen and Onkelinx, 2014; Autio et al., 2000). However, findings remain varied and inconclusive. Based on the information provided by our sample INVs, in some cases a direct relationship between initial internationalization and subsequent internationalization speed can be found. Thus, Firm F seems to have benefited from early internationalization and internationalized faster in the subsequent stage compared to their competitors:

“We are also the only one in our industry sector who placed large emphasis on internationalization early on. All the others focused more or less on Germany or maybe the neighboring countries. But at the moment there is no one in our industry sector who has achieved such a large scope.” (Director International Business, Firm F)

The main argument that initial internationalization speed increases subsequent internationalization speed relates to the idea that firms gain experience from internationalization procedures early in their lifecycle and can use this knowledge in a later stage to internationalize at a faster pace, which was confirmed by Firm E:

"[Referring to previous international projects] Because the next projects will be developed much faster as we have the network and we know the people and we can deal with problems which we might not have seen and anticipated otherwise. The first international project is the hardest." (CEO, Firm E)

Although this relationship was only identified for three of our sample INVs (Firm C, E, and F), we assume that early internationalization accelerates subsequent internationalization and therefore propose:

Hypothesis 5: Initial internationalization speed relates positively to subsequent internationalization speed.

3.4.3 Preliminary conclusion of qualitative findings

Summing up the findings of our qualitative inquiry, we show how the overarching themes of experience, resources, and strategy impact the subsequent internationalization speed of INVs (see Figure 3.3). The analysis shows that – in line with previous literature on initial internationalization speed – international experience of the entrepreneur/TMT as well as international growth strategy also impact the subsequent speed of INV internationalization (e.g., Hagen and Zucchella, 2014). In the same vein, it has also been shown that networks of the entrepreneur provide a valuable resource to achieve rapid initial speed (e.g., Coviello, 2006; Zucchella et al., 2007). Our analysis on subsequent speed shows that networks continue to play an important role in the subsequent internationalization stage. However, instead of merely relying on the network of the entrepreneur or TMT to rapidly internationalize, the

qualitative inquiry reveals that firms make use of their scarce resources, such as finances and time, to proactively expand their networks to expedite the international expansion of the firm. In addition to literature on initial internationalization speed, two completely new themes have been identified, namely international experience of the firm and initial internationalization speed. Both factors are unique to the subsequent stage of internationalization, as they require firms to have started international operations. In contrast to the international experience of the entrepreneur or TMT, the overall international experience of the firm is predicted to lower the subsequent speed of internationalization. All other factors, including initial speed of internationalization, are expected to be positively associated with subsequent internationalization speed.

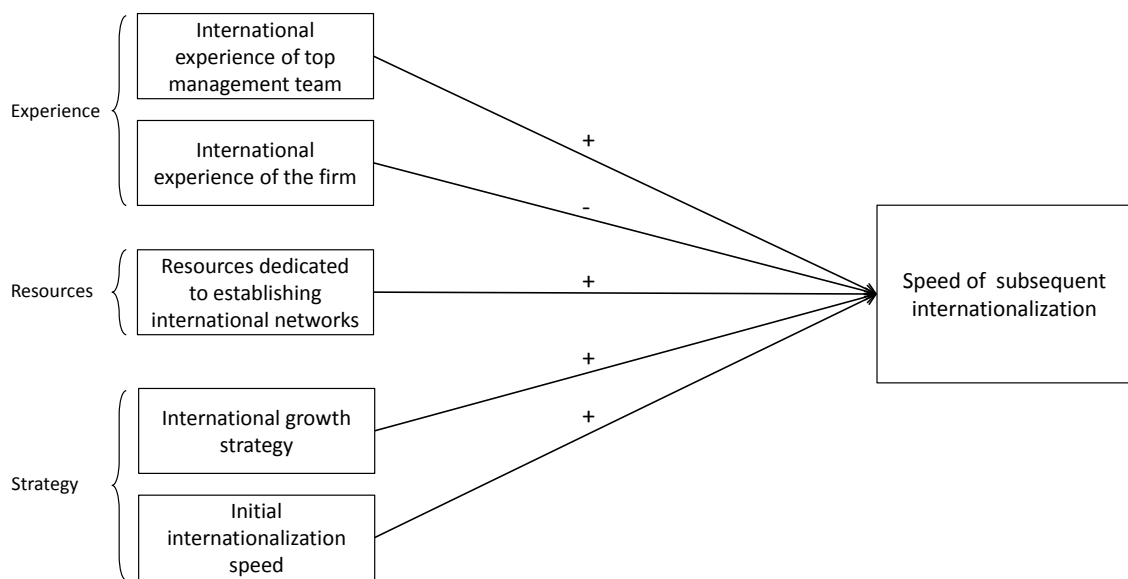


Figure 3.3: Framework of subsequent internationalization speed

3.5 Research Stage 2: Hypotheses testing through quantitative analysis

3.5.1 Data collection and sample

Based on the qualitative analysis above, we were able to derive hypotheses that were subsequently tested by applying a quantitative analysis. For this purpose we constructed a questionnaire, based on insights gained through interviews and academic literature. Items

included in the research were accepted scales derived from IB literature. As all items were originally in English, to ensure validity they were translated into German and subsequently back-translated into English by two research assistants. The questionnaire was pre-tested with managers, industry informants, and academics to ensure comprehensibility. Based on their feedback, some questions were slightly modified to increase understandability and reduce ambiguity. All firms were initially contacted via telephone to identify the most suitable respondent to warrant reliability, to explain the aim of the study, and to obtain consent for participating in the study. As mentioned previously, 150 questionnaires were returned from INVs operating in the German renewable-energy industry, with 134 questionnaires usable for our analysis. On average our sample INVs are 8.63 years old, employ around 60 people, and derive 45.45% of their revenue abroad. About one-third of the sample consisted of manufacturing and two-thirds are service firms. They operate, on average, in about 11 markets and have maintained international operations for 7.71 years.

3.5.2 Measurement of variables

The *independent variables* included in our model were adapted from established scales in dominant IB, international entrepreneurship, and management literature. Constructs consisting of several items were measured on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Otherwise dummy variables were used, as in the case of *international experience of the entrepreneur/TMT*, where two binary measures on whether the entrepreneur and/or TMT members worked or studied abroad before founding or joining the firm. These items were adapted from Reuber and Fischer (1997) and Lee and Park (2008). This measurement enabled us to measure the direct impact of TMT international experience on internationalization speed, rather than the indirect effect described in the qualitative analysis. In order to measure the *international experience of the firm*, we adapted a three-item scale from Mjoen and Tallman (1997). This scale measured whether the firm has a long tradition of undertaking international activity, and thus whether experience was gained over a longer

period of time (Cronbach's $\alpha = .869$). Other dominant measurements of international experience of the firm, such as the number of years since first internationalization (cf. Zahra et al., 2000; Coeurderoy et al., 2012), were less suitable for our study, as the cause-effect relationship between international experience and internationalization speed of firms cannot be clearly distinguished in cross-sectional studies. Thus, the measurement applied in this study is particularly useful as items are formulated in a timeless manner and are not subject to changes regarding a certain time span or more recent international developments of the firm. In order to measure the *resources dedicated to establish international networks* of a firm, a scale originally used by Gençtürk and Kotabe (2001) was adapted. Respondents were asked to indicate activities undertaken to enlarge their international networks. Based on the qualitative interviews with firms and industry representatives, the most dominant networking opportunities were identified and pre-tested with regard to completeness, also leaving an option to indicate further ("other") activities. Programs to gain network access included business information and contact events, overseas networking trips, and overseas trade fair participation. Similar to Gençtürk and Kotabe (2001), we added up the number of programs used, which in our study indicates the extent to which a firm used resources to expand its existing international networks. *International growth strategy* was measured on a four-item Likert scale asking respondents whether internationalization is required to succeed in the future, if growth can mainly be achieved through internationalization, and whether the domestic market offers sufficient growth potential (adopted from Baum et al., 2011b; Nummela et al., 2004). To understand the priority of international growth we also asked whether rapid international growth is the most important goal of the venture (adapted from Autio et al., 2000) (Cronbach's $\alpha = .823$). The international growth strategy is a long-term strategy that shapes the international expansion process of a firm in the long run, in contrast to other firm strategies that often have a short-term and cost-reduction focus (cf. Hoskisson et al., 2000; Hagen et al., 2012; Johanson and Vahlne, 1977). Our last measure of the

independent variables was *initial internationalization speed*, which was measured by asking respondents to name the firm's year of foundation and year of first international market activity. The time span between these two events was calculated to capture initial internationalization speed (adopted from Autio et al., 2000).

Although our hypotheses were formulated in a general manner with regard to our *dependent variable* subsequent internationalization speed, we chose to follow a call by several scholars to adopt a speed measure to reflect the multidimensionality of the construct (Oviatt and McDougall, 2005; Casillas and Acedo, 2013; Chetty et al., 2014), instead of merely using a unidimensional measurement (cf. Morgan-Thomas and Jones, 2009). Thus, we measured subsequent internationalization speed along four different dimensions: (1) country speed, (2) commitment speed, (3) scope speed, and (4) equity speed. All speed dimensions were juxtaposed against the time span of the firm's first international activity until present (year of data collection, 2014) (i.e., years of international operations), to reflect the subsequent internationalization period in years. The measurements of the first three dimensions were adopted as originally suggested by Oviatt and McDougall (2005). *Country speed* reflects the rapidity of accumulated entries into international markets and was measured in terms of number of foreign markets entered in relation to the number of years operating internationally (Prashantham and Young, 2011; Casillas and Acedo, 2013; Oviatt and McDougall, 2005; Chetty et al., 2014). *Speed of international commitment* was measured as the percentage of foreign revenue divided by the number of years of international operations (Morgan-Thomas and Jones, 2009). *Internationalization speed of scope* was only implicitly mentioned by Oviatt and McDougall (2005) when describing measurements of country speed, whereby the authors refer to the speed of increase of psychically distant markets entered. In order to reflect this dimension, we provided respondents with a list of different geographical areas that represent cultural clusters identified by Gupta et al. (2002). The respondents had to indicate in which of these regions their firm is operating. The accumulated number of cultural

clusters indicated the degree of psychic distance. The number of cultural regions where international operations were undertaken was divided by the years of international operation and thus created the dimension of international scope speed (cf. Casillas and Acedo, 2013). *Equity speed* of internationalization was operationalized following an adaption of Chetty's et al. (2014) speed of entry mode commitment, which is measured by obtaining the most dominant entry mode chosen by a firm (Pan and Tse, 2000) and afterwards dummy coded with 0 indicating a majority of non-equity modes used and 1 indicating a majority of equity modes. We used the dummies and measured them against the time of international operations of a firm (cf. Chetty et al., 2014).

We also included several *control variables* into our analysis. We controlled for the *number of employees* and *turnover* to reflect the size of the enterprise, to see whether size of the firm (as a proxy for the firm's overall resources) impacts the dependent variables of subsequent internationalization speed (adapted from Chetty et al., 2014). Despite having a one-industry sample, technologies within the renewable-energy industry can differ significantly, which is why we also controlled for *sub-industries* for which dummy variables were created (wind, solar, biogas/mass, others) (adapted from Filatotchev et al., 2009; Coeurderoy and Murray, 2008). Additionally, we also controlled for the *type of firm* by differentiating between service firms (coded as 1) and manufacturing ones (coded as 0) (adapted from Khavul et al., 2010). These controls help to understand industry- and firm-specific differences with regard to the subsequent internationalization process. The individual measurements can be found in the Appendix of this paper.

Research based on surveys conducted with single respondents where independent and dependent variables are derived from the same source entail the danger of common-method variance (Chang et al., 2010; Podsakoff et al., 2003). This concern might therefore also hold true for our study. However, we used different methods to avoid and test common-method

variance. First of all, the questionnaire design mixed the order of questions and their measurement scales to avoid respondents creating relationships among the questions themselves and answering accordingly. Furthermore, the risk of common-method bias is reduced in our study because only two independent variables are perceptual measures. Although the information for the dependent variables was obtained from the same source, they are based on hard facts rather than perceptions (e.g., establishment of firm, first internationalization, revenue). Given that information on these variables can partly be retrieved externally, we cross-checked data with external sources such as company websites, industry brochures, and other publicly available information. In rare cases we had to correct inaccurate information that was mostly the result of typographical errors of the respondents. This reduced the risk of common-method bias (Chang et al., 2010). After obtaining survey data, we also conducted Harman's single-factor test. Using an exploratory principal-components factor analysis with all items used in the study, eleven factors emerged with an eigenvalue of > 1 and a total variance of 73%, of which the first factor accounts for 14.4% of the variance. Dependent and independent variables loaded on different factors. Thus, common-method variance does not seem to be a concern for this study, as no single factor emerged nor does one single factor contribute to the majority of the covariance of the variables (Podsakoff et al., 2003).

3.5.3 Data analysis and results

Table 3.1 shows the descriptive statistic and correlations of the independent, dependent, and control variables. No serious risk of multi-collinearity was identified, as all bivariate correlations stay below .7 and the highest variance inflation factor value of the independent variables was 1.24 (cf. Hair et al., 2010). Table 3.2 shows the results of the hierarchical regression analysis used to test our hypotheses.

