

# Contents

Abstract .....	iii
Acknowledgements.....	iv
List of figures.....	vi
List of tables .....	viii
Paper status at time of submission.....	ix
Thesis formatting and style.....	ix
Co-authorship forms .....	x
Glossary .....	xiii
Chapter 1. Introduction.....	1
Chapter 2. Theoretical framework and research questions.....	11
Chapter 3. Method.....	47
Chapter 4. Competing on the edge: Implications of network position for internationalizing small- and medium-sized enterprises.....	79
Chapter 5. Niche targeting through competitive rivalry and social construction: Internationalizing SMEs in the Fleet Management Systems industry .....	107
Chapter 6. Competitor influences as a population of internationalizing SMEs evolves: The case of the Fleet Management Systems industry in New Zealand.....	139
Chapter 7. A process perspective of competitor influence on the success of internationalizing SMEs: Social construction in an international context.....	173
Chapter 8. Conclusions.....	196
Appendix A. The Fleet Management Systems industry .....	213
Appendix B. Interview questions for MNE managers .....	229
Appendix C. Ethics documents .....	230
Appendix D. NVIVO classifications .....	233
References .....	242

## List of figures

Figure 1-1: Thesis structure.....	10
Figure 2-1: Critical realist view of causation .....	12
Figure 2-2: Rivalry triad of customer-competitor-firm .....	20
Figure 2-3: Components of international business strategy .....	28
Figure 2-4: Relationships between theoretical framework, research sub-questions & thesis papers ...	46
Figure 3-1: Critical realist view of causation .....	50
Figure 3-2: Three parts of scientific reasoning.....	52
Figure 3-3: Scientific reasoning .....	53
Figure 3-4: Systematic combining.....	54
Figure 3-5: Initial causation framework .....	57
Figure 3-6: Fleet Management Systems .....	61
Figure 3-7: Final causation model.....	76
Figure 4-1: Conceptual model of competing .....	81
Figure 4-2: Business network internationalization process model .....	84
Figure 4-3: Fleet Management Systems .....	91
Figure 4-4: Internationalizing SME network model of competing .....	105
Figure 5-1: NZ rivalry segments 2008 .....	120
Figure 5-2: NZ rivalry segments 2014 .....	121
Figure 5-3: <i>Avro's</i> niche selection pattern .....	124
Figure 5-4: <i>Heron's</i> niche selection pattern.....	127
Figure 5-5: <i>Lancaster's</i> niche selection pattern .....	129
Figure 5-6: Influences on niche selection.....	134
Figure 6-1: Internationalizing firms in NZ FMS industry .....	153
Figure 6-2: Rivalry network 2002 .....	158
Figure 6-3: Rivalry network 2008 .....	160
Figure 6-4: Rivalry network 2014 .....	162
Figure 7-1: Conceptualizing competing as competitive engagements .....	180
Figure 7-2: Competitive engagements embedded in industry context .....	183
Figure 7-3: Firm-level mechanisms.....	186
Figure 7-4: Competitive engagements embedded in foreign context.....	188
Figure 7-5: Contextual influences on firm-level processes .....	190
Figure 7-6: Internationalizing SME competitive process model.....	193
Figure 7-7: Simplified combination of two processes in competing.....	194

Figure 8-1: Internationalizing SME network competition model..... 198  
Figure 8-2: Internationalizing SME competitive process model ..... 201  
Figure 8-3: Final causation model ..... 205

## List of tables

Table 1-1: Summary of chapter focus and theoretical basis.....	7
Table 2-1: SME definitions in Europe, USA and New Zealand.....	14
Table 2-2: Internationalizing SME outcomes.....	27
Table 2-3: Key concepts.....	45
Table 3-1: Phase 1 questions for SME managers.....	64
Table 3-2: Respondent categories.....	66
Table 3-3: Phase 2 questions for SME managers.....	68
Table 3-4: Interviews by case and research phase.....	69
Table 3-5: Secondary data sources.....	70
Table 3-6: Aspects considered within systematic combining in this research.....	75
Table 3-7: Industrial case study research best practice.....	77
Table 4-1: Summary of generic SME competitive strategies and implicit assumptions for winning competitive engagements.....	88
Table 4-2: Interview data sources.....	92
Table 4-3: Key internationalizing FMS firms from NZ (ranked by year established).....	95
Table 4-4: Case firm competitive patterns.....	97
Table 5-1: Three conceptions of niche.....	112
Table 5-2: Interviews conducted over two phases.....	116
Table 5-3: Case firms (in order of year of establishment).....	118
Table 5-4: Vertical niches in 2014.....	122
Table 5-5: Actors determining initial niches.....	131
Table 5-6: Actors influencing changes in niche.....	132
Table 6-1: Internationalizing SME outcomes.....	147
Table 6-2: Overview of the internationalizing NZ-heritage firms in the FMS sector, 2000-2014.....	149
Table 6-3: Overview of the key multinational firms in the NZ FMS sector, 2000-2014.....	150
Table 6-4: Primary data gathering.....	152
Table 6-5: Selected performance of internationalizing firms from NZ in the FMS sector.....	164
Table 6-6: Firm growth compared with competitor focus.....	165
Table 7-1: Comparison of structural and social-constructivist perspectives of competing.....	178
Table 8-1: Summary of chapter contributions to theory.....	202

## **Paper status at time of submission**

Chapter 4 was published by *International Business Review* in early 2017. The paper went through three rounds of review and the thesis paper represents the published version.

An earlier version of Chapter 5 was presented at the 2015 Annual Meeting of the Academy of Management in Vancouver and then submitted to a top entrepreneurship journal. The editor's feedback has been applied in substantially rewriting the paper as it appears here.

An earlier version of Chapter 6 was presented to the 2016 Academy of International Business Conference in New Orleans. It was also accepted at the *Journal of International Business Studies (JIBS)* paper development workshop during the AIB meeting, and developmental feedback from both the conference attendees and the *JIBS* editors was used to rewrite the paper in the thesis.

Chapter 7 was presented to the 2016 Australia and New Zealand International Business Academy (ANZIBA) conference in Sydney and revised based on feedback from the reviewers and conference attendees.

## **Thesis formatting and style**

Including papers in this thesis complicates the formatting of the document overall. The University of Auckland PhD statute requires that, in cases where papers are included in a thesis, typeface, font size, sub-heading styles, page layout, page numbers, and referencing format remain consistent throughout the document. In this thesis, the chapter presentation varies from the format required by each publication or conference in these ways, but the text and structure is otherwise unchanged. This thesis uses the Americanized spelling of the publications throughout. Reference lists have been removed and aggregated at the end of the document and tables and figures have been renumbered to relate to their sequencing in the thesis overall.

# Co-authorship forms



## Co-Authorship Form

Graduate Centre  
 The ClockTower – East Wing  
 22 Princes Street, Auckland  
 Phone: +64 9 373 7599 ext 81321  
 Fax: +64 9 373 7610  
 Email: [postgraduate@auckland.ac.nz](mailto:postgraduate@auckland.ac.nz)  
[www.postgrad.auckland.ac.nz](http://www.postgrad.auckland.ac.nz)

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.	
Chapter 4. Competing on the edge: Implications of network position for internationalizing small- and medium-sized enterprises	
Published by "International Business Review" in 2017:	
Odlin, D., & Benson-Rea, M. (2017). Competing on the edge: Implications of network position for internationalizing small- and medium-sized enterprises. International Business Review <a href="http://dx.doi.org/10.1016/j.ibusrev.2017.01.003">http://dx.doi.org/10.1016/j.ibusrev.2017.01.003</a>	
Nature of contribution by PhD candidate	Conducted all data gathering and analysis. Wrote original paper for a conference. Rewrote paper for journal submission. Completed two revisions in response to reviewer feedback.
Extent of contribution by PhD candidate (%)	90

### CO-AUTHORS

Name	Nature of Contribution
Dr Maureen Benson-Rea	Suggested improvements to the conceptual structure of the paper. Edited revisions. Guided the R&R process.

### Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Dr Maureen Benson-Rea		20/5/2017

## Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

Chapter 5. Niche targeting through competitive rivalry and social construction: Internationalizing SMEs in the Fleet Management Systems industry

Odiin, D., & Benson-Rea, M. (2015). Customer, competitor and partner influences on the niche selection of rapidly internationalizing SMEs. Paper presented at the Annual meeting of the Academy of Management, Vancouver.

Nature of contribution by PhD candidate	Conducted all data gathering and analysis. Wrote original paper for a conference. Rewrote paper in response to feedback.
---	--

Extent of contribution by PhD candidate (%)	95
---	----

### CO-AUTHORS

Name	Nature of Contribution
Dr Maureen Benson-Rea	Suggested improvements to the conceptual structure of the paper. Edited revisions.

### Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Dr Maureen Benson-Rea	<i>M Benson-Rea</i>	11/10/2016

## Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

Chapter 7. A process perspective of how competitors influence the success of internationalizing SMEs: Social construction in an international context

An earlier version presented at the 2016 Australia and New Zealand International Business Academy (ANZIBA) conference in Sydney

Nature of contribution by PhD candidate	Wrote original conceptual paper for a conference. Rewrote paper in response to feedback.
---	--

Extent of contribution by PhD candidate (%)	95
---	----

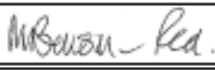
### CO-AUTHORS

Name	Nature of Contribution
Dr Maureen Benson-Rea	Suggested improvements to the structure of the paper. Edited revisions.

### Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Dr Maureen Benson-Rea		11/10/2016



## Glossary

**Born globals (BGs):** “Business organizations that, from or near their founding, seek superior international business performance from the application of knowledge-based resources to the sale of outputs in multiple countries” (Knight & Cavusgil, 2004, p.124).

**Business network:** Multiple links between multiple firms at the level of industry and market (Håkansson & Snehota, 1995). Because customers have relationships with multiple suppliers, competitors exist within a firm’s network at the industry level (Pahnke, McDonald, Wang, & Hallen, 2015b).

**Business-to-business market (B2B):** Industrial market; a market where supplier firms typically sell to other firms as customers and the product or service sold is a component (factor) in the customer’s product or service.

**Business-to-consumer market (B2C):** A market where a firm’s product or service is purchased by an individual consumer, including markets where the product is sold through sales intermediaries such as retailers.

**Competing:** a process that involves one firm vying, either directly or indirectly, with another for the same pool of resources in a zero-sum relationship (derived from Barnett, 1997, p.129), and “by which market participants engage each other through a series of moves and counter moves” (Chen & Hambrick, 1995, p.456).

**Competition:** The context when a firm vies, either directly or indirectly, with another firm for the same pool of resources in a zero-sum relationship (derived from Barnett, 1997, p.129).

**Competitive action** (or activity): “A specific and detectable move initiated by an organization that may lead to the organization acquiring its rival’s market share or reducing its returns” (Chen & Hambrick, 1995, p.456); “any newly-developed market-based move that challenges the status quo” (Ferrier, Smith, & Grimm, 1999, p.373).

**Competitive advantage** (resource-based view): The situation or state when a firm is “implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors” (Barney, 1991, p.102).

**Competitive advantage** (Industrial Organization view): The value a firm is able to create for its buyers that exceeds the firm’s cost of creating it (Porter, 1985, p.3).

**Competitive context:** The environment in which firms find themselves vying with other firms for the same pool of resources (derived from Barnett, 1997, p.129).

**Competitive engagements:** The points where firms encounter rivals seeking the same customers and resources (Easton, 1988; Sirmon, Gove, & Hitt, 2008).

**Competitive intensity:** “The magnitude of effect that an organization has on its rival’s life chances” (Barnett, 1997, p.130).

**Competitive response:** “A specific and detectable counter-move prompted by an initial action, that an organization takes to defend its share or profit position” (Chen & Hambrick, 1995, p.456).

**Competitive strategy:** Concept used to describe *how* the firm competes (Porter, 1980), representing the actions required for firms to bring their competitive advantages to bear in competitive engagements (Grimm, Lee, & Smith, 2006).

**Competitive strength:** The potency of an organization as a rival (Barnett, 1997, p.130).

**Competitor:** A firm that another firm vies with for the same pool of resources in a zero sum game (derived from Barnett, 1997, p.129).

**Context** (in international business): “... the dynamic array of factors, features, processes or events which have an influence on a phenomenon that is examined” (Michailova, 2011, p.130); “explanatory factors associated with higher levels of analysis than those expressly under investigation” (Whetten, 2009, p.31).

**Country-market:** A nation-state into which a firm sells. The terms “foreign market” and “domestic market” are applied in this thesis to distinguish host country-markets from home country-markets.

**Differentiation:** performing activities at comparable cost but in unique ways that create greater buyer value than competitors so as to command a premium price (Porter, 1986, p.13). SMEs achieve differentiation primarily through product innovation rather than using marketing techniques to achieve perceptual distinction (Bloodgood, Sapienza, & Almeida, 1996).

**Distribution channels:** see Sales channels

**Domestic market (home country):** The nation-state where firms were founded.

**Factor market:** Economic market where firm inputs or resources are bought or sold (from Ricardo, 1817, in Markman, Gianiodis, & Buchholtz, 2009).

**Factor-market rivalry:** “Competition over resource positions” (Markman et al., 2009, p.423) in contrast to product-market rivalry over customers.

**Foreign market (host country):** A nation-state that a firm sells into that is different from where the firm was founded.

**Home country market:** see Domestic market

**Host country market:** see Foreign market

**Industry:** A group of competitors (Easton, 1988); “a homogeneous set of interdependent companies producing similar goods” (Parolini, 1999, p.xx). Although often operationalized in research by mature product categories, rapid changes in technology make product-based industry definitions obsolete for identifying rivals (Parolini, 1999).

**Institutions:** Social structures made up of regulative, normative and cultural-cognitive elements that provide stability and meaning to social life (Scott, 2008).

**Institutional logics:** “... the socially-constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality” (Thornton & Ocasio, 2008, p.101).

**International new ventures (INVs):** “Business organizations that from inception, seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (Oviatt & McDougall, 1994, p.49).

**Internationalizing:** “The process of adapting firms' operations (strategy, structure, resource, etc.) to international environments” (Calof & Beamish, 1995, p.116).

**Internationalizing SMEs:** SMEs that sell their products or services in one or more foreign markets.

**Isomorphism:** see mimicry

**Large firms:** Firms with greater than 250 employees (i.e. not an SME).

**Legitimacy:** “A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially-constructed system of norms, values, beliefs, and definitions” (Suchman, 1995, p.574). Legitimacy also accrues more broadly to a field, industry or profession through the combined actions of the entities within it (DiMaggio & Powell, 1983; Meyer & Rowan, 1977).