Correlation Matrix		Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	International experience of Entr./TMT	1.264	.768															
2.	International experience of the firm	4.048	1.063	-.022														
3.	Resources dedicated to networks	1.830	1.870	-.030	.179*													
4.	International growth strategy	3.915	.875	-.015	.324**	.209*												
5.	Initial entry speed	.926	1.113	-.255**	-.247**	.001	.023											
6.	Country speed	1.481	1.659	.149	-.067	.198*	.171*	-.080										
7.	Commitment speed	9.953	13.441	.137	.066	-.032	.167*	-.213*	.254**									
8.	Scope speed	.746	.676	.072	-.252**	.020	.066	.016	.607**	.479**								
9.	Equity speed	.086	.172	.055	-.212*	-.031	.161	.125	.047	.103	.241**							
10.	Overall Resources – Employees (cont.)	60.307	162.521	-.089	-.110	.138	.114	.077	.055	-.007	-.017	-.020						
11.	Overall Resources – Turnover (cont.)	1.849	.859	.005	-.041	.185*	-.074	.030	.093	-.189*	-.066	.029	.333**					
12.	Type of firm (cont.)	.723	.449	-.004	.052	-.073	-.077	-.055	-.301**	.010	-.185*	.037	-.025	-.049				
13.	Sub industry - Wind (cont.)	.250	.434	.025	-.002	-.115	-.241**	-.004	-.134	-.193*	-.165*	-.132	-.023	-.049	.078			
14.	Sub industry – Solar (cont.)	.561	.498	-.104	.049	.029	.134	-.059	.088	.031	.003	.071	.080	.143	.000	-.652**		
15.	Sub industry - Bio (cont.)	.128	.336	.053	.027	.122	.114	.099	-.042	.099	.027	.006	-.083	-.057	.057	-.222**	-.434**	
16.	Sub industry - Others (cont.)	.061	.240	.097	-.137	-.022	.001	-.008	.125	.155	.270**	.089	-.010	-.124	-.222**	-.147	-.288**	-.098

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 3.1: Correlation matrix

While all hypotheses are based on a relationship between a driver of internationalization speed and subsequent internationalization speed, we measured speed along four different dimensions to reflect the multidimensionality of the construct. Thus, each hypothesis (i.e., driver measured as independent variable) was tested with regard to one specific internationalization-speed dimension (i.e., dependent variables). Models 1 (DV: country speed), 3 (DV: commitment speed), 5 (DV: scope speed), and 7 (DV: equity speed) are the base models including only the control variables. In Models 2 (DV: country speed), 4 (DV: commitment speed), 6 (DV: scope speed), and 8 (DV: equity speed) the independent variables were added to the base model to analyze their impact on internationalization speed. Model 1 indicates that, compared to manufacturing firms, service firms are less likely to internationalize into a high number of markets at a fast pace. The results presented in Model 2 show that international growth strategy is positively related to subsequent speed with regard to the number of countries entered. Model 3 indicates that the overall resources of the firm (i.e., turnover) and, to some degree, firms operating in the wind energy sector, are negatively associated with subsequent international commitment speed. The analysis of Model 4 shows that initial internationalization speed is negatively associated with subsequent international commitment speed. However, the negative sign indicates that the faster a firm initially internationalizes, the faster it internationalizes in the subsequent internationalization stage with regard to commitment speed. This result can be explained as follows: a low value for initial speed expresses a shorter time between inception and first internationalization and thus higher initial speed, whereas a higher value expresses slow initial internationalization speed. Thus, Model 4 shows that high initial speed leads to high subsequent commitment speed. Results for international scope speed (Model 5) show that firms in “other” industries are positively associated with regard to scope speed compared to solar firms. This group represents firms that either did not fall in any of the major renewable-energy sub-industries or – which was more common – are operating across several renewable-energy sub-industries.

Results of OLS regression	DV: Country Speed		DV: Commitment Speed		DV: Scope Speed		DV: Equity Speed	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Overall Resources – Employees	0.023	0.019	0.070	0.079	0.005	0.024	-0.044	-0.049
Overall Resources – Turnover	0.073	0.066	-0.205 *	-0.186 *	-0.057	-0.052	0.046	0.078
Type of firm - Service	-0.234 **	-0.217 *	0.003	-0.003	-0.132	-0.116	0.043	0.071
Sub industry - Wind	-0.099	-0.054	-0.149 †	-0.116	-0.113	-0.081	-0.131	-0.071
Sub industry - Bio	-0.020	-0.056	0.094	0.096	0.048	0.031	-0.017	-0.050
Sub industry - Others	0.088	0.077	0.129	0.127	0.241 **	0.218 *	0.079	0.066
International experience of Entr./TMT		0.140		0.099		0.061		0.100
International experience of the firm		-0.120		-0.020		-0.289 **		-0.303 **
Resources dedicated to networks		0.130		-0.058		0.034		-0.022
International growth strategy		0.173 †		0.157		0.140		0.297 **
Initial entry speed		-0.071		-0.205 *		-0.042		0.073
Constant	1.845 ***	0.884	15.582 ***	7.479	0.952 ***	1.178 **	0.073	-0.014
R ²	0.096	0.161	0.099	0.176	0.117	0.185	0.028	0.156
Adjusted R ²	0.054	0.085	0.056	0.101	0.076	0.113	-0.018	0.081
R ² change	0.096 *	0.064	0.099 *	0.076 †	0.117 *	0.068 †	0.028	0.128 **
F value	2.253 *	2.124 *	2.327 *	2.361 *	2.853 *	2.557 **	0.612	2.085 *

* Correlation is significant at the 0.05 level (2-tailed). *** Correlation is significant at the 0.001 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed). † Correlation is significant at the 0.1 level (2-tailed).

Table 3.2: Results OLS regression

Model 6 indicates that international experience of the firm is significantly negatively associated with speed of international scope. Model 7 shows that none of the control variables impact international speed of equity. Model 8 shows that international experience of the firm is significantly negatively associated and international growth strategy significantly positively associated with subsequent internationalization speed with regard to equity entry modes. All our models including independent variables along the various dependent variables are significant. The hypotheses that we tested quantitatively were derived from qualitative data. While we were able to establish the hypothesized relationships with qualitative data between antecedents and subsequent internationalization speed in general, the data was limited with regard to establishing relationships between antecedents and individual speed dimensions. Using a quantitative approach enabled us to gain a more fine-grained picture of how antecedents individually impact subsequent internationalization speed along its multiple dimensions. We therefore analyze the hypotheses with regard to each individual speed dimension instead of merely looking at subsequent internationalization speed in a unidimensional manner. Table 3.3 provides an overview, listing all hypotheses and showing whether the hypothesis was supported overall and in relation to the individual speed dimensions of country, commitment, scope, and equity speed.

Hypotheses	Conclusion	Conclusion with regard to individual dimensions			
		Country Speed	Commitment Speed	Scope Speed	Equity Speed
H1: International experience of the entrepreneur/TMT relates positively to subsequent internationalization speed.	not supported				
H2: International experience of the firm relates negatively to subsequent internationalization speed.	partially supported			strongly supported	strongly supported
H3: A high level of resources dedicated to establishing international networks of the firm relates positively to subsequent internationalization speed.	not supported				
H4: International growth strategy relates positively to subsequent internationalization speed.	partially supported	weakly supported			strongly supported
H5: Initial internationalization speed relates positively to subsequent internationalization speed.	partially supported		supported		

Table 3.3: Hypotheses results

In contrast to the qualitative findings, the quantitative results do not show any indication that previous international experience of the entrepreneur or TMT increases subsequent internationalization speed along any dimension. Thus, Hypothesis 1 was not confirmed (Models 2, 4, 6, and 8). Hypothesis 2, stating that international experience of the firm is negatively related to subsequent internationalization speed, was strongly supported with regard to subsequent scope (Model 6) and equity speed (Model 8), but did not show any significant relationship with regard to country speed (Model 2) and commitment speed (Model 4). We did not find any support for Hypothesis 3, which states that a high level of resources dedicated to establishing international networks of the firm is positively related with subsequent internationalization speed (Models 2, 4, 6, and 8). Hypothesis 4 proposed a positive relationship between international growth strategy and subsequent internationalization speed and was supported with regard to country speed (Model 2) and equity speed (Model 8). Finally, we also found a positive relationship between initial speed and subsequent commitment speed, lending support to Hypothesis 5 (Model 4). However, initial speed was not found to impact any other speed dimension (Models 2, 6, and 8).

3.6 Discussion

This study corroborates the drivers of subsequent internationalization speed of INVs. Because the research question is new, we used a qualitative inquiry that helped us to identify the relevant firm-level drivers of INV internationalization in the first place. While qualitative results enabled us to formulate the hypotheses with regard to subsequent internationalization speed, our quantitative enquiry assisted us in achieving more generalizable findings and drawing a more detailed picture of subsequent internationalization speed. By using four different measurements of internationalization speed that have been identified in previous research (Oviatt and McDougall, 2005; Casillas and Acedo, 2013), but have rarely been assessed within the same research design, we gain detailed insight into subsequent internationalization speed

of INVs. Following the call to analyze internationalization speed as a multifaceted construct (Chetty et al., 2014; Casillas and Acedo, 2013), our findings help to individually assess which drivers influence which dimension of internationalization speed.

While our analysis embarked from research on drivers of initial internationalization speed (e.g., Zucchella et al., 2007; Oviatt and McDougall, 2005; Hagen and Zucchella, 2014), we identified several firm-level drivers that seem to play a unique role in the subsequent internationalization stage. In total we identified five key antecedents that were assumed to impact subsequent internationalization speed.

Although our qualitative finding suggested that previous international experience of the entrepreneur or TMT has a positive impact on subsequent internationalization speed, quantitative results do not support this notion. This is an important and to some extent contradictory finding, given that INV scholars highlight the influential role of the entrepreneur for the international development of the firm (Harris and Wheeler, 2005; Andersson, 2000; Coviello and Munro, 1997; Zahra and George, 2002). However, the qualitative analysis has already indicated that the impact of previous international experience on subsequent internationalization speed can be direct or indirect. The quantitative results show that there is no direct impact of the international experience of the entrepreneur on subsequent internationalization speed. The diminishing importance of international experience of the TMT from the initial entry stage to the subsequent internationalization stage might be explained by the fact that knowledge gained from previous international experience is often country or region specific (Reuber and Fischer, 1997; Lee and Park, 2008; Bloodgood et al., 1996). Thus, while this knowledge can increase initial speed of internationalization and is important during early stages of internationalization of INVs, the knowledge is less impactful for international expansion in culturally different markets, where no previous knowledge has been obtained. In the long run, the impact of previous international experience of the TMT might only increase

subsequent internationalization speed if the TMT is continuously expanded by hiring internationally experienced managers who might contribute to accelerated expansion into additional markets, as the decision-making process can be shared among several stakeholders in the subsequent stage of INV internationalization (Hagen and Zucchella, 2014; Nummela et al., 2014). Nevertheless, Hashai (2011) concludes that international experience of the TMT shapes the internationalization pattern of an INV in the long run. If the TMT is not expanded, however, the impact of previous experience on internationalization speed might be rather indirect – as suggested by the qualitative findings – and thus entrepreneurs with significant international experience and who are internationally oriented might also be more proactive in expanding into new markets using the help of consulting firms and hiring employees who themselves are familiar with certain markets and regions. This might ultimately increase the subsequent internationalization speed of INVs (cf. Hagen and Zucchella, 2014). Although current INV theorizing stresses the importance of previous international experience of the entrepreneur for INV internationalization (e.g., Oviatt and McDougall, 1994; Reuber and Fischer, 1997), our results do not confirm this assumption in the context of subsequent internationalization speed. Thus, the shift in importance from international experience of the entrepreneur in the initial stage to middle and lower management in the subsequent stage as a facilitator of internationalization speed and other indirect effects of the entrepreneurs' previous international experience presents a stimulating opportunity for future research as a way to understand how INVs mature and how they can continue internationalizing at a fast pace. Therefore, future studies should explore international experience on individual and collective levels, including both the TMT as well as middle and lower management instead of looking at the entrepreneur's experience only.

From previous literature it could be expected that experiential knowledge on the firm level, compared to experience of the entrepreneur, plays a more important role in the subsequent stage of firm internationalization and increases subsequent internationalization speed

(Erramilli, 1991; Johanson and Vahlne, 2009). While international experience in general is assumed to be a facilitator to further expansion (Prashantham and Young, 2011; Erramilli, 1991), our qualitative and quantitative results show the opposite relationship. This is interesting given that INVs are assumed to be less risk averse than are traditional exporters and more proactive with regard to achieving high internationalization speed (Autio, 2005; Chetty and Campbell-Hunt, 2004; Schwens and Kabst, 2009). While INVs internationalize quickly in the initial stage, where the entrepreneurs rely on their experience or personal network, they seem to experience setbacks from internationalizing too quickly and realize that fast internationalization can be risky, as failure means a high loss of resources invested (cf. Chetty and Campbell-Hunt, 2004; Prashantham and Young, 2011). Most of the sample firms in our qualitative study confirmed that they decided to internationalize more slowly due to previous internationalization experience. With regard to scope and equity speed, we find that international experience of the firm hinders rapid internationalization along these dimensions. The reason why results show strongly significant relationships for scope and equity speed can be understood when considering that these two dimensions are more “risky” than country or commitment speed. Increasing international scope and actually becoming a global firm sets more challenges with regard to institutional differences and control problems, which is why previous studies have shown that INVs have a preference for regional internationalization (Hashai and Almor, 2004; Sui et al., 2012). Given that equity speed refers to the speed with which equity entry modes are predominantly chosen and thus capital is tied up and larger investment necessary, firms might struggle financially if markets entered are not profitable, as indicated by our interview partners. Interpreting these findings may challenge scholarly assumptions of INVs being prepared to take greater risks (e.g., Autio, 2005; Chetty and Campbell-Hunt, 2004; Schwens and Kabst, 2009) and rather support arguments that they better mitigate risk by adapting to uncertainty (cf. Liesch et al., 2011). This can be seen when considering that international experience actually reduces subsequent internationalization

speed along its “risky” dimensions. These results, however, also need to be seen in the context of a very dynamic industry that is in many countries influenced by policymakers and therefore might be less stable than more traditional and mature industries. Thus, it would be interesting for future research to explore whether international experience might also have a negative impact on subsequent internationalization speed in other industry and country contexts.

Although qualitative insights indicated a positive relationship between a high level of resources dedicated to establishing international networks and subsequent internationalization speed, testing Hypothesis 3 did not validate this relationship. This, however, does not imply that networks themselves do not contribute to faster internationalization, as we focus on a firm’s resources dedicated to expanding their international network. We chose this particular measurement based on information provided by the interview partners. Programs aimed at enlarging a firm’s network might be perceived as very efficient, but do not actually lead to faster internationalization, which stands in contrast to the perception of managers and industry representatives (cf. qualitative results). However, these programs are on the one hand very industry specific and on the other hand our measurement did not provide information on the direct relationship between networks and internationalization speed. Thus, future research should analyze the direct relationship between these factors to gain a better understanding of the role of networks on subsequent internationalization speed (cf. Kiss and Danis, 2008).

Another strong driver for subsequent internationalization speed identified in this study is the international growth strategy. By laying a large strategic emphasis on international expansion, firms align their resources and processes accordingly and can therefore achieve a faster internationalization along equity and country speed dimensions. Thus, similar to the initial stage of INV internationalization (Baum et al., 2011a; McDougall et al., 1994), a well-executed

international growth strategy can also increase the subsequent speed of internationalization (Tuppura et al., 2008).

The last hypothesis tested whether initial internationalization increases subsequent internationalization, a question that has been analyzed in previous studies (Autio et al., 2000; Sleuwaegen and Onkelinx, 2014; Morgan-Thomas and Jones, 2009). With regard to commitment speed, our findings confirm the results of Autio et al. (2000). However, along the three other dimensions of subsequent internationalization speed we did not find any support for Hypothesis 5. This finding reaffirms the importance of treating internationalization speed in a multidimensional manner to help advance differentiated theorizing in INV research. Depending on the measurement chosen, the impact of drivers can differ significantly. Without a clear distinction of the dimensions, valuable information is lost and heterogenic findings are more likely.