**Market:** Socially-constructed system where actors (suppliers, firms, customers, authorities, etc.) integrate resources through a network of relationships to co-create value (Storbacka & Nenonen, 2011, p.242).

**Mechanism:** A “general sequence or set of social events or processes analyzed at a lower order of complexity or aggregation by which—in certain circumstances—some cause X tends to bring about some effect Y in the realm of human social relations” (Gross, 2009, p.364). Mechanisms explain how lower-level processes can be aggregated to explain changes at a higher level (Tavory & Timmermans, 2013).

**Mental models:** “Deeply ingrained assumptions, generalizations, or images that influence how individuals or market actors understand the world and how they take action” (Storbacka & Nenonen, 2011, p.247).

**Mimicry (isomorphism, copying):** Action where one firm imitates another (Fernhaber & Li, 2010; Lieberman & Asaba, 2006).

**Multinational enterprises (MNEs):** Firms that own assets and control activities in two or more different countries (Buckley & Casson, 2009, p.1564).

**Niche: (ecological)** (organizational field): The resource conditions where an organizational form can persist (Hannan & Freeman, 1977). Identified as an organizational field in this thesis (DiMaggio & Powell, 1983).

**Niche: (market):** A subset of a market segment “consisting of an individual customer or a small group of customers with similar characteristics or needs” where a firm can operate without direct competitors (Dalgic & Leeuw, 1994, p.40).

**Niche (horizontal):** Horizontal niches provide the same product or service functionality delivered in a differentiated way, often through different technologies. Term derived from the economic idea of vertical and horizontal product differentiation (Dos Santos Ferreira & Thisee, 1996).

**Niche (vertical):** Vertical niches (industry segments) focus on customers’ industry requirements with products and services differentiated to suit particular applications (Dalgic & Leeuw, 1994).

**Processes:** “... sequences of events that explain how things change over time” (van de Ven, 1992, p.169).

**Rivalry:** Competing “within a complex network of transactions among producers, their suppliers and their customers” (Porac, Thomas, & Baden-Fuller, 1989, p.398).

**Resources (environmental):** Resources outside the firm (and not controlled by the firm) which the firm depends on in order to survive (Hannan & Freeman, 1977). This includes customers (March, 1991) and factor resources (Markman et al., 2009).

**Resources (factor):** Inputs to ongoing firm development, such as raw materials, staff, capital and knowledge (Markman et al., 2009).

**Resources (firm):** All assets, capabilities, organizational processes, firm attributes, information, knowledge etc. controlled by a firm, and broadly categorized as physical capital resources, human capital resources and organizational capital resources (Barney, 1991, p.101).

**Sales channels (distribution channels):** A means of bringing products or services to market so that they can be purchased. A sales channel is direct if it involves a firm selling directly to its customers, or indirect if an intermediary firm such as a retailer or distributor is involved. Internationalizing SME sales intermediaries include agents (Zucchella & Palamara, 2006); MNEs acting as system integrators or distributors; the Internet; and collaborations between value partners (Gabrielsson & Kirpalani, 2004).

**Small and medium-sized enterprises (SMEs):** (European) firms with fewer than 250 employees and turnover of less than €50 M (European Commission, 2014); (USA) generally, firms with fewer than 500 people (United States Small Business Administration, 2015). This thesis applies the European definition to distinguish firm size.

**Sustainable competitive advantage:** When a firm is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors AND when these competitors are unable to duplicate the benefits of this strategy (Barney, 1991, p.102).

**Vicarious learning:** Occurs when firms observe and analyze the success and failure of other organizations, including competitors, and apply the lessons to their own firms, which may lead a firm to take a different action from the observed firm (Kim & Miner, 2007).



# **Chapter 1. Introduction**

## **1.1 Chapter overview**

Chapter 1 presents the motivation and structure of the thesis, in order to position its contribution to knowledge. In investigating how competitors influence internationalizing SMEs, this thesis addresses both contextual and firm-level influences on these firms. Building from a critical realist ontology, the research uses a multiple case study of all the internationalizing firms in the Fleet Management Systems industry in New Zealand. Using a systematic combining method for data gathering and theoretical development, the findings are analyzed abductively to theorize the mechanisms of competitor influence. Evolutionary and institutional theories are used explain competitor influences on internationalizing SMEs in the competitive context while theories of mimicry and competitive learning explain competitor influences at the firm level. The thesis is presented as theoretical framework and method chapters to clarify theoretical and methodological foundations, followed by four chapters representing articles submitted to journals or presented at conferences and a concluding chapter synthesizing the contributions.

## **1.2 Understanding competitor influence on internationalizing SMEs**

This thesis investigates how competitors influence the success of internationalizing small- and medium-sized enterprises (SMEs). In doing so, it necessarily brings the competitive context of International Business (IB) to the fore in making sense of the various customers, competitors and other market actors that internationalizing SMEs encounter domestically and as they compete in foreign markets. In order to understand internationalizing SMEs and competitors in context, this thesis investigates influence both at the firm level between organizations and at the contextual level of industry and foreign market.

Studying how firms compete is complex. The fact that competitor influence could occur at both firm and contextual levels parallels alternate understandings of competition as both a contextual condition determined by market and industry structure (Ford & Håkansson, 2013; Porter, 1980) and as a firm-level activity motivated by socially-constructed interpretations of a firm's situation (Medlin & Ellegaard, 2015; Porac et al., 1989). "Competing" involves a firm vying, either directly or indirectly, with another firm for the same pool of resources in a zero-sum relationship (derived from Barnett, 1997, p.129), but determining a firm's competitors is difficult because competitive interrelationships

are often ambiguous and competitors change over time. While the outcomes for the focal firm may be apparent, if not directly observable, the relationships between outcomes and competitive activity requires attention to unobservable mechanisms that link firm and competitors to outcomes. To address unobservable competitive mechanisms and link these theoretically to competitive outcomes in internationalizing SMEs, this thesis follows a critical realist ontology. By including theoretical elements that are unable to be directly observed into causal explanations (Bryman & Bell, 2011), critical realism offers an approach to studying International Business that combines causal explanation with contextualization (Sayer, 1992; Welch, Piekkari, Plakoyiannaki, & Paavilainen, 2011). As will be developed further in Chapter 3 on Method, critical realism is appropriate for answering the overarching research question, “How do competitors influence the success of internationalizing small- and medium-sized enterprises (SMEs)?” In this thesis, SME success is an outcome evaluated primarily as survival (Zahra, 2005), with four subclasses of survival outcome; independent survival, acquisition, exit through failure and exiting to another industry (Coad, 2014).

SMEs are motivated to internationalize to gain competitive benefits (McDougall, 1989; Zahra, 2005), yet *how* internationalizing SMEs compete remains unclear (Medlin & Ellegaard, 2015) despite extensive research into different aspects of SME internationalization over the last two decades (Coviello, 2015; Keupp & Gassmann, 2009). One limitation within extant research leading to this lack of clarity may be methodological; despite a central theme in International Business being contextualized explanation of phenomena in diverse national, cultural and institutional contexts (Welch et al., 2011), many SME studies are cross-industry, thereby assuming that firm attributes must be the cause of observed variations (Burt, 1992; Fernhaber, McDougall, & Oviatt, 2007). A second and related limitation may be due to theoretical perspective (Andersson, Evers, & Kuivalainen, 2014); the firm-level resource-based view (Barney, 1991) is the dominant perspective in SME internationalization research (Freeman & Cavusgil, 2007), but focuses internally and treats the influence of competitors and context as beyond its domain (Costa, Cool, & Dierickx, 2013; Fernhaber et al., 2007).