3.7 Conclusion

This paper advances INV literature by showing in detail what drives subsequent internationalization speed of INVs and how different drivers can differently impact speed dimensions. In particular, this paper contributes by first identifying the relevant firm-level factors of subsequent internationalization, which are international experience of the firm, international growth strategy, and initial speed of internationalization. Although not statistically significant, the qualitative inquiry additionally highlights the importance of the international experience of the entrepreneur/TMT and the role of dedicating resources to expanding international networks. This way we help to extend current knowledge on subsequent internationalization of INVs by better understanding the underlying mechanisms of subsequent internationalization speed (cf. Hagen and Zucchella, 2014). By operationalizing subsequent internationalization speed along multiple dimensions, we show that

internationalization speed is multifaceted and that drivers of internationalization speed do not equally influence the different internationalization speed dimensions. This is a significant extension to previous studies in the field and reinforces the importance for future studies investigating subsequent internationalization speed of INVs to clearly outline which dimensions of speed are analyzed and to consider whether findings might be applicable to other speed dimensions (cf. Casillas and Acedo, 2013; Chetty et al., 2014). This will help contribute to a more nuanced analysis of INV internationalization speed. Our work particularly contributes to the growing field of INV research and its central topic of internationalization speed. Instead of merely considering the early stage of an INV's lifecycle, this paper provides insights on how INVs develop in the long run and shows that factors leading to fast initial speed do not automatically lead to fast subsequent speed along its various dimensions. INVs differ significantly with regard to their subsequent internationalization speed (cf. Morgan-Thomas and Jones, 2009; Sleuwaegen and Onkelinx, 2014), as different dimensions of speed exist and not all drivers of subsequent internationalization speed equally impact the different dimensions. Thus, if an INV focuses on expanding rapidly into a large number of markets, this activity does not automatically imply that it will also increase its geographic scope, but rather that the firm might focus only on a particular region (cf. Almor and Hashai, 2004; Sui et al., 2012).

Our results contain important implications for practitioners. First of all, this study identifies antecedents that drive fast subsequent internationalization of INVs. Managers who wish to expand rapidly into international markets to benefit from first-mover advantages or expand their customer base can specifically build and increase capabilities required for accelerated international expansion. Furthermore, results help entrepreneurs and managers to understand which drivers are most important for a particular dimension of speed. Thus, for example, increasing country speed and equity speed requires a well-executed international growth strategy, whereas fast initial speed is a prerequisite of fast commitment speed.

While we contribute to the existing literature, our study contains several limitations. First and foremost this study was conducted with firms in a single country and a single industry. While a one-industry and one-country sample is useful – especially in an exploratory stage of research – to exclude concealed influences stemming from the environment, it also limits the generalizability of the study. Despite the fact that this study applied a two-stage and multi-method approach, data is cross-sectional. Longitudinal data on internationalization speed might provide further insights but are often hard to obtain. A further limitation might stem from the measurement of multidimensional speed variables. Although we applied established scales from Chetty et al. (2014) and Oviatt and McDougall (2005) these measurements may still not hold sufficient information on the different aspects of time. For example the measurement of country speed does not provide any information on whether markets were entered simultaneously within one year or rather progressively over a longer period of time. This information might comprise important implications on whether certain antecedents are more effective than others, depending on how the firm actually increased speed over time. Consequently refinements of speed measurements should be addressed in the future.

Some opportunities for future research have already been provided earlier. Overall, we can conclude that the door for future research in the area of subsequent internationalization speed is wide open. Future research could embark in two main directions: The first is a more profound analysis on what drives subsequent internationalization speed, including cross-country samples and longitudinal data. In particular, it would be interesting to understand whether INVs remain a distinct set of firms when they mature or whether their subsequent internationalization path is similar to that of large MNEs that started as traditional exporters. Future studies analyzing the antecedents of subsequent internationalization speed can also broaden the scope of analysis by including potential moderation effects, such as influences resulting from differences between the home and host country (cf. Schwens et al., 2011). The second direction for future research is to understand if and to what extent internationalization

speed impacts international performance. Analyzing internationalization speed along its different dimensions might reveal new findings with regard to their individual impact on performance.

Appendix for Paper II

Construct	Indicator/Measurement	Sources
International experience of entrepreneur/ top management team	Before founding or joining this firm, did any member of the current management team... ...work abroad? (y/n) ...study abroad? (y/n)	Adapted from Reuber and Fischer (1997) and Lee and Park (2008)
International experience of the firm	We have a long tradition of international operations We have been operating in foreign countries for many years Investing abroad has been part of our strategy for many years	Adapted from Mjoen and Tallman (1997)
Resources dedicated to networks	Please indicate which of the following international networking and business opportunity programs you have used: Business information and contact events (e.g. from the export initiative) Overseas business/networking trip organized by the German Chambers of Commerce – Worldwide Network Marketing and sales programs abroad (e.g. trade fair participation of the Ministry of Economics) Fact-finding missions to Germany for key opinion leaders and companies (e.g. international delegations in Germany) Registration at online business platform and company directory – renewables dena Renewable Energy Solutions Programme Renewable Energy Project Development Programme Others (please specify): ____	Adapted from Gençtürk and Kotabe (2001)
International growth strategy	We will have to internationalize in order to succeed in the future The growth we are aiming at can be achieved mainly through internationalization The domestic market does not offer sufficient growth potential Aiming for rapid growth is not what drives this venture	Adapted from Baum et al. (2011), Nummela et al. (2004), and Autio et al. (2000)
Initial internationalization speed	Year of foundation – Year of first international operation	Adapted from Autio et al. (2000)
Country speed	Number of foreign markets / Years of international operations	Adapted from Prashantham and Young (2011), Casillas and Acedo (2013), Oviatt and McDougall (2005), and Chetty et al. (2014)
Commitment speed	Percentage of foreign revenue / Years of international operations	Adapted from Morgan-Thomas and Jones (2009)
Scope speed	Numbers of cultural regions / Years of international operations	Adapted from Oviatt and McDougall (2005), Casillas and Acedo (2013), and Gupta et al. (2002)
Equity speed	Entry mode with foreign investment (y/n) / Years of international operations	Adapted from Chetty et al. (2014) and Pan and Tse (2000)
Overall resources (control)	Number of employees Turn over 1 (low) to 4 (high)	Adapted from Chetty et al. (2014) and Lu and Beamish (2006)
Type of firm (control)	Service (1) and manufacturing (0)	Adapted from Khavul et al. (2010)
Sub-Industry	Dummy coded: Wind, solar, biomass/gas, others	Adapted from Filatochev et al. (2009) and Coeurderoy and Murry (2008)

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4 Introduction to Paper III

After having analyzed in Paper II which factors influence different dimensions of subsequent internationalization speed, Paper III analyzes internationalization speed as an independent variable and identifies the impact of individual speed dimensions on international performance. Paper III can therefore be regarded as a logical consequence of Paper II, which concludes that this question be addressed in future research.

However, Paper III broadens the scope of analysis from merely focusing on INVs to also including firms that follow a traditional approach to internationalization. Thus, Paper III not only contributes to IE research but also to IB literature analyzing the internationalization speed and performance relationship. Considering that past research has barely considered internationalization speed as a multidimensional construct, this paper significantly contributes to increasing scholarly understanding of speed by providing insights for the first time on how each individual speed dimension impacts the international performance of a firm. This paper uses the same database from the German renewable-energy industry as the one used in Paper II. In addition, this paper adds data from traditional exporters. By way of a group analysis between INVs and traditional exporters, this paper shows how the speed-performance relationship differs depending on the type of firm considered. The hypothesized relationships of this paper are tested by using structural equation modelling.

The impact of internationalization speed along its multiple dimensions on firms'

international performance

A comparison between INVs and traditional exporters

4.1 Introduction

In a globalized economy, international activities have become a crucial component of corporate strategy for a large number of firms. Regardless of their size, firms often internationalize to expand their markets and seek new profits (Contractor, 2007). Ever since international business (IB) research began as a field in the early 1960s, academics have constantly enhanced our knowledge about why and how firms internationalize (Buckley, 2002; Aharoni and Brock, 2010). As the world has become more interconnected, environmental forces more dynamic, and global competition more intense, firms have been required to develop sustainable internationalization strategies to remain competitive. This development has triggered questions for firms about whether and how internationalization activities translate into performance, and which strategies are most effective (e.g., Ruigrok and Wagner, 2003; Calof, 1993; Hsu and Boggs, 2003). While internationalization strategy is multi-faceted, one crucial component for managers is how fast a firm should expand internationally and whether this move will result in increased performance (Williams and Gregoire, 2015; Chetty et al., 2014; Vermeulen and Barkema, 2002).

The vital role of internationalization speed as a part of firms' internationalization process has been particularly emphasized by scholars exploring the international new venture (INV) phenomenon, which describes firms that internationalize shortly after inception (Oviatt and McDougall, 1994; Knight and Cavusgil, 1996; Casillas and Acedo, 2013). INV researchers most often define internationalization speed as the time span between inception of a firm and its first international activity (i.e., initial internationalization speed) (Autio et al., 2000). The rapid speed with which INVs internationalize challenges more traditional internationalization

theories such as the Uppsala internationalization process model, which describes internationalization as an incremental process evolving over time (Johanson and Vahlne, 1977; Johanson and Vahlne, 2009; Autio, 2005).

INV research at its core is driven by the phenomenon of fast internationalization speed (Jones et al., 2011). Researchers have specifically analyzed what drives INVs to internationalize at young age, how they overcome challenges related to liability of newness and foreignness (Jones et al., 2011; Rialp et al., 2005), and how rapid internationalization speed impacts performance (Li et al., 2012a; Bloodgood, 2006). While these research questions are important, looking more closely at how researchers conceptualize internationalization speed in INV literature, it becomes clear that they mostly limit themselves to the early stages of INV development (Prashantham and Young, 2011; Morgan-Thomas and Jones, 2009; Autio et al., 2000). Conceiving of internationalization speed as initial speed neglects the subsequent stages of INV internationalization, which commences once the firm has started its first international operations (Autio et al., 2000). By limiting the definition of initial internationalization speed to the pre-internationalization stage, research results do not reflect the actual speed with which firms expand their operations globally (Casillas and Acedo, 2013). However, analyzing internationalization speed in the subsequent stages is important because it is a crucial period that determines the long-term survival and performance of INVs (Autio et al., 2000; Casillas and Acedo, 2013).

More traditional IB research analyzing the performance impact of internationalization speed for large multinational enterprises (MNEs) focuses implicitly on the subsequent internationalization phase and has uncovered important interdependencies relating to antecedents and outcomes (Vermeulen and Barkema, 2002; Wagner, 2004; Chang and Rhee, 2011). For MNE research, internationalization speed is broadened to include the speed of increase of international growth since a firm's first international operations (Vermeulen and

Barkema, 2002). While this expanded focus is more complete as it encompasses the subsequent stage of internationalization, it remains limited in scope because it mostly equates speed of growth with foreign direct investment (FDI). This limitation makes it difficult to generalize results because they are only based on equity entry modes and unique features of MNEs, such as their large size, age, and high level of resources. Thus, findings cannot be assumed to hold true for small and medium sized enterprises (SMEs), especially when these enterprises are INVs that display very different internationalization patterns (Oviatt and McDougall, 1997; Autio, 2005).

However, it is not only the time frame of internationalization speed that can differ when studying either the initial or the subsequent internationalization speed. Previous studies have also applied various measurements of internationalization speed that include the number of FDIs (e.g., Vermeulen and Barkema, 2002), number of countries entered (e.g., Prashantham and Young, 2011), and the ratio of foreign sales-to-total sales (e.g., Wagner, 2004). Nevertheless, each of these measurements only captures one dimension of internationalization speed. Some scholars have argued that speed is a multidimensional construct and should be conceptualized accordingly (Oviatt and McDougall, 2005; Casillas and Acedo, 2013; Chetty et al., 2014). Oviatt and McDougall (2005) as well as Casillas and Acedo (2013) therefore propose distinguishing internationalization speed broadly across the following dimensions: speed of entering new countries (i.e., country speed) and geographical regions (i.e., scope speed); speed of increase of international commitment, referring to increase of international sales or FDI; and speed of initial entry (i.e., initial internationalization speed). Even so, empirical study of the multidimensionality of internationalization speed is largely neglected in both MNE and INV research and therefore remains under-researched (Casillas and Acedo, 2013; Chetty et al., 2014; Acedo and Jones, 2007).

Conceptualizing internationalization speed across different dimensions can be particularly helpful by providing a more detailed picture of how internationalization speed impacts firm performance. To date, research on the speed-performance relationship remains inconclusive (Chetty et al., 2014). It has been put forward that speed can influence performance positively (Chang and Rhee, 2011), negatively (Vermeulen and Barkema, 2002), or can be described as an inverted U-curve relationship (Wagner, 2004). Such ambiguous findings might be the result of using different unidimensional speed measurements. Acknowledging speed as a multidimensional construct and analyzing the individual speed dimensions with regard to performance within the same study could shed light on how each dimension separately impacts performance. Considering that the application of different measures of internationalization speed have led to inconclusive findings might suggest that not all speed dimensions have a similar impact on performance. Thus, some dimensions might have a positive impact, while others have a negative one. Furthermore, it could be argued that speed dimensions affect firm types such as MNEs and INVs differently, as both firm types have distinct sizes, structures, and approaches to rapid internationalization.

These considerations raise the research questions motivating this study: (1) How do different dimensions of internationalization speed impact international performance of a firm? And (2) Are their impacts similar for INVs and traditional exporters?

The present study embarks from previous conceptual work on speed of internationalization and employs internationalization speed as a multidimensional construct, as suggested by both Oviatt and McDougall (2005) and Casillas and Acedo (2013). This study will empirically analyze speed of internationalization along four different dimensions: (1) the speed of increase in terms of numbers of countries entered (i.e., country speed); (2) the pace of increase of foreign sales (i.e., commitment speed); (3) the velocity of the number of institutionally different regions entered (i.e., scope speed); and (4) the rapidity of increase of resources committed to

entry modes (i.e., equity speed). Distinguishing speed along different dimensions will help clarify the individual impact of these speed dimensions on international performance. The speed dimensions used in this study refer to the subsequent stage of internationalization (i.e., time since first international market activity of a firm until present). This measurement contrasts with the pre-internationalization time dimension most INV scholars apply to the speed construct (Autio et al., 2000). In framing the definition of speed in this way, this study addresses the deficit of research on subsequent internationalization in INV literature and sheds light on this internationalization period of INVs. However, this study also includes traditional exporters (i.e., firms that follow an incremental approach to internationalization) in the analysis in order to contribute to existing IB work on internationalization speed. By including INVs and traditional exporters within the same analysis, this study can assess whether internationalization speed across its multiple dimensions differently impacts the two firm types. This approach will help to consolidate ambiguous findings of the speed-performance relationship and bridge these findings across two distinct literature streams.

Theoretically this study is embedded within the IB field and its sub-field of international entrepreneurship (IE) research. For reasons of simplification however, the study distinguishes between IB and IE literature and defines IB research as work that has been carried out on larger MNEs and firms that internationalize in an incremental manner (cf. Johanson and Vahlne, 1977; Anderson and Gatignon, 1986; Dunning, 1988), which here will be subsumed under the term traditional exporters. The study defines IE literature as work conducted on INV internationalization (Oviatt and McDougall, 2005; Jones et al., 2011).

Empirically, the study uses the German renewable-energy industry as a research setting because the industry is highly international and includes INVs and traditional exporters (Schwens et al., 2010).

4.2 Speed of internationalization and performance

For a long time speed has been considered rather implicitly as an underlying notion describing the international expansion process of a firm (cf. Johanson and Vahlne, 1977; Eden, 2009; Casillas and Acedo, 2013). While this expansion is based on strategic questions faced by the management of a firm with regard to where and how to internationalize, the question of when – the time-based dimension – has hardly been considered in IB research (Eden, 2009). The “when” question has been dealt with predominantly in IE research, which focuses on explaining internationalization of firms shortly after their inception. The rapid increase in the number of scholars investigating the INV phenomenon has pushed the topic of firms’ speed of internationalization to the top of the IE research agenda (Zahra and George, 2002; Keupp and Gassmann, 2009). This literature stream more prominently emphasizes the time dimension of the internationalization process than does IB research, but only considers speed as the time span from establishment of the firm to first international activity, rather than considering the speed of the internationalization process during the subsequent internationalization stage. Focusing on the international expansion process itself, speed expresses the relationship between certain internationalization targets achieved and the time it takes to achieve these targets (Chetty et al., 2014; Casillas and Acedo, 2013). Objectives to be achieved can include the number of countries entered, international sales growth, or foreign asset commitment (Casillas and Acedo, 2013; Weerawardena et al., 2015). Consequently, speed can be expressed across multiple dimensions (Oviatt and McDougall, 2005) and more precisely, is expressed as a quotient between a target (e.g., number of countries entered) and a certain period of time (e.g., time since first internationalization). The time period considered in past research includes the lifetime of a firm (cf. Chetty et al., 2014), the subsequent stage of internationalization (cf. Vermeulen and Barkema, 2002), or a specific time period (i.e., number of years) of interest (cf. Morgan-Thomas and Jones, 2009). The present work uses the subsequent stage of internationalization as the time dimension to conceptualize internationalization speed.

In order to gain a comprehensive understanding of internationalization speed, its role within a firm's internationalization process, and its performance implications, it is necessary to consider research from both IB and IE literature in the following review, to both acknowledge advancements in this field and to account for differences between traditional exporters and INVs. In past work, speed of internationalization has also been referred to as accelerated internationalization (e.g., Weerawardena et al., 2007), pace of internationalization (e.g., Vermeulen and Barkema, 2002), or rapid internationalization (e.g., Kalinic and Forza, 2012), all of which are synonymous for the purpose of this study and refer to the internationalization speed of firms.

4.2.1 Internationalization speed and performance in IB literature

Traditionally, IB research has analyzed many facets of why, how, and where MNEs internationalize (Eden, 2009). Speed of internationalization itself, as well as its performance implications, has received less attention (Vermeulen and Barkema, 2002; Casillas and Acedo, 2013). The first impactful work in the area of IB dealing specifically with internationalization speed and its impact on performance was undertaken by Vermeulen and Barkema (2002). In their seminal work, the authors investigate how speed, defined as the number “of foreign expansions a firm undertakes in a certain period of time” (Vermeulen and Barkema, 2002: p. 643), moderates the relationship between the number of a firm's subsidiaries and profitability. The time span considered to measure speed was based on the number of years since a firm's first international operation and therefore focuses on the subsequent internationalization stage of MNEs. Although their results show no direct relationship between internationalization speed and performance, they indicate that speed negatively moderates a firm's profitability. However, they only consider speed in terms of FDI expansion and thus ignore international expansion through alternative entry modes. The aftermath of this study has sparked increased interest among IB scholars in assessing performance implications of internationalization speed. The study of Wagner (2004) builds partly on the work of Vermeulen and Barkema (2002) by

analyzing the relationship between internationalization speed and operational performance. However, in contrast to the latter study, Wagner (2004) conceptualizes speed as the change in the degree of internationalization (DOI), measured as foreign sales-to-total sales (FSTS) ratio within a specified five-year period. Wagner (2004) reveals an inverted-U curve relationship between speed and operational performance and provides evidence that operational performance acts as a mediator between internationalization speed and financial performance. Another study analyzing the relationship between speed and performance was conducted by Chang and Rhee (2011), who build upon the work of Vermeulen and Barkema (2002) and adopt a similar measure of internationalization speed: the increase in the number of manufacturing subsidiaries. However, taking into account firm-related as well as environmental-related factors that moderate the relationship between speed and performance, they show that FDI speed more strongly enhances performance in industries with high levels of global competition and for firms with greater resource endowments and capabilities (Chang and Rhee, 2011).

A more recent stream of IB research has also analyzed the internationalization speed of emerging-market firms. MNEs from these countries do not necessarily expand internationally as predicted by traditional internationalization theories, but rather grow large as they internationalize swiftly into different markets (Bonaglia et al., 2007). Thus, scholars have helped to identify how these firms leverage resources and experience in order to internationalize quickly (Tan and Mathews, 2015; Bonaglia et al., 2007). These researchers conceptualize internationalization speed as Wagner (2004) does by using the quotient of DOI and a certain period of time (Tan and Mathews, 2015).

The above-mentioned studies focus on large, established MNEs and their measures cannot be easily applied to smaller firms. Chetty et al. (2014) have put forward an alternative multidimensional measure of speed applicable to SMEs as a way to analyze the impact of

speed on international performance. Building upon the underlying concepts of the Uppsala internationalization process model (Johanson and Vahlne, 1977), they conceptualize speed along two main dimensions: speed of learning and speed of commitment. The former consists of learning from repetition and diversity of international activities, and the latter of foreign market commitment with regard to people, languages, and entry mode. The time span used for the measurement of speed is the age of firm, which therefore includes pre-internationalization and post-entry stages. Testing their proposed speed measurements on SMEs with regard to international performance, Chetty et al. (2014) find a positive impact of speed on performance.

4.2.2 Internationalization speed and performance in IE literature

In contrast to traditional IB literature, IE scholars have dealt extensively with rapid internationalization of INVs. However, fundamental differences exist with regard to the conceptualization of speed and time period analyzed. As mentioned previously, INV scholars focus to a large extent on the pre-internationalization stage – analyzing the initial internationalization speed – and few studies have been conducted on the subsequent internationalization of INVs (Prashantham and Young, 2011; Morgan-Thomas and Jones, 2009; Sleuwaegen and Onkelinx, 2014; Autio et al., 2000).

The majority of INV studies test internationalization speed as a dependent variable in order to explain why and how INVs internationalize early in their lifecycle (e.g., Pla-Barber and Escribá-Esteve, 2006; Musteen et al., 2010; Kiss and Danis, 2008; Acedo and Jones, 2007; Zhou et al., 2007; Ramos et al., 2011). Some scholarly work has also examined the effect of early entry as an independent variable on parameters such as survival, growth, and performance (Zhou and Wu, 2014; Li et al., 2012a; Zhou et al., 2012; Puig et al., 2014; Khavul et al., 2010). Conceptually, this relationship was extensively studied by Sapienza et al. (2006), who postulate possible interactions between a firm's initial internationalization speed and its performance, theorized as survival and growth. The authors propose that initial entry speed might negatively

affect a firm's survival but positively impact its international growth. Furthermore, they highlight that this relationship might be impacted by factors such as firm age at time of first internationalization, international experience, and adaptability of resources (Sapienza et al., 2006). Empirical findings of the proposed relationship are mixed. Khavul et al. (2010) find neither a direct impact of initial speed on performance, nor an indirect relationship employing entrainment as a mediator. Zhou and Wu (2014) study the relationship of initial speed on performance and distinguish performance along three dimensions: (1) sales growth, (2) profitability, and (3) innovation. In contrast to Khavul et al. (2010), they find a positive relationship between initial speed and sales growth, but not between initial speed and the two separate factors of profitability and innovation (Zhou and Wu, 2014). The findings also indicate that the relationship weakens in the long run with increasing age of a firm (Zhou and Wu, 2014). A study by Li et al. (2012a) also finds a positive impact of early internationalization speed and performance. However, instead of using time-to-internationalization (i.e., initial speed) as a measurement, they define early internationalization speed as the degree to which foreign operations have been established on a global scale within three years of a firm's founding (Li et al., 2012a).

While a high degree of interest in initial internationalization speed has understandably dominated the IE literature, researchers have recently turned their attention towards the subsequent stage of internationalization in order to understand how INVs grow globally after their first international activity (Autio et al., 2000; Preece et al., 1999; Sapienza et al., 2006; Gabrielsson et al., 2014; Hagen and Zucchella, 2014). Scholars have been particularly interested in examining the drivers of subsequent internationalization speed and the positively correlated links between initial speed and subsequent speed (e.g., Morgan-Thomas and Jones, 2009; Autio et al., 2000; Hagen and Zucchella, 2014). Achieving a better understanding of the subsequent stage of INV internationalization is crucial, as it plays a decisive role in the survival and performance of INVs in the long run (Autio et al., 2000; Prashantham and Young, 2011;

Knight and Liesch, 2015). In a conceptual study, Prashantham and Young (2011) theorized a positive effect of knowledge accumulation on post-entry speed, defined as the number of countries entered and increase in foreign sales growth during the subsequent INV internationalization period. Furthermore, the authors discuss performance implications of post-entry internationalization speed and postulate a curvilinear relationship, arguing that internationalizing too fast or too slow might negatively impact performance (Prashantham and Young, 2011). Empirical evidence for the proposed relationship is currently lacking and the link between subsequent speed and performance has scarcely been considered (cf. Almor et al., 2014). The study of Sleuwaegen and Onkelinx (2014) provides first insights on the subsequent speed-performance relationship. However, it focuses on survival chances rather than adopting a direct measurement of performance. The authors do not find a link between survival chances and subsequent internationalization speed, nor do they find a significant difference in terms of failure rate between INVs entering a large number of globally dispersed markets and firms with a geographically limited international focus. Consequently, INV scholars have yet to explore the impact of subsequent speed of internationalization on performance outcomes to gain a better understanding of maturing INVs.

4.3 Dimensions of internationalization speed and hypotheses development

Reviewing the literature on internationalization speed and its impact on performance has shown myriad conceptualizations of both constructs. Focusing on the conceptualization of speed of internationalization, two studies have significantly helped to advance understanding of the various dimensions constituting internationalization speed. First, Oviatt and McDougall (2005) identify three key dimensions of internationalization speed: (1) initial entry speed, (2) country scope, and (3) commitment. As initial speed has already been discussed, I want to draw attention to the latter two factors. On the one hand, *country scope* refers to the number of foreign markets entered, and on the other hand to how psychically distant these markets

are from a firm's home country (Oviatt and McDougall, 2005). Thus, measuring these sub-dimensions against time expresses the velocity of an increased number of countries entered in general as well as the increase of cultural and institutional distant markets entered (Oviatt and McDougall, 2005). The dimension *commitment speed* refers to the pace of increase of foreign revenue. The seminal work of Oviatt and McDougall (2005) was an important contribution, as it highlights for the first time the multidimensionality of internationalization speed as a construct, but lacks a detailed definition and discussion of how speed dimensions should be operationalized – which remains particularly unclear with regard to the country scope dimension.

A more detailed picture and definition of the multiple dimensions of internationalization speed is provided by Casillas and Acedo (2013). The authors specifically focus on speed of internationalization once firms have started international operations (i.e., subsequent internationalization speed). Based on a detailed analysis of internationalization speed, Casillas and Acedo (2013) propose three main dimensions of the speed construct: First, *speed of international growth* refers to the increase in proportions of a firm's sales derived from foreign markets within a specific time span. Second, *speed of increased commitment of resources abroad* relates to amplified commitment, such as number of employees and assets in foreign markets or entry modes chosen (i.e., equity modes) within a given period of time. Third, *speed of breadth of international markets* denotes the international scope that a firm achieves within a certain time span. The breadth or scope can relate to the number, differences, and distances between markets in which a firm operates and represents the geographical diversification of the firm. Comparing these speed dimensions with the dimensions proposed by Oviatt and McDougall (2005), many similarities can be found. If initial speed is left out, both studies broadly identify the following speed dimensions that are applied in this study: (1) country speed (i.e., pace of increase in number of countries entered within a certain time span); (2) commitment speed (i.e., pace of increase of FSTS ratio within a specific period of time); (3)

scope speed (i.e., pace of increase of geographical scope in terms of institutional and cultural differences within a defined duration of time); and (4) equity speed (i.e., pace of increase of commitment in terms of equity entry modes chosen).

In addition to providing sound insights into different dimensions of internationalization speed, Casillas and Acedo (2013) also highlight the significance of future research analyzing performance implications resulting from different speed dimensions, a question which has so far been widely ignored. Thus, the authors argue that it is important to understand whether rapid internationalization – based on their multidimensional conceptualization – also leads to better performance. A first study by Chetty et al. (2014) found a positive relationship between internationalization speed and international performance using a multidimensional measurement of speed. While the contribution of their study is unique in that it analyzes the impact of speed as a multidimensional construct on performance, measurement is derived from the Uppsala internationalization process model and therefore is inconsistent with previous studies (cf. Casillas and Acedo, 2013; Oviatt and McDougall, 2005). Chetty et al. (2014) show how their identified speed dimensions contribute to internationalization speed as a formative construct. However, using a formative construct of internationalization speed hinders any insight on the individual relationship between each speed dimension and international performance. Another drawback of their speed measurement is that it blurs the pre-internationalization stage with the subsequent internationalization stage and therefore their results neither reflect performance implications of speed for the pre-internationalization stage nor for the subsequent internationalization stage of firms.

The present study therefore builds on prior IE literature by conceptualizing internationalization speed as including the subsequent stage of firm internationalization, which is also applicable to other firm types (i.e., traditional exporters). This study starts from the important question raised by Casillas and Acedo (2013) and aims to understand how each dimension of

subsequent internationalization speed individually impacts performance. I argue that it is important to look at the impact of the individual speed dimensions on international performance, as each dimension of speed has unique characteristics that might differently impact international performance. Applying the dimensions *country speed*, *commitment speed*, *scope speed*, and *equity speed* to international performance might have dissimilar implications, as discussed below.

4.3.1 Country speed

Internationalization speed referring to the velocity of the number of countries entered within a particular time span is often termed scope of internationalization (Oviatt and McDougall, 2005). However, in contrast to scope, entering a high number of countries does not necessarily imply that firms achieve high level of geographic scope. Country speed can be achieved by either swiftly entering a large number of markets within the same geographic and cultural region or across different geographic and institutional regions. Depending on how country speed is achieved, it can be argued that high country speed can have either a positive or a negative effect on performance.