To answer the research question in this thesis, and avoid the first limitation above, a multiple case study was conducted of all internationalizing firms in a single industry population that contained SMEs. This case approach ensured that all firms had a common context and their competitive interactions could be investigated. Specifically, all firms in New Zealand in the Fleet Management Systems (FMS) industry that attempted to internationalize were researched, from the time the industry emerged in NZ around 2000 until 2014, along with multinational and foreign competitors with operations in NZ. To gain an understanding of competitive context from multiple perspectives, additional interviews were conducted with potential competitors and industry analysts in the United States (US) because the US is the largest FMS market globally, sets many of the industry’s trends and is a target market for a number of the NZ firms. Customer requirements and technological dimensions



of FMS were also studied to ensure understanding of the industry drivers. To avoid the second limitation of a reliance on the resource-based view as theoretical perspective, the thesis uses systematic combining as its method, with the researcher forming an initial analytical framework of expectations to guide the search for empirical case data and then “confronting theory with the empirical world”, and progressively modifying the research framework by constantly moving between empirical data gathering, data analysis and theory development (Dubois & Gadde, 2002, p.555). Empirical observations that appear inconsistent with the initial theoretical expectations identified in the research framework encourage additional data collection, leading to alternative theoretical explanations (Dubois & Gadde, 2002). This thesis shows how evolutionary and institutional theories explain competitor influences on internationalizing SMEs in the competitive context while theories of mimicry and competitive learning explain competitor influences at the firm level. The theoretical foundations of the thesis are detailed in Chapter 2.

Both systematic combining and critical realism rely on abductive scientific reasoning (Dubois & Gadde, 2002; Easton, 2010; Piekkari, Welch, & Paavilainen, 2009). Unlike the reasoning patterns of deduction and induction, abduction infers causal explanation from observed patterns and theoretical principles (Mantere & Ketokivi, 2013). In this thesis, abduction involves inferring unobservable mechanisms of competitor influence by analyzing empirical data against multiple theories of competitive activity to reason the best explanation. Data on firm activities and outcomes were gathered through interviews with industry participants and through extensive analysis of secondary sources to gain an in-depth understanding of the FMS industry dynamics.

Given its qualitative methodological and theoretical approach, this thesis aims to contribute to international business theory and practice by explaining the various potential influences of competitors on internationalizing SMEs and the mechanisms through which those influences operate. Presented as a series of four journal papers (Chapters 4 to 7), preceded by a theoretical framework (Chapter 2) and methods used (Chapter 3) this thesis is structured so the findings and contributions of each chapter build from the chapter preceding it.

### **1.3 Why study the influence of competitors on internationalizing SMEs?**

SMEs are central actors in most economies (OECD, 2013). Internationalizing SMEs are generally larger, more productive and more innovative overall than their domestic counterparts (OECD, 2012, p.47) and have become a mainstream feature of modern international business (Cavusgil & Knight, 2015; Zahra, 2005). Changing industrial patterns (Parolini, 1999) mean SMEs can be expected to remain as central economic actors in future, making internationalizing SMEs a relevant and contemporary research focus.

Given the competitive motivation for SME internationalization (McDougall, 1989; Zahra, 2005) understanding how these firms compete and how competitors might influence their success seems a fundamental question for international business researchers. Zahra (2005, p.22) suggested, “How (internationalizing SMEs) compete once they enter the global market arena is important, and perhaps the most decisive factor”, yet how these firms compete and the mechanisms of competitor influence remain unclear (Andersson et al., 2014; Medlin & Ellegaard, 2015). Competition is a concept used to explain firm actions and subsequent success within marketing (e.g. Hunt, 2013), economics (e.g. Schumpeter, 1934) and corporate strategy (e.g. Barnett & McKendrick, 2004; Baum & Korn, 1999). Large firm size represents the most important advantage for competitive success (Barnett & McKendrick, 2004; Hannan & Freeman, 1989) so competition’s influence on SMEs is particularly important given these firms’ lack of firm-specific resources and market power (Astley & van de Ven, 1983).

When SMEs internationalize, their competitive context becomes even more difficult. Not only are these small firms often new and lacking resources (Zahra, 2005), SMEs enter foreign markets as outsiders lacking experience, business relationships and reputation (Johanson & Vahlne, 2009). To gain both customers (March, 1991) and factor resources (Markman et al., 2009), SMEs must compete with different rivals from those encountered in familiar domestic markets. However, with limited slack resources, strategic errors can lead to SME failure (Andries & Debackere, 2007; Nummela, Saarenketo, & Loane, 2016). Accordingly, research that explores how competitors influence the success of internationalizing SMEs is needed. The four research questions asked in this thesis and how they are addressed in Chapters 4 to 7 are explained in the next section.

## **1.4 Research sub-questions**

To investigate the overarching research question, “How do competitors influence the success of internationalizing SMEs?”, four sub-questions guided the design of the initial research framework for systematic combining and subsequent operationalization of the study. The questions addressed the need to understand competitors within a population so as to understand the influences between them, as well as to understand how the competitive population might change over time.

Although targeting niches (Zucchella & Palamara, 2006), differentiating products (Bloodgood et al., 1996) and leveraging networks (Blomstermo, Eriksson, Lindstrand, & Sharma, 2004a) have been suggested as generic competitive strategies used by internationalizing SMEs, these strategies primarily address competition with large firms. SMEs, however, are likely to compete most intensely with firms their own size (Audretsch, Prince, & Thurik, 1999; Carroll, 1985; Mas-Ruiz & Ruiz-Moreno, 2011),

suggesting that the main competitors of internationalizing SMEs are likely to be other SMEs. Accordingly, the first research sub-question relates competitive strategy to competitors' size and asks:

Research sub-question 1: How do internationalizing SMEs in a given population compete against both large and small rivals over time?

Chapter 4 addresses this question by distinguishing competitive strategy (*how* firms compete) from competitive advantage (Grimm et al., 2006) and from competitive engagements where firms deploy their competitive advantages to win customers within business network relationships (Ford & Håkansson, 2013; Sirmon et al., 2008). It finds that internationalizing SMEs compete with foreign rivals by using their position on the edge of a business network to leverage information asymmetries across structural holes (Burt, 2002; Peng, Lee, & Hong, 2014; Shipilov, 2008). It contributes by integrating this conception of internationalizing SME competitive strategy with the business network foundations of the Uppsala internationalization process model (Johanson & Vahlne, 2009).

Even though niche targeting may be an incomplete explanation of competitive strategy, it nevertheless remains central to how SMEs internationalize and compete (Aspelund & Moen, 2005; Crick, 2009; Gabrielsson, Kirpalani, Dimitratos, Solberg, & Zucchella, 2008; Hennart, 2014; Knight & Cavusgil, 1996; Laanti, Gabrielsson, & Gabrielsson, 2007). While Research sub-question 1 asks *how* internationalizing SMEs compete, niche selection is a choice about *where* they compete. Thus:

Research sub-question 2: How do internationalizing SMEs in a given population select niches?