When achieving fast country speed by quickly internationalizing into a very diverse set of markets in different regions, firms might face great challenges, as they need to adapt operational processes, require a higher level of resources, and experience greater liability of foreignness in institutionally different markets (Rugman and Verbeke, 2005). These challenges present a significant burden to firms and might ultimately negatively impact performance (Li, 2005), as costs of further internationalization might outweigh benefits (cf. Ruigrok et al., 2007).

In contrast, if firms achieve rapid country speed by internationalizing within the same region, these challenges are significantly lowered. Entering a large number of markets within the same region provides firms with several advantages and lowers risk because countries in the same

region tend to have similar cultures and institutions (cf. Johanson and Vahlne, 2009; Kostova et al., 2008; Gupta et al., 2002). Hence, firms can benefit from experiential knowledge obtained in the region and enter new markets more rapidly in this region without significantly adapting operational procedures or lacking important knowledge of the internationalization process (cf. Rugman and Verbeke, 2005; Lopez et al., 2009; Johanson and Vahlne, 1977). These tendencies might explain why previous empirical observations of IB and IE scholarly work have shown that a majority of firms have a preference for internationalizing within the same region (Lopez et al., 2009; Rugman and Verbeke, 2005; Hashai and Almor, 2004). It can be argued that when rapidly expanding within one region, fewer resources are required and risk is reduced, which ultimately result in higher performance. This notion is supported by Sleuwaegen and Onkelinx (2014), who find that geographically focused start-ups show a lower failure rate than do global start-ups. Furthermore, it has been shown that there is a positive relationship between a higher number of markets entered and increased performance (Tallman and Li, 1996).

After having outlined the two possible effects of country speed on performance, I argue that the positive effect is more likely to occur given the fact that a majority of firms internationalize predominantly in the same region (Lopez et al., 2009; Rugman and Verbeke, 2005; Hashai and Almor, 2004). Because of the positive relationship between a high number of markets entered and increased performance (Tallman and Li, 1996), it can be assumed that rapidly expanding into a high number of countries within the same region will contribute to an improvement in the international performance of the firm. I therefore hypothesize:

Hypothesis 1: Rapid international country speed increases international performance.

4.3.2 Commitment speed

The dimension commitment speed describes the rapidity in increase of the FSTS ratio within a certain timespan and has been a common measurement of internationalization speed if applied in a unidimensional way (e.g., Morgan-Thomas and Jones, 2009; Tan and Mathews,

2015). Given that this measure is based on a sales increase derived from foreign markets, its relationship to international performance can be easily determined.

A unique aspect of commitment speed compared to other speed dimensions is that it can also be increased without actually expanding into new markets; instead, firms can increase commitment speed by penetrating existing foreign markets. When firms devote their resources and capabilities to increasing sales within existing markets instead of entering new ones, they can significantly benefit from experiential knowledge gained in these markets (cf. Johanson and Vahlne, 2009). This market-specific knowledge helps them improve efficiency of operations and processes as well as enlarge their customer base (Eriksson et al., 1997; Casillas and Moreno-Menéndez, 2014). As a result, it is argued that adjusted organizational structures and more efficient processes reduce costs and enable firms to better exploit benefits of international activities, which ultimately increases firm performance (Ruigrok et al., 2007).

Firms cannot infinitely increase foreign sales in existing markets and might therefore strive to increase commitment speed by entering new markets. However, previous findings in this domain have shown that firms tend to rely strongly on one key foreign market where the largest proportion of sales is derived, despite internationalizing into new markets (Morgan-Thomas and Jones, 2009). Increasing foreign sales in existing or new markets, and thereby increasing the FSTS ratio, has been found to positively improve firm performance (Khavul et al., 2010).

Thus, based on the findings of the literature mentioned above, it can be argued that high commitment speed can be achieved at relatively low risk and at the same time increases the FSTS ratio, which will ultimately impact international performance. I therefore hypothesize:

Hypothesis 2: Rapid international commitment speed increases international performance.

4.3.3 Scope speed

Scope speed is the pace of increase in the geographical spread of firms in light of institutional differences. Achieving high geographic scope is often desirable for firms as a way to diversify risk, achieve economies of scale, and increase international sales (Hitt et al., 1997). It is often assumed that this process is undertaken in an incremental manner and over a longer period of time (Johanson and Vahlne, 1977; Barkema and Drogendijk, 2007). Past research has suggested that this is not only the case for traditional exporters, but also applies to some extent to INVs that – despite sometimes being referred to as born-globals (cf. Knight and Cavusgil, 1996; Rialp et al., 2005) – tend to be regionally operating firms and embrace global operations at a much later stage (Lopez et al., 2009; Hashai and Almor, 2004; Sui et al., 2012).

However, expanding rapidly instead of incrementally into regions with heterogeneous institutional environments can present a strong challenge to firms – especially smaller and younger ones – as it requires a high level of resources, new operational structures, and experience to adapt to market particularities (Sapienza et al., 2006; Johanson and Vahlne, 2009; Li et al., 2012b). The complexity of quickly entering institutionally different markets might reduce the positive effects stemming from global risk diversification, such as market fluctuations, a higher revenue base, and economies of scales (Hitt et al., 1997; Ruigrok et al., 2007). The main challenges associated with operations at high geographic scope can be attributed to the effects of increased institutional and psychic distance, which describes the differences between countries and regions in terms of regulation, business conventions, and culture (Johanson and Vahlne, 1977; Scott, 2008; Kostova et al., 2008). Firms have to account for such differences and need to adapt their operational procedures and structures accordingly (Brouthers, 2002; Chao and Kumar, 2010; Meyer et al., 2009). As this process requires time, institutional differences across countries and regions significantly impact the speed of internationalization (Kiss and Danis, 2008). Considering that high scope speed can only be achieved by entering regions with high institutional distance, firms might face severe

challenges in mitigating the risks of a different institutional environment, which in turn could have destabilizing effects on the firm (Chetty and Campbell-Hunt, 2004). The findings of Barkema and Drogendijk (2007) support this notion, as they conclude that firms are constrained by cultural differences and cannot instantly expand into culturally distant markets. Thus, internationalizing at rapid speed into many different geographic regions might have significant negative impacts on firms' operations and lead to "over-internationalization" (Li et al., 2012b). Ruigrok et al. (2007), for example, show that an extreme degree of internationalization has a negative impact on the performance levels of firms. I therefore hypothesize a similar relationship with regard to the impact of high scope speed on international performance:

Hypothesis 3: Rapid international scope speed decreases international performance.

4.3.4 Equity speed

Equity speed is the pace by which a firm increases its commitment with regard to the entry modes chosen. This dimension shows how quickly firms rely predominantly on FDI entry modes (Chetty et al., 2014), which require more resources than do non-equity entry modes (Pan and Tse, 2000). Thus, this dimension shares some commonalities of the speed concept applied by Vermeulen and Barkema (2002), who measured speed in terms of number of FDIs in foreign markets.

The choice of whether to use equity or non-equity modes when internationalizing in new markets depends on a myriad of macro-environmental factors (e.g., host-country risk, political stability, trade relationships) and micro-level factors (e.g., firms' resources, products, management capabilities) (Pan and Tse, 2000). Nevertheless, equity entry modes are often associated with an increased control of firms' foreign operations, improved knowledge acquisition (e.g., market and customer knowledge), and a better exploitation of country-

specific advantages that can eventually reduce costs and enhance the profitability of a firm (Anderson and Gatignon, 1986; Dunning, 1988; Brouthers and Nakos, 2004; Zahra et al., 2000).

Internationalizing mainly through equity entry modes is difficult to achieve for many firms, as it requires a large amount of capital that is tied up in foreign investments and is therefore less fungible (Sapienza et al., 2006). Furthermore, it is assumed that the willingness to commit a high level of resources to a foreign market requires experiential knowledge, which is often limited (Johanson and Vahlne, 2009). This is why Johanson and Vahlne (1977) regard internationalization as a gradual process whereby firms start with non-equity modes before moving to equity modes. Although it has been shown that some firms – such as INVs – do not follow this incremental approach and instead choose FDIs or hybrid modes to enter a new market early in their lifecycle (Oviatt and McDougall, 1994), in the long run it is difficult to maintain internationalization at a rapid speed through equity entry modes. Resources, particularly for firms that face liabilities of size and newness, are scarce (Freeman et al., 2006) and thus rapidly creating legal entities in foreign countries ties up resources, the effects of which might significantly lower the positive impacts of equity entry modes (Barkema and Drogendijk, 2007), depending on the resource and capability endowments of a firm as well as the industry context (Chang and Rhee, 2011). Based on these insights as well as findings of past research that has indicated that equity speed can indirectly negatively influence firm performance (Vermeulen and Barkema, 2002), I hypothesize:

Hypothesis 4: Rapid international equity speed decreases international performance.

4.3.5 Differing impact of subsequent internationalization speed for INVs and traditional exporters

The hypotheses presented above include relationships proposed to hold true for traditional exporters as well as for INVs, and were derived from the literature for both types of firms. However, given that the types of firms considered in IB and IE literature are assumed to be distinct – especially with regard to their internationalization speed – it could be argued that

the impact of subsequent internationalization speed on international performance might not be identical for both types of firms. The major differences between traditional exporters and INVs have been widely discussed in academia (e.g., Autio, 2005; Chetty and Campbell-Hunt, 2004; Schwens and Kabst, 2009; Johanson and Vahlne, 2009). Despite their dissimilarity of early and rapid internationalization, one of the most fundamental differences between INVs and traditional exporters is the role of the entrepreneur and top management within INVs. The internationalization process is facilitated by building on both the networks and the previously obtained international experience of the top management team (Oviatt and McDougall, 2005; Bloodgood et al., 1996; Tuppura et al., 2008; De Clercq et al., 2012; Zhou et al., 2007). International experience of the entrepreneur partly substitutes for the experiential knowledge of firms, knowledge regarded as a key requirement for the international expansion of traditional exporters (Johanson and Vahlne, 1977).

The early internationalization of INVs “creates an imprint for adaptability to uncertain environments and internal receptivity for continual change” (Sapienza et al., 2006: p. 915). Due to the fact that firms need to adjust the configuration of their resources to undertake and expand international operations (Hitt et al., 1997), INVs benefit from learning advantages of newness and less-established routines to increase the speed of internationalization (Autio et al., 2000). This helps INVs to manage their scarce resources efficiently and expedites international expansion compared to traditional exporters. These advantages enable INVs to seize foreign-market opportunities more rapidly and successfully, which is eventually also expressed in increased international performance. This might be particularly true when rapidly internationalizing in a high number of markets (i.e., country speed) and swiftly increasing international sales (i.e., commitment speed). Traditional exporters might benefit less from high country speed and commitment speed than do INVs, as their organizational structures are more rigid and path dependencies hinder a flexible and efficient adaption to new routines and processes required for rapid internationalization (cf. Sapienza et al., 2006).

While on the one hand traditional exporters might benefit less from high country and scope speed, on the other hand they might also be less affected by the predicted negative impact of scope and equity speed on international performance. Traditional exporters, compared to INVs, are considered to suffer less from liabilities of newness and size and often possess a greater number of resources in terms of financial capital, human capital, and experiential organizational knowledge (cf. Buckley and Casson, 2009; Chetty and Campbell-Hunt, 2004). Despite better resource endowments stemming from size and age of the firm, traditional exporters are also assumed to rely more strongly on domestic or regional markets, where most of their revenues are derived (Rugman and Verbeke, 2005; Chetty and Campbell-Hunt, 2004). Given that international expansion is an investment-intensive process, regardless of the speed by which it is undertaken, a lack of resources can significantly reduce survival chances of firms (Sapienza et al., 2006). Thus, it has been shown that traditional exporters have higher survival rates than do INVs (Sleuwaegen and Onkelinx, 2014). Due to these resource endowments, it is likely that traditional exporters can mitigate the negative impact of high scope speed and equity speed on international performance better than INVs can. Based on these considerations, I hypothesize the following differences between INVs and traditional exporters regarding the impact of subsequent internationalization speed on international performance:

Hypothesis 5a: The positive effects of subsequent internationalization speed on international performance are stronger for INVs than they are for traditional exporters.

Hypothesis 5b: The negative effects of subsequent internationalization speed on international performance are stronger for INVs than they are for traditional exporters.

4.4 Method

4.4.1 Sample and data collection

The empirical context of this study is the German renewable-energy industry and data is based on a large questionnaire survey conducted in 2014 on the internationalization process of firms. The data was collected as part of a larger research project. I focus on the renewable-energy industry because it is relatively young and shows a high degree of international operations stemming from a global demand of its products (cf. Lehr et al., 2012; Baum et al., 2011b; Tan and Mathews, 2015). Furthermore, the industry consists of more-traditional exporting firms as well as INVs (cf. Baum et al., 2011b; Schwens et al., 2010). Both service and manufacturing firms are included within this study to best reflect the underlying structure of the industry.

Given the relatively young age of the industry and a variety of market players, no comprehensive database exists containing all German renewable-energy firms with international operations. In order to identify the population, an extensive pre-screening of the industry was conducted based on a large database covering the German renewable-energy industry provided by a government institution. This database also included firms that exclusively operate domestically as well as other industry actors that were not relevant to the purpose of this study (e.g., foreign firms, non-governmental and governmental organizations). In order to ensure that the database entailed all relevant firms we additionally checked membership registries of all major industry associations and clusters, as well as exhibitor's lists of trade fairs related to renewable energy. This led to screening 4682 firms that were assessed with regard to the following sample criteria: Firms had to be (1) for profit; (2) German owned; (3) derive the majority of their revenues from the renewable-energy sector (e.g., solar, wind, bio energy); and (4) undertake business activities in at least one foreign market. While constraining the sample to one industry might limit generalizability of the findings, it also increases internal validity given that the internationalization process of firms can be strongly determined by industry and macro-environmental factors (Coviello and Jones, 2004; Coviello

and Martin, 1999). Overall, 488 firms were identified that met all of the above-mentioned sample criteria and were therefore included in a database compiled for this study.

Prior to designing the questionnaire, an extensive pilot study was conducted interviewing 23 managers and industry representatives to understand the internationalization process of renewable-energy firms and industry particularities. Based on these insights, a standardized questionnaire was constructed using established scales from previous literature to obtain information about the organization, its internationalization process, and its performance outcomes. As items were originally in English and the questionnaire in German, to ensure validity the questionnaire was forward and back translated several times with the help of research assistants. Furthermore, the questionnaire was pretested with 18 respondents from industry and academia using think-aloud protocols. During this process the questionnaire was continuously improved by clarifying statements and changing the order of questions to avoid ambiguity and to further validate items (Podsakoff et al., 2003). Mixing the order of dependent and independent questions to avoid respondents easily establishing relationships among the questions themselves helped to avoid the risk of common-method variance stemming from the questionnaire design (Podsakoff et al., 2003; Chang et al., 2010).

Based on the pilot study, it was decided that the respondents best placed to complete the questionnaire were chief executive officers, managing directors, or heads of business development or (international) sales departments, depending on the firm's size and structure. In order to identify the most suitable respondent to complete the questionnaire, potential respondents were approached in person either at trade fairs and industry events or via telephone, which also provided the opportunity to explain the aim of the study and respond to possible questions relating to the research project. Although the questionnaire was standardized with regard to its content, respondents were able to complete the questionnaire either online, via e-mail using a PDF document, mail, fax, or over the phone.

In total, 251 questionnaires were returned, which presents a response rate of 51.4% and contained responses from 150 INVs meeting the cut-off point of having internationalized within three years after inception (Madsen and Servais, 1997; Knight and Cavusgil, 2004). For the purposes of analyzing subsequent speed of internationalization, 230 questionnaires were suitable for analysis. On average, the firms included in this study are 12.4 years old, employ 117.2 employees, have been operating internationally for 8.4 years, and derive an FSTS of 44.2 from 10.4 foreign markets.

4.4.2 Measurement of variables

Independent variables

The literature review has indicated that manifold measurements for the conceptualization of internationalization speed exist. Chetty et al. (2014) highlight the problems related to using heterogeneous and unidimensional measurements of internationalization speed and have developed a multidimensional measurement of speed based on the main concepts of the original Uppsala model. Although some of the measurements of speed suggested in their work were adopted, the measurement applied to this study directly relates to the speed dimensions suggested by Oviatt and McDougall (2005) as well as Casillas and Acedo (2013) and exclusively refers to the subsequent internationalization stage. As mentioned previously, this study focuses specifically on the following speed dimensions: (1) country speed, (2) commitment speed, (3) scope speed, and (4) equity speed, and therefore applies four different measures of internationalization speed. Given that this study focuses on the subsequent internationalization stage of firms, all speed measures are based on the years of international operations measured by using the time span of a firm's first international market activity until present (i.e., year of data collection, 2014) (Vermeulen and Barkema, 2002). Respondents were therefore asked to indicate the year in which their firm first started international operations. The years of international operations is used as the denominator for measuring

the four speed dimensions. The measurement of *country speed* was applied as suggested in previous conceptual work (Prashantham and Young, 2011; Casillas and Acedo, 2013) by using the sum of numbers of foreign markets a firm is operating in (cf. Chetty et al., 2014). Compared to empirical IB literature, which uses a similar measure and takes into account only markets where firms used FDI entry modes (cf. Vermeulen and Barkema, 2002; Chang and Rhee, 2011), in this study, countries where firms used non-equity modes (cf. Pan and Tse, 2000) are also considered. Data for this construct was obtained by asking respondents to name the number of foreign countries in which their firm operates. The measurement for subsequent international *commitment speed* (Prashantham and Young, 2011) was adopted from Morgan-Thomas and Jones (2009), who use the ratio of total international sales to total turnover (i.e., FSTS) as a single indicator referring to the firm's past-year FSTS, which was provided by the respondents. In order to measure *scope speed* (Casillas and Acedo, 2013; Oviatt and McDougall, 2005), I build on earlier scholarly work examining the international spread or diversity of firms with regard to the number of regions entered (cf. Preece et al., 1999; Li et al., 2012b). In order to account not only for geographical spread, but also scope of institutionally different regions where firms operate, the cultural clusters identified by Gupta et al. (2002) are used. Respondents were asked to indicate all regions where their firm operates. Similar to measuring country speed, the sum of regions divided by years of international operations was used to measure scope speed (cf. Casillas and Acedo, 2013). The last speed dimension considered – *equity speed* – was operationalized using the measurement proposed by Chetty et al. (2014) and asks for the firm's most dominant entry mode used. Afterwards the information was dummy coded, assigning non-equity modes a value of 0 and equity modes a value of 1 (cf. Pan and Tse, 2000). The dominant mode choices were measured against the above-mentioned time dimension (cf. Chetty et al., 2014). Given that some information requested for the above-mentioned measurements is available from firms'

reports, websites, and publicly available databases, the information provided by the respondents was cross-checked.

Dependent variables

International performance is the dependent variable in this study and has been predominantly conceptualized across several dimensions in previous studies (e.g., Brouthers and Nakos, 2004; Musteen et al., 2010). Similar to many studies focusing on performance of internationally operating firms, a subjective measure of international performance was used for several reasons. First, given that the sample includes many younger and smaller firms, financial data is not publicly available as might be the case with larger and stock-listed MNEs (cf. Vermeulen and Barkema, 2002). Second, the pilot-study and pre-tests showed that managers are indeed reluctant to disclose financial data, despite the assured confidentiality of their responses. Including questions on absolute financial figures regarding international profit or sales would have likely led to a lower response rate and a significant rate of missing values (cf. Brouthers and Nakos, 2004; Contractor et al., 2005). Third, strategy research as well as internationalization literature has shown that subjective performance measures can be used successfully, as they provide a very accurate measure of performance (Venkatraman and Ramanujam, 1986; Yip et al., 2000). Using a subjective measure of international performance, respondents were asked on a five-point Likert scale to assess their level of satisfaction with the international performance of the firm over the last three years. Performance dimensions considered for this scale were adapted from previous literature on international performance (Brouthers and Nakos, 2004; Chetty et al., 2014; Jantunen et al., 2005; Musteen et al., 2010) and consist of foreign sales, market share, profitability, market access, reputation, access to know-how, and overall satisfaction. Thus, the measurement of international performance includes “hard” indicators that are measurable objectively with precise numeric values (e.g., foreign sales and profitability) and “soft” indicators that are rather subjective (e.g., access to

know-how and reputation). Using hard and soft measures of performance is particularly helpful given that the analysis includes firms with different characteristics in terms of size and age, and including both measures allows us to capture firms that might strive for different performance indicators, which should be reflected accordingly (Trudgen and Freeman, 2014).

Control variables

In line with previous literature on the internationalization process of firms and performance, four control variables are included in this study that are assumed to affect performance: size, age, type of firm, and international experience of the top management team (Brouthers, 2002; Chetty et al., 2014; Kuivalainen et al., 2007; Casillas et al., 2015). The *firm's size* was measured using its turnover by providing respondents with four different turnover categories (derived from pilot study) (Lu and Beamish, 2006). Size is thought to be an approximation of firm resources and therefore might impact the performance of a firm (Wagner, 2004). *Age* has often been seen as a proxy for firm resources, given that older firms often have greater resource levels and can rely on established structures and networks (Zhou et al., 2012). Age was included as a control variable in the analysis by counting the number of calendar years since firm foundation (Filatotchev et al., 2009). For the *type of firm*, I distinguishing between manufacturing and service firms to control for potential differences with regard to performance outcomes (Khavul et al., 2010). Manufacturing firms were dummy coded as 0 and service firms as 1 (Zhou et al., 2012). Finally, I also controlled for *previous international experience of top management team* (TMT), which is assumed to impact firm performance (Hutzschenreuter and Horstkotte, 2013) and is frequently applied as a control in internationalization literature (Musteen et al., 2010; Schwens and Kabst, 2011). I used two dichotomous measures and asked respondents whether TMT members worked and/or studied abroad before founding or joining the firm (Reuber and Fischer, 1997; Lee and Park, 2008).

All measurements of the various variables included in the study can be found in the Appendix of this study.

4.4.3 Analytical approach and measurement validity

Structural equation modeling (SEM) using maximum-likelihood estimation was employed to test hypotheses. This methodology is considered suitable for the aim of this study, because it includes two dependent variables, and because this methodology has been proven particularly useful in studies analyzing the speed of internationalization (e.g., Acedo and Jones, 2007; Chetty et al., 2014). SEM is a two-stage process that first tests the reliability and validity of the constructs; and second, calculates the hypothesized model itself (Byrne, 2010).

Correlation Matrix		Mean	S.D.	1	2	3	4	5	6	7	8	9
1.	Country Speed	1.59	2.74									
2.	Commitment Speed	8.82	12.03	.129								
3.	Scope Speed	.72	.63	.448**	.468**							
4.	Equity Speed	.09	.17	.050	.106	.287**						
5.	International Performance "Hard"	3.14	.89	.044	.064	-.026	-.121					
6.	International Performance "Soft"	3.79	.86	.146*	.213**	.171**	.105	.430**				
7.	Turnover	2.10	.96	.129	-.211**	-.052	-.030	.126	-.013			
8.	Age	12.35	9.54	-.143*	-.311**	-.341**	-.181**	.139*	-.126	.295**		
9.	International Experience of TMT	1.20	.79	.052	.169*	.098	.078	.116	.139*	.026	-.178**	
10.	Service	.72	.45	-.260**	-.012	-.198**	.118	-.011	.079	-.098	-.053	.061

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 4.1: Correlation matrix

Table 4.1 shows the descriptive statistics and bivariate correlations of the independent, dependent, and control variables. All bivariate correlations stay below .7 and variance inflation factors calculated for the independent variables stay below 3 – with the highest being 1.73 – and hence no risk for multicollinearity has been identified (Hair et al., 2010). I conducted an exploratory principal-component factor analysis assessing convergent validity of multi-item constructs. Similarly to Brouthers and Nakos (2004), my results differentiate between two distinct international performance factors: “hard” factors (i.e., objective and financial) relating to turnover, market share, and profitability; and “soft” factors (i.e., subjective and non-financial) consisting of reputation and knowledge access. The items relating to market access and overall satisfaction of international activities revealed a high cross-loading and were

therefore dropped from the analysis. Analyzing the items of latent constructs of the measurement model with regard to factor loadings, average variance explained, and reliability to test convergent validity shows validity for all constructs, with factor loadings above .80, average variance extracted higher than .60, and construct reliability above .75 (Fornell and Larcker, 1981; Hair et al., 2010). I also tested for discriminant validity by comparing the average variance extracted of each construct to the squared correlation estimate between constructs. Given that the average variance explained for each construct is higher than the squared correlation estimate between constructs provides good evidence of discriminant validity (Hair et al., 2010). Assessing the measurement model, which only includes latent constructs of the hypothesized model, using goodness-of-fit statistics indicates a very good model fit, as the measurement model exceeds all cut-off points of the most relevant criteria (i.e., normed χ^2 [1.159]; GFI [.988]; CFI [.998]; RMSEA [.059]) suggested by Hair et al. (2010).

Because all measurements for this study are derived from a single questionnaire, common-method variance might be an issue (Podsakoff et al., 2003). However, as mentioned previously, several ex-ante procedures were used to avoid the risk of common-method variance by carefully designing the questionnaire with regard to the order of questions. Furthermore, dependent variables were measured on Likert scale items and are rather subjective while independent variables were calculated based on information provided by the respondent and are objective (Chang et al., 2010). In a large number of cases it was possible to verify information for the independent variables, as this information is often publicly available (see 4.4.2), a step that significantly reduces common-method variance (Chang et al., 2010). I therefore cross-checked information such as year of foundation, number of international export markets, and foreign turnover using published material of the respective firms as well as publicly available industry databases. Subsequently, I corrected inaccurate information mainly caused by typographical errors of the respondents. In addition to these ex-ante procedures to avoid common-method variance, Harman's single-factor test was also

conducted using principle-component factor analysis with all items included in the model (largest variance explained by one factor was 22%), indicating that there is no concern of common-method variance in this study, as no single factor emerged or contributed to the majority of the covariance (Podsakoff et al., 2003).

These analyses indicate high measurement-model validity and therefore allowed me to proceed with testing the hypothesized model.

4.5 Results

Figure 4.1 illustrates the results for standardized coefficients of the hypothesized SEM for Hypotheses 1 to 4 (Model 1), whereas Figure 4.2 and Figure 4.3 report the results for Hypotheses 5a and 5b for INVs and traditional exporters (Model 2). Models were assessed using goodness-of-fit statistics that are illustrated in Table 4.2, showing a good fit of both models (Hair et al., 2010).

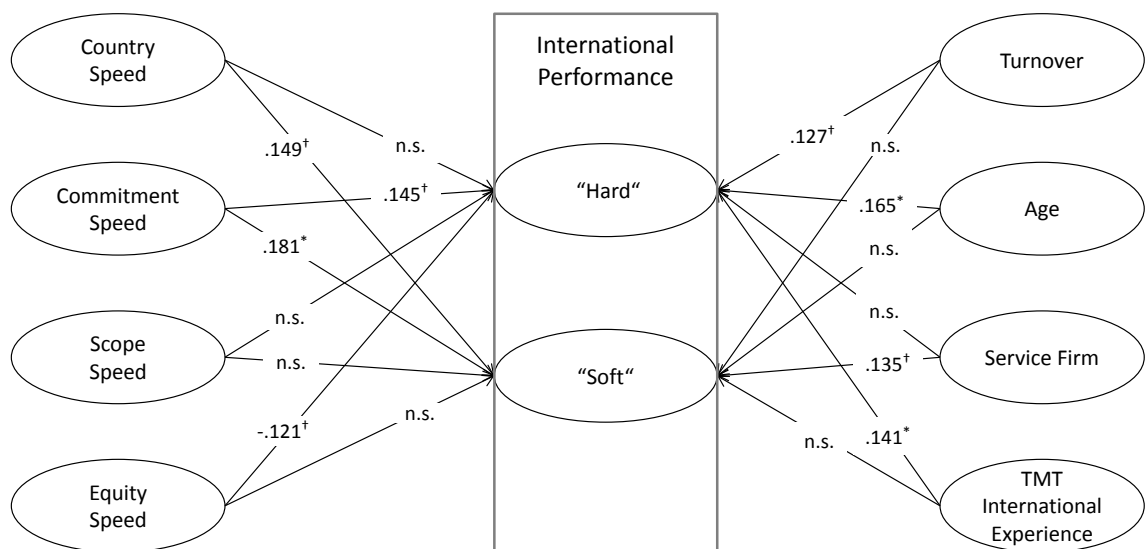


Figure 4.1: Structural equation modelling results for Model 1 (overall sample)

This is a simplified version of the actual SEM, which does not show error terms, indicator variables of the latent constructs, or covariances. ***p ≤ .001; **p ≤ .01; *p ≤ .05; [†]p ≤ .1