Chapter 5 addresses Research sub-question 2 by investigating how internationalizing SMEs in the FMS industry entered and exited niches as a consequence of evolutionary (Carroll, 1985; Hannan & Freeman, 1989) and learning processes (Porac & Rosa, 1996) influenced by firms' early customers, sales channel and shareholder partners, and competitors. Chapter 5 finds that firms developed new niches by co-creating opportunities with customers and partners. Competitors limited access to factor resources, influencing SMEs to change niche (Markman et al., 2009). It builds from evolutionary theories underlying niche-based resource competition (Fernhaber et al., 2007; Hannan & Freeman, 1977) and links this with theories of competing based on social construction (Medlin & Ellegaard, 2015; Porac et al., 1989). Rather than an *ex ante* competitive strategy, this chapter concludes that niches are a *post hoc* market position discovered as a consequence of competing and that niches are better understood as constantly changing, socially-constructed consequences of entrepreneurial co-creation with external actors, rather than resource pools awaiting discovery in an existing market structure.

In understanding how internationalizing SMEs select niches, Chapter 5 highlights the influence competitors have on that choice. Building from the first two questions of how internationalizing SMEs compete and how they select niches, Research sub-question 3 concerns the nature of other influences competitors may have:

Research sub-question 3: What influence do competitors have on the development of internationalizing SMEs?

Further, competitors are not a homogenous grouping; large competitors and SME competitors operate differently (Chen & Hambrick, 1995; Mas-Ruiz & Ruiz-Moreno, 2011), and may have different influences on internationalizing SMEs. In addition, competitors located in foreign markets may influence internationalizing SMEs differently to those in internationalizing SMEs' domestic markets (Barnett & McKendrick, 2004; Gimeno, Hoskisson, Beal, & Wan, 2005; Mascarenhas, 1996). Thus, different competitor types may potentially influence internationalizing SMEs via different mechanisms:

Research sub-question 4: How do competitors of different size and location influence internationalizing SMEs?

Chapter 6 addresses Research sub-questions 3 and 4 in understanding how the internationalizing SMEs in a population maneuver against other firms as an industry evolves (Hannan & Freeman, 1989; Suarez & Utterback, 1995). The chapter contributes by showing that the emphasis given to large firms as competitors in extant research into internationalizing SMEs may have distracted from the important influence of small competitors and shows how internationalizing SMEs used mimicry of salient SME competitors as a mechanism for building legitimacy and overcoming uncertainty (Barreto & Baden-Fuller, 2006; DiMaggio & Powell, 1983; Fernhaber & Li, 2010). This chapter shows that SMEs that switched their focus to salient international competitors as they internationalized appeared to be more successful; potentially because they learned how to access the necessary factor resources in the face of these international competitors or because they gained greater cognitive legitimacy in international markets through mimicking international competitors.

The critical realist ontology of the thesis, in seeking to understand underlying mechanisms, combined with the abductive approach to theory construction (Timmermans & Tavory, 2012), means that the theory-building chapter to synthesize the empirical findings comes at the end of the thesis. This contrasts with a positivist deductive thesis that might start by hypothesizing from existing theory and then test these hypotheses empirically. While Chapter 2 establishes an initial theoretical framework of concepts that guides the research development, Chapter 7 integrates the empirical findings and theoretical contributions of Chapters 4 to 6 to explicate a conceptual model of the mechanisms underlying the influence of competitors on the success of internationalizing SMEs. Chapter 7's

contribution is to synthesize social-constructivist perspectives of competing with structural perspectives by integrating industry and foreign market institutional logics (Thornton, Ocasio, & Lounsbury, 2012) with firm-level competitive learning (Barnett, 2008) and manager mental models (Porac et al., 1989). Table 1-1 summarizes the research focus and theoretical underpinnings of each of the four chapters.

Table 1-1: Summary of chapter focus and theoretical basis

<b>Ch.</b>	<b>Chapter focus</b>	<b>Theoretical basis &amp; key references</b>
<b>4</b>	RQ1: How do internationalizing SMEs in a given population compete against both large and small rivals over time?	Firm-level competitive strategy (Easton, 1988; Ford & Håkansson, 2013; Grimm et al., 2006; Medlin & Ellegaard, 2015)  Business networks (Burt, 1992; Håkansson & Snehota, 1995; Shipilov, 2008)  Uppsala internationalization model (Johanson & Vahlne, 2009)
<b>5</b>	RQ2: How do internationalizing SMEs in a given population select niches?	Resource competition (Hannan & Freeman, 1977, 1989; Markman et al., 2009)  Niches (Carroll, 1985; Dalgic & Leeuw, 1994; Zucchella & Palamara, 2006)  Competing as social construction (Medlin & Ellegaard, 2015; Porac & Rosa, 1996; Porac et al., 1989)
<b>6</b>	RQ3: What influence do competitors have on the development of internationalizing SMEs?  RQ4: How do competitors of different size and location influence internationalizing SMEs?	Industry evolution (Fernhaber et al., 2007; Hannan & Freeman, 1989; Suarez & Utterback, 1995)  Mimicry (DiMaggio & Powell, 1983; Fernhaber & Li, 2010; Lieberman & Asaba, 2006)
<b>7</b>	RQ3: What influence do competitors have on the development of internationalizing SMEs?  RQ4: How do competitors of different size and location influence internationalizing SMEs?	Institutional logics (Thornton et al., 2012; Värlander, Hinds, Thomason, Pearce, & Altman, 2016)  Firm-level learning (Barnett, 2008; Holcomb, Ireland, Holmes Jr, & Hitt, 2009; Kim & Miner, 2007; Porac & Rosa, 1996; Porac et al., 1989)

## **1.5 Thesis contribution**

This thesis emphasizes context in IB research into internationalizing SMEs by focusing on how internationalizing SMEs compete over environmental resources rather than only addressing these firms from the perspective of firm-specific resources. Critical realism seeks to understand the mechanisms which caused particular outcomes to occur (Easton, 2010) by identifying connecting mechanisms between the entities involved and conditions that affect the mechanisms (Sayer, 1992).

This thesis concludes that three entities are key to understanding the influence of competitors on internationalizing SMEs: customers, SME competitors and the internationalizing SMEs themselves. Customers provided knowledge, finance and other resources and co-create opportunities with internationalizing SMEs. Large competitors had little direct impact on the case firms examined in this thesis; other SME competitors were the primary rivals. The triad of focal firm, customer and competitor (Ford & Håkansson, 2013) is the building block of business networks, made up of multiple relationships between market and industry participants (Håkansson & Snehota, 1995), so that the primary means by which competitors influence internationalizing SMEs is interaction through competitive engagements. Social mechanisms (Gross, 2009) at the firm level influence internationalizing SMEs through these competitive engagements; specifically, firm learning and the development and reframing of manager mental models. These mechanisms change an internationalizing SME's subsequent competitive actions and thereby affect its success.

These firm-level mechanisms are influenced by conditions in the competitive context. The stage of industry evolution affects the resources available to firms and the legitimacy of the industry, which affect all competitive engagements. Institutional logics within industries and foreign markets affect how firms behave in competitive engagements, and the way they seek legitimacy, and are part of the industry and market conditions that influence the firm-level social mechanisms of learning and mental models. When SMEs internationalize, they encounter different resource and legitimacy conditions as well as being exposed to foreign institutional logics, representing both a problem and an opportunity. Internationalizing SMEs respond to uncertainty by mimicking competitors to gain legitimacy but are also able to recognize opportunities in foreign countries that go unrecognized by competitors embedded in that foreign logic.