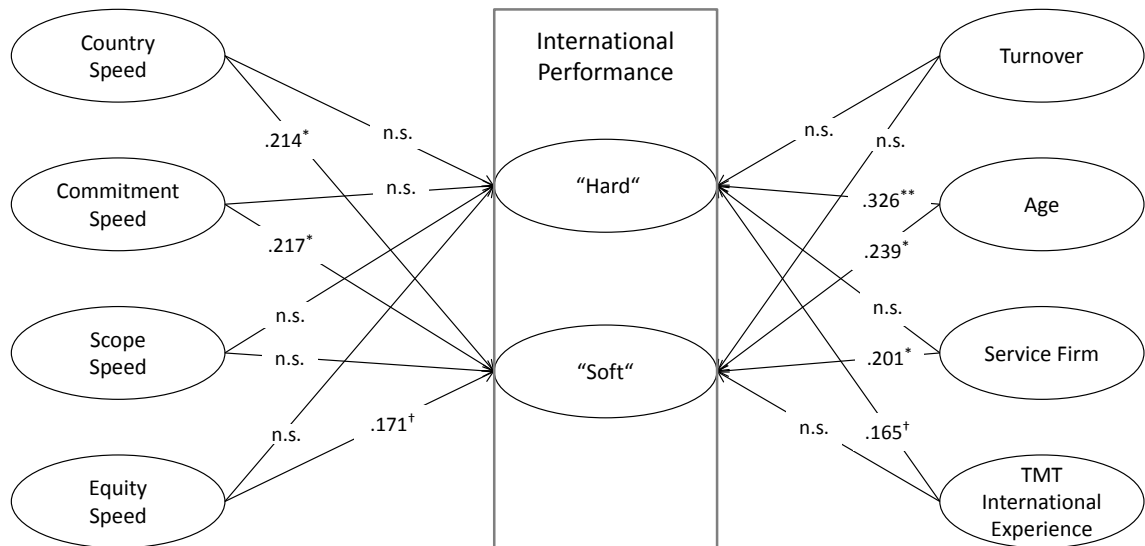


Figure 4.2: Structural equation modelling results for Model 2 (subsample INVs)

This is a simplified version of the actual SEM, which does not show error terms, indicator variables of the latent constructs, or covariances. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; [†] $p \leq .1$

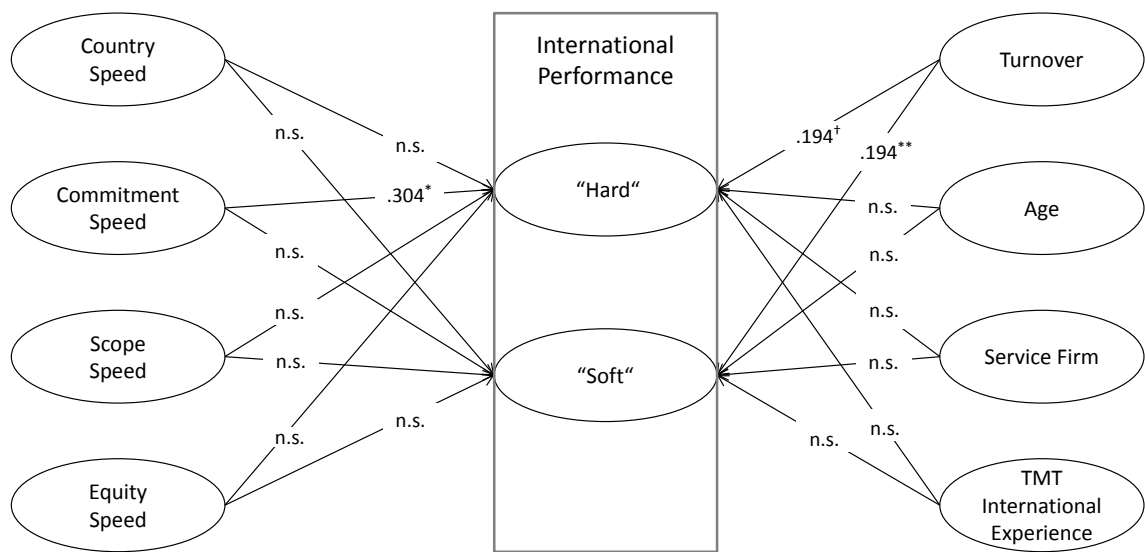


Figure 4.3: Structural equation modelling results for Model 2 (subsample traditional exporters)

This is a simplified version of the actual SEM, which does not show error terms, indicator variables of the latent constructs, or covariances. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; [†] $p \leq .1$

Model	Chi ²	df	CMIN/DF	GFI	CFI	RMSEA
Model 1: Overall sample	78.28	45	1.739	.950	.953	.057
Model 2: Subsamples	128.02	90	1.422	.922	.949	.043

Table 4.2: Goodness-of-fit statistics of models

Hypothesis 1 states that rapid country speed increases international performance. As Figure 4.1 illustrates, this hypothesis was weakly confirmed for high country speed increasing international performance (soft). Results also show that commitment speed was positively related to international performance (hard and soft) and thus supports Hypothesis 2. No significant relationship between scope speed and international performance was identified, and thus does not support Hypothesis 3. The hypothesized negative impact of equity speed on international performance (Hypothesis 4) was weakly supported.

In order to test Hypotheses 5a and 5b, a group split was undertaken by dividing firms along INVs (n = 144) and traditional exporters (n = 86). The group split was based on the dominant INV criterion requiring firms to have internationalized within three years after inception to be considered INVs (Madsen and Servais, 1997; Knight and Cavusgil, 2004). Before conducting SEM with the group split, equivalence of the measurement model across the two groups was tested (Byrne, 2010). The results show that the measurement model is invariant across both groups. Figure 4.2 and Figure 4.3 provide evidence for Hypothesis 5a, which states that the positive effects of subsequent internationalization speed on international performance is larger for INVs than it is for traditional exporters. However, results show that equity speed of internationalization has a positive impact on international performance for INVs, indicating the opposite direction of Hypothesis 5b, which is therefore not supported.

4.6 Discussion and conclusion

The overarching objective of this study was to understand how multiple dimensions of speed impact international performance of a firm. Applying four different dimensions, as suggested by previous scholars (Oviatt and McDougall, 2005; Casillas and Acedo, 2013), shows the impact of country, commitment, scope, and equity speed on international performance based on a sample of 230 German renewable-energy firms. Results highlight that country and

commitment speed in particular increase international performance, whereas equity speed indicates a negative performance impact, and scope speed a non-significant performance impact. These differences can be explained by considering that country speed and commitment speed are less risky and more easily achievable by a firm than are the other two dimensions (i.e., scope speed and equity speed). Analyzing INVs and traditional exporters separately, results show that internationalization speed impacts international performance slightly differently depending on the firm type. INVs seem to benefit more strongly from internationalization speed, showing that both country and commitment speed increase international performance, whereas traditional exporters only benefit from high commitment speed. In contrast to the Hypothesis 5b that INVs are more strongly affected by negative impacts of subsequent internationalization speed on international performance compared to traditional exporters, results show that equity speed actually positively contributes to international performance. This finding is somewhat counterintuitive given that INVs are generally assumed to hold fewer resources and might struggle to adopt required governance structures to successfully expand through equity modes at high speed (cf. Sapienza et al., 2006; Pan and Tse, 2000). Although this discussion extends the scope of this study, it could be argued that because INVs strongly rely on networks, are more flexible, and are able to learn more quickly (cf. Zahra et al., 2000; De Clercq et al., 2012; Oviatt and McDougall, 1997; Autio et al., 2000), they also manage to leverage resources efficiently and benefit from expanding rapidly through equity modes, helping them to better control operations abroad and lower liabilities of foreignness. Findings of this study also show – in contrast to Hypothesis 3 – that scope speed is not significantly related to international performance, implying that entering markets with very heterogeneous institutional environments at a rapid pace has no significant effect on international performance. It should be pointed out that these results only refer to the relationship between rapid scope speed and performance and do not imply that spreading operations over a large geographical scope does not impact international performance.

This study contributes to existing literature in several ways. First, it contributes to the literature conceptualizing internationalization speed along multiple dimensions (cf. Casillas and Acedo, 2013; Prashantham and Young, 2011; Chetty et al., 2014). While the conceptualization of internationalization speed as a multidimensional construct has often been rather vague, conceptual, and rarely considered in empirical research (e.g., Oviatt and McDougall, 2005; Casillas and Acedo, 2013; Prashantham and Young, 2011), in this study I identify measurements for each speed dimension based on previous research using unidimensional measures and instead measure speed in a multidimensional way (cf. Chetty et al., 2014; Morgan-Thomas and Jones, 2009; Vermeulen and Barkema, 2002).

Second, this study is unique because it differentiates between dimensions of internationalization speed and thus assesses the individual impact of each speed dimension on international performance. Although Chetty et al. (2014) also analyze speed as a multidimensional construct and its impact on international performance, their conceptualized speed measurement is formative. Using a formative construct helps to understand how each dimension of speed contributes to speed as an overall construct, but does not assist in identifying the individual impact of speed dimensions on an outcome variable such as international performance. Gaining insights on how individual dimensions of speed impact international performance is crucial in order to identify the more effective speed dimensions with regard to international performance and has important implications for scholars and managers alike.

Third, previous literature analyzing the impact of internationalization speed on performance has been heterogeneous, finding either no direct relationship (Vermeulen and Barkema, 2002), an inverted U-curve relationship (Wagner, 2004), or a positive relationship that depends on firms' resource endowments and other environmental factors (Chang and Rhee, 2011). Chetty et al. (2014) also find a positive relationship between speed and international performance.

These differing findings might be the result of applying different measures for internationalization speed, which can understandably lead to different findings. Due to the fact that findings of this study include four different measurements of internationalization speed showing that some speed dimensions positively impact international performance and others negatively, it offers researchers first insights into why prior findings might be ambiguous and will thus contribute to more nuanced theorizing of these implications in IB research. However, it needs to be pointed out that findings of this study relate to international performance and thus cannot be directly compared to studies analyzing the overall performance of a firm (e.g., Vermeulen and Barkema, 2002; Khavul et al., 2010; Chang and Rhee, 2011).

Fourth, this study also broadens the context in which internationalization speed has been studied, as it includes firms with different characteristics, such as INVs, traditional exporters, young and old firms, small and large firms, and controls for these differences. Previous research on internationalization speed is often limited, as it only takes into consideration firms meeting certain characteristics and thus limits the generalizability of results (cf. Wagner, 2004; Chetty et al., 2014; Chang and Rhee, 2011; Morgan-Thomas and Jones, 2009). Results of this study show that differences between INVs and traditional exporters persist in the subsequent internationalization phase, highlighting that INVs seem to achieve increased international performance stemming from country, commitment, and equity speed. In contrast, speed of commitment is the only speed dimension that increases international performance for traditional exporters. Results reinforce the importance that INV scholars dedicated to the speed of internationalization and might stimulate research on the multidimensionality of internationalization speed of traditional exporters given its significant implications for firms' international performance. This can substantially advance scholarly understanding of the impact of internationalization speed and lead to better theorizing in IB research.

Last, by adapting two different constructs reflecting international performance, this paper follows previous suggestions to implement performance measurements reflecting different firm characteristics (Trudgen and Freeman, 2014). Given that a heterogeneous set of firms was included in this study, measuring international performance along “hard” and “soft” indicators enabled me to account for these differences and achieve more generalizable findings.

This study also provides important implications for managers who want to implement an effective internationalization strategy. Results of this study show that firms aiming to rapidly expand internationally in order to increase international performance are advised to focus on increasing commitment speed. As mentioned earlier, this speed dimension involves the lowest risk compared to other speed dimensions and is most effective at increasing international performance. Especially for traditional exporters, this presents the best option to increase international performance through high speed. Managers of INVs, however, might also benefit from rapidly increasing the number of markets entered, increasing international sales, and using equity entry modes to internationalize. These findings will help managers to better evaluate when and how rapidly to internationalize, which forms a crucial part of the overall internationalizations strategy. Managers can thereby align processes and focus on expanding capabilities that help achieve rapid internationalization speed across a particular dimension.

Despite these contributions, this study also presents some limitations with regard to the context and process of data collection. The study is based on data from a single country, a single industry, and is cross-sectional. While this design limits the generalizability of the results, a single country and single industry focus also provides the benefit of not having to control for potential influences stemming from the environment, such as institutional development, subsidies, and industry conditions. This design allowed for a strict focus on the relationship between subsequent speed and international performance.

I hope that this study will encourage future research in the area of internationalization speed. Scholars studying speed of internationalization should carefully consider the multidimensionality of the construct and precisely define the dimensions under study and further improve measurements of speed dimensions. Doing so will help other researchers gain further insights on the speed-performance relationship and might avoid inconsistent findings stemming from varied conceptions of internationalization speed. While this study analyzes only the direct impact of speed on international performance, future research could broaden the scope across countries and industries to include macro-environmental influences on the relationship. Future longitudinal studies could also help to understand whether variations in performance outcomes caused by differing internationalization speed arise over time. Furthermore, it would also be interesting to discover how INVs in particular develop with regard to internationalization speed in the subsequent stages and whether differences between INVs and traditional exporters remain apparent in the long run. Thus the door for future research in this area is wide open.

Appendix for Paper III

Construct	Indicator/Measurement	Sources
International performance	<p>In the last three years...</p> <p>...we have been very satisfied with the turnover we have achieved internationally.</p> <p>...we have been very satisfied with meeting our international market-share objectives.</p> <p>...we have been very satisfied with the profitability of our international operations.</p> <p>...we have achieved good access to new markets. (dropped from analysis)</p> <p>...our company image has improved due to international operations.</p> <p>...our company's expertise has improved due to international operations.</p> <p>...we have been very satisfied with our international operations as a whole. (dropped from analysis)</p>	Adapted from Brouthers and Nakos (2004), Musteen et al. (2010), Jantunen et al. (2005), and Chetty et al. (2014)
Country speed	Number of foreign markets / Years of international operations	Adapted from Prashantham and Young (2011), Casillas and Acedo (2013), and Chetty et al. (2014)
Commitment speed	Percentage of foreign revenue / Years of international operations	Adapted from Morgan-Thomas and Jones (2009)
Scope speed	Numbers of cultural regions / Years of international operations	Adapted from Oviatt and McDougall (2005), Casillas and Acedo (2013), and Gupta et al. (2002)
Equity speed	Entry mode with foreign investment (y/n) / Years of international operations	Adapted from Chetty et al. (2014) and Pan and Tse (2000)
Overall Resources (control)	<p>Turnover 1 (low) to 4 (high)</p> <p>Age (number of calendar years since foundation to 2014)</p>	Adapted from Lu and Beamish (2006) Filatochev et al. (2009)
Type of firm (control)	Service (1) and manufacturing (0)	Adapted from Khavul et al. (2010)
International experience of top management team (control)	<p>Before founding or joining this firm, did any member of the current management team...</p> <p>...work abroad? (y/n)</p> <p>...study abroad? (y/n)</p>	Adapted from Reuber and Fischer (1997) and Lee and Park (2008)

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5 Conclusion to thesis

Each chapter, containing individual papers in journal-article format, addresses a particular shortcoming of extant literature and contributes to closing existing research gaps. While each study outlines its individual contribution and implications, the present chapter provides an overarching conclusion. Insights gained through individual papers are summarized and show how the entirety of the thesis contributes to scholarly understanding of the international expansion process of firms regarding antecedents, speed, and performance implications. Furthermore, theoretical contributions as well as managerial implications are discussed.