By building from theories of industry evolution (Hannan & Freeman, 1977; Suarez & Utterback, 1995) and business networks (Ford & Håkansson, 2013; Johanson & Vahlne, 2009) to examine a population of internationalizing firms in an industry, the thesis reinforces that the primary competitors of internationalizing SMEs are other SMEs. It further shows that these competitors exert a constant influence on internationalizing SMEs, whether the SMEs are aware of them or not, by changing the competitive context, limiting the options available to internationalizing SMEs through control of factor resources (Markman et al., 2009) and by acting as learning models. These findings challenge implied assumptions in much of the extant literature that internationalizing SMEs avoid competitors, and thus that competitors are not a particularly important consideration in research seeking to understand internationalizing SMEs. By showing how internationalizing SMEs compete against both large and small firms by bridging structural holes (Burt, 2002; Peng et al., 2014; Shipilov, 2008), the thesis contributes to business network theories of SME internationalization.

The thesis further contributes by applying institutional logics, as the socially-constructed patterns by which actors provide meaning to their social reality (Thornton & Ocasio, 2008; Thornton et al., 2012), to theorize how competitors influence internationalizing SMEs. Overall, the thesis shows how competitors influence SMEs through competitive engagements in the competitive context and through competitive learning within the firm.

## **1.6 Thesis structure**

The thesis structure reflects that its contribution to knowledge is in reconstructing the theoretical concepts (Welch, Rummyantseva, & Hewerdine, 2016) that explain how internationalizing SMEs compete and the influence of competitors upon them. It is written as a series of four papers; one of which has been published and the other three have been presented at conferences but are not yet published. These papers are prefaced by theoretical framework and method chapters and summarized in a final chapter that highlights the contributions of this body of work as a PhD thesis. Figure 1-1 illustrates the thesis structure.

Chapter 2 details the theoretical foundation of each of the sub-questions introduced in Section 1.4 and highlights the key concepts. Chapter 3 details the methodology used; its critical realist ontology and epistemology, the systematic combining method used with multiple case studies and reasons for making these choices. It also details the research procedures in greater detail than is possible in the papers. Chapters 4 to 7 address both firm-level relationships and competitive context in seeking to combine causal explanation with contextualization within a critical realist ontology. Chapter 4 addresses Research sub-question 1 to understand how internationalizing SMEs compete: a necessary first step prior to understanding how competitors might influence internationalizing SMEs. Chapter 5 investigates how internationalizing SMEs select which niches to compete in (Research sub-question 2), because niche-based competition is a central element of SME competitive strategy. Chapter 6 considers changes in the population of competitors as the FMS industry in NZ evolved over 15 years and how this changed firm-level outcomes to answer Research sub-questions 3 and 4 on the nature of competitors' influence and how this might vary between small and large competitors and domestic and foreign competitors. Given the variations in perspective taken in the papers in Chapters 4 to 6, each contains a literature review specific to the research question, summary of method, analysis and contributions. Chapter 7 develops a conceptual model integrating contextual and firm-level factors to provide a theoretical synthesis answering how competitors influence internationalizing SMEs (Research sub-questions 3 and 4). Chapter 8 concludes the thesis with a summary of theoretical contributions and the implications for practice.

Figure 1-1: Thesis structure

Chapter Theme		Content					
1	Introduction	<ul style="list-style-type: none"> <li>• Thesis overview</li> <li>• Key contributions</li> <li>• Structure</li> </ul>					
2	Theoretical framework	<ul style="list-style-type: none"> <li>• Literature review</li> <li>• Key concepts</li> <li>• Overarching research questions</li> </ul>					
3	Method	<ul style="list-style-type: none"> <li>• Ontology, epistemology</li> <li>• Key method decisions</li> <li>• Detailed procedures</li> </ul>					
Papers		RQ	Lit. review	Method	Analysis	Contrib.	
	4	Competing	RQ1	✓	✓	✓	✓
	5	Niches	RQ2	✓	✓	✓	✓
	6	Population	RQ3&4	✓	✓	✓	✓
7	Model	RQ3&4	Conceptual			✓	
8	Conclusion	<ul style="list-style-type: none"> <li>• Summary of thesis findings</li> <li>• Key theoretical contributions</li> <li>• Managerial implications</li> </ul>					

The Theoretical Framework in the following chapter is structured around the critical realist model of causality to review the entities, mechanisms, conditions and outcomes as they are understood in extant literature in relation to the research sub-questions.



## **Chapter 2. Theoretical framework and research questions**

### **2.1 Chapter overview**

Chapter 2 provides the conceptual background on how competitors influence the success of internationalizing SMEs. This chapter provides a framework supporting the four articles in Chapters 4 to 7 and positions their related research sub-questions by evaluating current theoretical understanding in the extant literature. The chapter first explains the critical realist model of causality linking components of the framework (see Figure 2-1) and then reviews each component in turn, while developing the four research sub-questions introduced in Chapter 1. The first component examined is structure: internationalizing SMEs as the entities under study, their competitors and customers and how these organizations compete, with Research sub-questions 1 and 2 emerging from this analysis. The next component examined is outcomes, discussing how the success of internationalizing SMEs can be evaluated. The chapter then examines the industrial, institutional and market-based contexts and conditions in which internationalizing SMEs compete. The chapter closes by reviewing potential mechanisms whereby competitors might influence the success of internationalizing SMEs, and when combined with conditions and outcomes, leads to Research sub-questions 3 and 4. Key terminology used in this theoretical framework is summarized in the Glossary on page xiii.

### **2.2 Introduction to the theoretical framework**

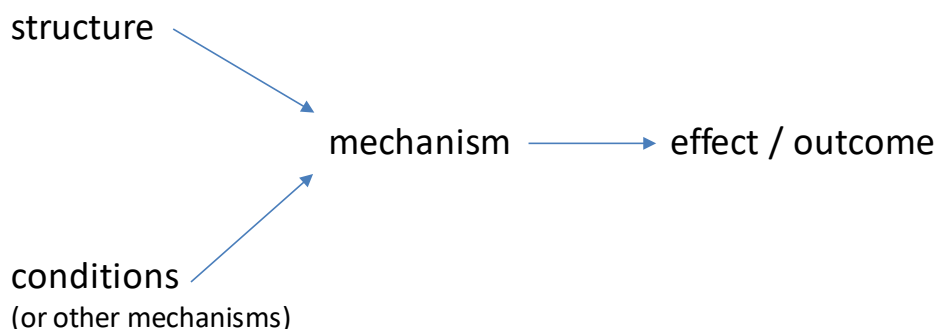
Zahra (2005, p.22) suggested, “How (internationalizing SMEs) compete once they enter the global market arena is important, and perhaps the most decisive factor”, emphasizing the importance of industry and competitive context on firm performance (Andersson, 2004; Andersson et al., 2014; Fernhaber et al., 2007). Despite this, little empirical research addresses how internationalizing SMEs compete or the influence of competitors (Andersson et al., 2014; Jones, Coviello, & Tang, 2011; Medlin & Ellegaard, 2015). This failure to examine context may partly be a consequence of the theoretical approach taken in much of the SME internationalization research, with emphasis on internal firm resources and entrepreneur behavior (Andersson et al., 2014).

The theoretical framework examines theories appropriate to context, including industry evolution and institutional theory, and applies firm-level theories of learning and adaptation to understanding how internationalizing SMEs respond to their competitive context. Given the paucity of research into competitive influences in the SME internationalization literature the framework builds from the strategy and organizational literature on competition, with a strategic perspective recognized as

underdeveloped in the study of internationalizing SMEs (Sleuwaegen & Onkelinx, 2014). Critique of the extant SME internationalization literature relevant to the topic often involves highlighting implicit assumptions about contextual influence that are inconsistent with what is known in the strategy literature.