Overall, this thesis sheds light on the subsequent international expansion process of INVs and highlights three aspects in particular. First, it shows the moderating role of institutional distance between antecedents and subsequent international expansion of firms. Second, it identifies antecedents of subsequent internationalization speed along its multiple dimensions. Third, the thesis shows the important role of internationalization speed as a multidimensional construct on international performance of both INVs and firms following a more traditional approach to internationalization. These three aspects directly relate to the three shortcomings of extant literature that were highlighted in the introduction and were consequently addressed throughout the different papers.

First of all, it has been argued that current IE literature fails to adequately consider the role of the institutional environment in the subsequent international expansion process of INVs (Bruton et al., 2010; Sui et al., 2012). This issue is addressed in Paper I, which provides a comprehensive framework depicting how the relationship of firm- and home-country market-level drivers of internationalization and the actual international expansion along pace, pattern, and scope dimensions is moderated by institutional distance. This conceptual work shows the importance of considering institutional distance in the subsequent international expansion of INVs. It shows that greater institutional distance significantly lowers the impact of firm- and

market-level antecedents, which in the case of low institutional distance would drive the international expansion of INVs. The paper points out that the impact of institutional distance increases in importance during the medium-to-long run of INVs' international expansion. However, it likely plays a less important role in the late stage of internationalization, when INVs have become truly global. The paper argues that considering the role of institutional distance will help scholars to better understand why firms prefer to internationalize on a regional rather than on a global scale. It provides insights on how the impact of institutional distance can be lowered by expanding existing capabilities and acquiring new ones necessary for further internationalization. Implications of the paper corroborate findings of the born-regional argument (Lopez et al., 2009; Sui and Baum, 2014; Hashai and Almor, 2004), showing that institutional environments constrain INVs and prevent them from becoming born-global in a literal sense. The paper strongly encourages future research to help overcome shortcomings of previous literature by empirically considering institutional forces in the analysis of subsequent INV internationalization.

The second shortcoming outlined in the thesis introduction relates to a lack of empirical consideration of antecedents impacting subsequent internationalization speed of INVs (Hagen and Zucchella, 2014; Oviatt and McDougall, 2005). Paper II addresses this issue by identifying antecedents of internationalization speed of INVs in the subsequent stage of international expansion. Using qualitative data helped explore relevant and identify new drivers of subsequent internationalization speed of INVs, whereas quantitative analysis was used to test the hypotheses. It is shown that the role of previous international experience of the entrepreneur seems to play a much less important role in the subsequent stage compared to the initial stage. Furthermore, international experience of the firm lowers subsequent internationalization speed, while drivers such as international growth strategy and initial internationalization speed increase internationalization speed in the long run. The paper therefore helps close the above-mentioned shortcoming by providing empirical evidence

based on qualitative and quantitative data to understand the efficacy of firm-level drivers of subsequent internationalization speed.

The third shortcoming identified in the thesis introduction is that extant literature significantly lacks empirical considerations of internationalization speed as a multidimensional construct (Casillas and Acedo, 2013; Chetty et al., 2014). In order to address this shortcoming, this thesis conceptualizes speed of internationalization on four different dimensions: (1) country speed, (2) commitment speed, (3) scope speed, and (4) equity speed. This conceptualization was used in the two empirical papers in Chapters 3 and 4. The quantitative data analysis in Paper II shows individual relationships between individual antecedents and each dimension of internationalization speed. By adopting a multidimensional measure of internationalization speed, Paper II shows that each speed dimension is impacted by different antecedents and that no single antecedent factor equally impacts all four dimensions of speed. Thus, results show that if internationalization speed is considered along its multiple dimensions, scholarly understanding can be significantly increased by comprehending which antecedent is relevant to which dimension. Following this line of thought of different dimensions of internationalization speed, Paper III analyzes how individual dimensions impact the international performance of firms. However, in contrast to the previous two papers, Paper III broadens its analytical scope by including INVs as well as firms following a traditional approach to internationalization and thus empirically contributes to both IB and IE literature. Results based on data from INVs and traditional exporters show that country and commitment speed increase international performance, while equity speed decreases performance of firms. An individual group analysis shows that the positive effects of country speed and commitment speed are stronger for INVs than for traditional exporters. This implies that INVs benefit to a larger extent from rapid internationalization in terms of number of countries entered and increased commitment than do firms following a traditional approach to internationalization. Furthermore the analysis shows that INVs can improve international performance by

increasing equity speed. Firms that internationalize later in their lifecycle can enhance international performance by rapidly increasing international sales (i.e. commitment speed).

Consequently, results from Papers II and III show which factors influence internationalization speed along its various dimensions and how these dimensions increase or decrease international performance. This contribution is important, as it provides considerable insights on which firm-level factors are required to achieve rapid internationalization speed along a certain dimension that might ultimately increase international performance of the firm. This finding will significantly help managers taking decisions on which capabilities and drivers should be expanded and focused upon. Furthermore, taking into account propositions of Paper I, outlining the negatively moderating impact of institutional distance during the subsequent internationalization of INVs, and complementing these propositions with findings from Paper III, it could be argued that increasing a firm's international geographic scope by entering institutionally distant countries not only presents significant challenges to INVs, but does not contribute to increased international performance either. These findings might question to some extent the goal of becoming a truly born-global firm. Furthermore, findings provide an additional explanation as to why firms prefer to internationalize regionally instead of globally (Lopez et al., 2009; Hashai and Almor, 2004; Rugman and Verbeke, 2005).

5.1 Theoretical contribution

From a theoretical perspective, this thesis contributes to IE and IB literature by shedding light on the subsequent international expansion of INVs, which has received little attention to date (Sui et al., 2012; Hagen and Zucchella, 2014; Hashai and Almor, 2004). Thus, the focus of current research has been expanded by acknowledging the role of institutional forces that are of high importance during the subsequent stages of internationalization. Embracing institutional theory in current IE theorizing can significantly advance IE research by including

factors residing in the wider institutional environment that alter international operations of INVs, which cannot be explained by considering firm-level and home country factors alone. Institutional theory therefore helps to overcome a shortcoming in current IE literature and thus gaining a more holistic picture of forces impacting subsequent international expansion of INVs.

Additionally, the thesis empirically contributes to literature on subsequent internationalization speed of firms and identifies for INVs important firm-level drivers for speed. For a long time INV research has been limited to analyzing only initial speed instead of considering internationalization speed once an INV has actually started its international operation (Morgan-Thomas and Jones, 2009; Prashantham and Young, 2011). However, given the high importance of internationalization speed within the INV phenomenon, it is essential to consider speed during the long-term growth of INVs. Although some studies have analyzed post-entry speed of INVs, the papers of this thesis provide a more in-depth view of drivers of subsequent internationalization speed. This was enabled by combining qualitative and quantitative analysis techniques and therefore increased validity and generalizability of findings. In particular, findings of this thesis advance current understanding of INVs' subsequent internationalization by identifying important antecedents impacting subsequent internationalization speed that have not been considered in prior research. Furthermore, results question the relevance of certain antecedents that have been found to play a crucial role for initial internationalization speed. In the context of subsequent internationalization speed, results have shown a diminishing role of the direct impact of entrepreneurs' previous international experience on subsequent internationalization speed.

Finally, a strong contribution to extant literature stems from the fact that this thesis acknowledges speed of internationalization as a multidimensional construct. Previous research has predominantly analyzed speed unidimensionally. Much valuable information is lost using

this conceptualization and hinders a more nuanced perspective of drivers and outcomes of internationalization speed. By distinguishing between four different dimensions of internationalization speed, this thesis significantly contributes to previous literature and follows the call by several scholars to empirically analyze speed as a multidimensional construct (Chetty et al., 2014; Casillas and Acedo, 2013). The results of this thesis show that empirical consideration of multiple dimensions of speed helps to gain deeper insights on which factors contribute to each dimension of internationalization speed and how each dimension impacts international performance of firms. Thus, these results reinforce the need to distinguish between different dimensions of internationalization speed and might help to avoid ambiguous findings in this area, which will contribute to more thorough theorizing of speed in the IB context focusing not only on INVs but also on traditional exporters.

5.2 Practical implications

Overall, results of this thesis contain important implications for managers with regard to the international expansion process of firms. Particularly for entrepreneurs or managers of INVs, results suggest that they need to prepare for increasing difficulties stemming from differing host-market conditions during further international expansion. While entrepreneurs might not initially perceive difficulties in expanding operations, subsequent growth will present greater challenges as firms need to learn, restructure existing processes, and build and extend capabilities that foster international growth. This is of considerable importance when expanding into distant markets, as INVs need to, for example, expand staff by hiring managers with significant international experience, seek external advice, or expand existing networks to overcome impediments stemming from institutional differences. If managers strive for rapid internationalization, results of the thesis help to identify the relevant drivers of rapid subsequent internationalization speed for INVs. Thus, managers are better informed with regard to different aspects of internationalization speed and can make a more informed

decision about which speed dimensions they want to increase to achieve faster international growth. By having identified the relevant drivers for each speed dimension, management can specifically focus on expanding or adding required capabilities and thus channel resources more efficiently. Empirical results also show that certain drivers perceived by the management as efficient to increase subsequent internationalization speed – such as the resources dedicated to establishing international networks – were statistically not found to impact internationalization speed. With regard to performance implications of internationalization speed, managers informed by results of this thesis will be able to identify the most beneficial speed dimension that contributes to increased international performance. Thus, for example, results show that rapidly increasing the international scope of operations does not increase international performance and it might therefore not be worthwhile to commit resources to achieving high scope speed as a way to increase international performance. Results further show that managers of INVs might benefit from achieving high-equity speed, while firms having followed a more traditional approach to internationalization might not be able to increase international performance by achieving rapid speed along this dimension. Overall, results of this thesis might therefore help managers to take more informed decisions and achieve superior performance during their subsequent stage of international growth.

5.3 Concluding remarks

While this thesis contributes to shortcomings of previous literature and provides important implications for managers, it is not without limitations. The most relevant limitation is that empirical findings are based on cross-sectional data derived from a single industry and country. Therefore findings might be more relevant to German renewable-energy firms and not generalizable to other industries and countries. While such limitations need to be considered, this thesis helps contribute to an in-depth understanding of subsequent internationalization of firms regarding antecedents, speed, and performance implications. This

work addresses several shortcomings of extant research, but acknowledges the need for additional considerations in future research. Studying subsequent internationalization of firms, in particular with regard to considering the role of the institutional environment of host countries as well as internationalization speed along its several dimensions, provides many avenues for future research to be explored.

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Appendix

Appendix A: Ethics Approval



Final Approval - 5201200479(D)

Mrs Yanru Ouyang <yanru.ouyang@mq.edu.au>

22. Juni 2012 um 01:56

An: Dr Meena Chavan <meena.chavan@mq.edu.au>

Cc: Mr Dominik Chahabadi <dominik.chahabadi@students.mq.edu.au>

Dear Dr. Meena Chavan

Re: Project entitled: Analysing the internalisation strategies of developed countries' firms into emerging and developing markets: The case of the German renewable energy industry.
Reference: 5201200479(D).

Thank you for your recent correspondence. Your response has addressed the issues raised by the Faculty of Business & Economics Human Research Ethics Sub Committee, and you may now commence your research.

This research meets the requirements of the National Statement on Ethical Conduct in Human Research (2007). The National Statement is available at the following web site:

http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e72.pdf.

The following personnel are authorised to conduct this research:

Chief Investigator: Meena Chavan

Other Personnel: Dominik Chahabadi

NB. STUDENTS: IT IS YOUR RESPONSIBILITY TO KEEP A COPY OF THIS APPROVAL EMAIL TO SUBMIT WITH YOUR THESIS.

Please note the following standard requirements of approval:

1. The approval of this project is conditional upon your continuing compliance with the National Statement on Ethical Conduct in Human Research (2007).
2. Approval will be for a period of five (5) years subject to the provision of annual reports.
Progress Report 1 Due: 21 June 2013
Progress Report 2 Due: 21 June 2014
Progress Report 3 Due: 21 June 2015
Progress Report 4 Due: 21 June 2016
Final Report Due: 21 June 2017

NB. If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report for the project.

Progress reports and Final Reports are available at the following website:
http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).
4. All amendments to the project must be reviewed and approved by the Committee before implementation. Please complete and submit a Request for Amendment Form available at the following website:
http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/forms
5. Please notify the Committee immediately in the event of any adverse

effects on participants or of any unforeseen events that affect the continued ethical acceptability of the project.

6. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at the following websites:

<http://www.mq.edu.au/policy/>

http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics/policy

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide the Macquarie University's Research Grants Management Assistant with a copy of this email as soon as possible. Internal and External funding agencies will not be informed that you have final approval for your project and funds will not be released until the Research Grants Management Assistant has received a copy of this email.

If you need to provide a hard copy letter of Final Approval to an external organisation as evidence that you have Final Approval, please do not hesitate to contact the FBE Ethics Committee Secretariat, via fbe-ethics@mq.edu.au or 9850 4826.

Please retain a copy of this email as this is your official notification of final ethics approval.

Yours sincerely

Alan Kilgore

Chair, Faculty of Business and Economics Ethics Sub-Committee

Appendix B: List of conference presentations

1. Australia and New Zealand International Business Academy (ANZIBA) Conference, Sydney 2013

Internationalisation of firms from developed countries into emerging and developing markets: Conceptual framework and research propositions based on the German renewable energy industry

Dominik Chahabadi and Meena Chavan

2. European International Business Academy (EIBA) Conference, Bremen 2013

Internationalisation of INVs from Developed Countries into Emerging and Developing Markets: Conceptual Framework of the Subsequent Stage of INV Internationalisation

Dominik Chahabadi and Meena Chavan

3. Academy of International Business (AIB) Conference, Vancouver 2014

The Moderating Impact of Institutional Distance on the Subsequent Stages of INV Internationalisation

Dominik Chahabadi and Meena Chavan

4. McGill International Entrepreneurship Conference, Santiago de Chile 2014

The subsequent stages of internationalization speed of maturing INVs: A comparative case study analysis of German renewable energy firms

Dominik Chahabadi

5. Australia and New Zealand International Business Academy (ANZIBA) Conference, Melbourne 2015

Internationalisation Speed of Maturing International New Ventures – A Comparative Case Study Analysis of German Renewable Energy Firms

Dominik Chahabadi and Meena Chavan

6. McGill International Entrepreneurship Conference, London 2015

Drivers of INVs' Subsequent Internationalisation Speed - Evidence from the German Renewable Energy Industry

Dominik Chahabadi, Indre Maurer and Meena Chavan