As well as applying different theoretical perspectives from those evident in extant SME internationalization literature, this framework also seeks to combine causal explanation with the role of context in understanding the influence of competitors on internationalizing SMEs (Welch et al., 2011) and so takes a critical realist perspective of the topic. Realism is an ontology that assumes that the world exists independently of our experience of it, so “reality” is *something*, and that “something” can have a causal influence to generate events (Ryan, Tahtinen, Vanharanta, & Mainela, 2012). Within social science, critical realism is concerned with causal explanation and contextualization (Sayer, 1992), by including theoretical elements that are not able to be directly observed (Bryman & Bell, 2011). Greater detail is provided in Chapter 3 in relation to its ontological influence on the method in this thesis but the critical realist perspective necessarily has an impact on how the extant literature is understood and thus the theoretical framework supporting the thesis. Rather than simply identifying correlations between factors and outcomes, critical realism seeks to explain what caused an outcome to occur (Easton, 2010). As shown in Figure 2-1, a critical realist model of causal explanation starts by considering the structures that connect the objects and entities involved. This leads to investigation of the causal powers and liabilities of the entities in this structure and the mechanisms by which the powers operate, which in turn may be influenced by conditions (including other objects and entities). The outcomes of interest represent the effect of the causal mechanisms on the objects and entities (Sayer, 1992):

Figure 2-1: Critical realist view of causation



Source: Sayer (2000, p.15)

To build a theoretical framework appropriate to understanding competitor influences on internationalizing SMEs, this chapter follows this critical realist view of causation. Beginning with structure, Section 2.3 examines internationalizing SMEs as the entities of interest in thesis. Section 2.4 examines other aspects of structure: customers, competitors and competitive strategies while Section 2.5 distinguishes four success (and failure) outcomes for internationalizing SMEs. The contextual conditions that potentially influence competing are examined in Section 2.6 and the chapter concludes with potential mechanisms of competitor influence in Section 2.7.

### **2.3 Internationalizing SMEs**

The entities in focus in this thesis are internationalizing SMEs. This section of the theoretical framework describes their characteristics and the definitional decisions about internationalizing SMEs that are applied in the four papers.

SMEs are a feature of all economies and their small individual size belies their economic importance as a group. Firms with fewer than 250 staff contribute between 40% (Brazil) and 65% (Norway) of Gross Domestic Product (GDP) to their national economies (OECD, 2013). In New Zealand (NZ), firms employing fewer than 50 people contribute about 33% of GDP and employ 43% of the NZ workforce (Ministry of Business Innovation & Employment, 2015). SMEs are frequently involved in cross-border trade and in NZ, about 20% of firms with fewer than 100 people generate some income from overseas trade (Ministry of Business Innovation & Employment, 2014). Although in most OECD countries, large firms (more than 250 employees) account for the majority of export value, SMEs still account for between 15% (Norway) and 68% (Latvia) of exports, with 30% in the United States (OECD, 2013). Given that SMEs are also the main drivers of new industry development (Abernathy & Utterback, 1978; Suarez & Utterback, 1995) and employment growth (Haltiwanger, Jarmin, & Miranda, 2012), they represent an important class of business enterprises for study.

As these statistics on economic contributions highlight, SMEs are defined in various ways in different countries. In Europe, an SME is defined as having fewer than 250 employees and a turnover less than €50 M (European Commission, 2014). In the US, no comparable definition is available but the United States Small Business Administration (2015) defines a small firm as having fewer than 500 staff and this definition is used in US international trade statistics to compare with other countries (United States International Trade Commission, 2010). In New Zealand the Ministry of Business Innovation & Employment (2014) defines SMEs as having less than 100 staff. These definitions are compared in Table 2-1:

Table 2-1: SME definitions in Europe, USA and New Zealand

	<b>Europe</b>	<b>United States</b>	<b>New Zealand</b>
<b>Small-sized</b>	Fewer than 50 employees Turnover less than € 10 M	Fewer than 500 employees and turnover typically less than US\$ 7 M	Fewer than 20 employees
<b>Medium-sized</b>	Between 50 and 250 employees Turnover less than € 50 M		Between 20 and 100 employees

This thesis applies the European definition of SMEs because it provides a mid-point between the high and low definitions of the US and NZ and is consistent with cross-country studies of SMEs (e.g. OECD, 2012).

Traditionally, international business (IB) researchers focused on large multinational enterprises (MNEs) but as global markets expanded in the latter part of the twentieth century, researchers became aware that some SMEs were internationalizing within a few years of their establishment (Oviatt & McDougall, 1994). These small firms lacked resources and experience, raising the question of how they could compete internationally and survive against much larger firms (Zahra, 2005). These firms prompted research on the importance of speed, size and scale of internationalization and have been the focus of numerous IB contributions in recent years (see reviews by Cavusgil & Knight, 2015; Coviello, 2015; Keupp & Gassmann, 2009). The next section addresses the subset of internationalizing SMEs known as Born Globals then explains why the limitations in their conceptualization and operationalization mean that this thesis does not narrow its attention to just Born Globals but instead investigates both rapidly and gradually internationalizing SMEs.

### 2.3.1 Speed of internationalization

Research into rapidly internationalizing SMEs has developed over 20 years and originally focused on the competitive aspects of the phenomenon. An early article described how small entrepreneurial firms in the high-technology industry were competing in global markets on a different basis to large incumbents (Jolly, Alahuhta, & Jeanet, 1992). These SMEs had founders with a global vision from the outset, innovative products that redefined industries, rapid growth into markets through alliances, and functionally-specialized overseas investments. The term “Born Global” was first used in late 1993 to describe SMEs that “successfully compete – virtually from their inception – against large, established players in the global arena” (Rennie, 1993, p.45). Oviatt and McDougall (1994, p.49) defined International New Ventures (INVs) as seeking “to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” thus, like Jolly et al. and

Rennie before them, emphasizing the competitive aspect of the phenomenon. Extending Rennie's contribution, Knight and Cavusgil (1996) published a seminal paper on the Born Global (BG) phenomenon which focused on how changes in the international context allowed these small firms to successfully compete in export markets.

Extensive research into rapid SME internationalization in the subsequent 20 years identified many firm-level characteristics of Born Globals (for literature reviews, see Jones et al., 2011; Keupp & Gassmann, 2009; Peiris, Akoorie, & Sinha, 2012). However, a number of IB researchers have suggested that, rather than being a distinct phenomenon, these rapidly internationalizing SMEs are simply adapting to changing competitive contexts (e.g. Fan & Phan, 2007; Hennart, 2014; Madsen & Servais, 1997; Rugman, Verbeke, & Nguyen, 2011). Hennart (2014) argued that because their domestic markets are too small, some SMEs merely follow a particular international marketing strategy: selling niche products and services to internationally dispersed customers, avoiding international marketing mix adaptations and using low-cost communication and transportation methods.

Further, empirical research treating rapidly internationalizing SMEs as a distinct type of firm is fragmented by a lack of common terminology (Rialp, Rialp, & Knight, 2005a; Zahra, 2005) and accordingly has been unable to coalesce into a common body of knowledge (Cesinger, Fink, Madsen, & Kraus, 2012; Crick, 2009). For example, no consensus has been reached within the literature on the distinction between a Born Global and an INV (Crick, 2009; Jones et al., 2011). Researchers have "stretched" their conceptual definitions (Welch et al., 2016), which has then made operationalization difficult. For example, most scholars refer to the original Oviatt and McDougall (1994) conceptual definition of INVs or the Knight and Cavusgil (2004) operational definition of BGs, but do not include all the elements of these conceptual definitions in their subsequent operationalization (Welch et al., 2016). Specifically, although a competitive motive for rapid internationalization was part of the original conceptualizations, this element is often inexplicably dropped as an operationalization criterion in subsequent research (Welch et al., 2016), exacerbating definitional ambiguity (Cesinger et al., 2012; Hurmerinta-Peltomaki, 2004). Cesinger et al. (2012) determined that studies typically failed to account for the contextual embeddedness of rapid internationalization, and revealed widely varying definitions between European and North American researchers.

Operationalizing the definitions of rapid internationalization requires measurement of firm-level variables based on internal data that is decontextualized from a firm's market and industry conditions (Cesinger et al., 2012). Further, a substantial success bias exists in the operational definitions, leading to inappropriate conclusions (Denrell, 2003). Specifically, operational definitions must apply arbitrary thresholds (Crick, 2009; Knight & Cavusgil, 2004) for speed of internationalization after

start-up (an ambiguous point in itself<sup>1</sup>), scope of international operations (based on number of countries) and scale of international sales as a proportion of total sales. For example, Knight and Cavusgil (2004) define a Born Global as a firm that internationalizes to more than one country within three years of start-up and has international sales that represent at least 25% of the total. Such thresholds mean that SMEs that tried to internationalize but took three and half years, or achieved only 20% in international sales or de-internationalized (Welch & Welch, 2009) or failed altogether are seldom considered (for an exception see Nummela et al., 2016).

More importantly, operationalizing the phenomenon of rapid internationalization suffers another critical limitation that makes it an unsuitable conceptualization for this thesis; achievement of the various thresholds of speed, size and scale suggested above are consequences of competitive outcomes. For example, did an SME internationalize rapidly because it had a time-sensitive idea that it needed to get to market before a competitor? Did an SME only achieve 20% of its sales from overseas as a consequence of the aggressive actions of competitors? Did an SME internationalize to a smaller number of countries to avoid competitors? Answering the overarching question of this thesis, “How do competitors influence the success of internationalizing SMEs?” requires an investigation of a broad set of firms and their competitive context, without pre-selecting SMEs based on competitive outcomes. Accordingly, this thesis focuses on internationalizing SMEs rather than narrowing the focus to a subset of these firms.

Empirical cluster analysis of internationalization patterns of SMEs nevertheless identifies three broad subtypes of internationalizing SME (Aspelund & Moen, 2012; Aspelund & Moen, 2005; Baum, Schwens, & Kabst, 2015; Olejnik & Swoboda, 2012), and this conceptual typology is used where appropriate in this thesis. Gradually (traditionally) internationalizing SMEs primarily export, are more regionally-oriented in their target markets and take longer to internationalize; Born Global SMEs show a mix of export and direct investment in foreign markets, are more globally-oriented and often internationalize within the first three years after foundation; while Born-again Globals primarily invest overseas, are globally-oriented and internationalize many years after foundation (Olejnik & Swoboda, 2012). The next section looks at other aspects of structure, particularly in relation to customers, competitors and competitive strategy.

---

<sup>1</sup> The exact moment of conception is difficult to define and even the point of inception (business commencement) is contentious (Reynolds & Miller, 1992; Zahra, 2005). Variations in the period between its entrepreneurs conceiving of a firm or its opportunity and actually launching the firm suggest differences in the preparation of a firm prior to internationalization, including the assembly of resources, human or otherwise. Inception has been operationalized in many ways, including business registration, first employment, first sales, separate bank account, separate phone listing, credit with suppliers, visible canvassing for business and filing tax returns or insurance policies (Diochon, Menzies, & Gasse, 2007).

## 2.4 Competitive strategy

A possible limitation of extant research into SME internationalization that was suggested in Chapter 1 was a tendency to focus on firms in isolation as a consequence of the theoretical perspective of RBV and the use of cross-industry studies. Clearly, firms do not operate in isolation but instead compete as a consequence of the interdependence of firms (Upson & Ranft, 2010). If one firm's success or failure is affected by other firms, an investigation of internationalizing SMEs and their actions should therefore also consider the other firms involved. The pattern of firm actions within a stream of decisions represents strategy (Mintzberg & Waters, 1985) and competitive strategy describes *how* the firm competes (Porter, 1980); specifically, the actions required for firms to bring their competitive advantages to bear in engagements with competitors to win customers and resources (Grimm et al., 2006). This section first examines what is meant by competing and defines the concept as it is used in this thesis. The following sections examine two other entities involved in competing; that is, the customers that internationalizing SME target and the competitors targeting the same customers<sup>2</sup>. Next, the competitive strategies attributed to SMEs in general, and internationalizing SMEs in particular, are outlined to show that extant research does not offer a complete explanation of how internationalizing SMEs compete, which motivates Research sub-question 1. The section concludes by analyzing how SMEs target niches, motivating Research sub-question 2.

### 2.4.1 Competing as a process

“Competition” is a term often applied without sufficient care in business and scholarly research to both individual firm actions and the general activity of firms within a business environment (Grimm et al., 2006) so that its intended meaning varies according to the business context and the perspective of the researcher (Medlin & Ellegaard, 2015). More focused definitions treat competition in one of two ways:

- 1) as a structural factor that influences firm strategy as a consequence of either market and industry context (e.g. Porter, 1980), or;
- 2) as a socially-constructed, institutional sense-making process (e.g. Porac et al., 1989).

From a structural perspective, “competing” involves an organization vying, either directly or indirectly, with another organization for the same pool of resources in a zero-sum relationship (derived from Barnett, 1997, p.129). Following Barnett's definition, “competitors” are the other

---

<sup>2</sup> Although customers are the primary resources firms compete over in product-markets, rivalry also occurs over factor resources. Factor-market rivalry is addressed in Sections 2.6.1 and 2.7.1.

organizations seeking the same resources. From a social-constructivist perspective, firm decision-makers develop competitive strategies based on their mental models of competitive context (Porac et al., 1989). With only imperfect and ambiguous information available to them, managers determine their salient competitors and the boundaries of their markets by interacting with other market participants (Porac & Rosa, 1996). Mead's (1961, p.8) social-constructivist definition of competing as "the act of seeking or endeavoring to gain what another is endeavoring to gain at the same time" emphasizes future-oriented goals and activity (Medlin & Ellegaard, 2015). Competing represents the activities directed toward achieving that goal, with social processes influencing whether a firm challenges a competitor pursuing the same goal, ignores the competitor or remains unaware of competitors (Mead, 1961).

Rather than select one perspective of competing as the theoretical basis of the thesis and reject the other, given the empirical support for both, both structural and social-constructivist perspectives of competing are investigated in this thesis because competitors may influence internationalizing SMEs through changes in the industry structure, or one-on-one at the firm level. Within the critical realist ontology, these alternatives are not mutually exclusive because the structural perspective of competing may be understood as conditions within the causal model while the social-construction may represent a firm-level mechanism (see Figure 2-1). Both perspectives treat competing as a process involving two or more entities with the objective of gaining control of a scarce resource. Market and industry structures and mental models change over time as a consequence of other contextual changes and as a direct outcome of firms competing, which highlights that "competing" is an ongoing process (Medlin & Ellegaard, 2015) rather than a single event or a static contextual feature, and ranges in intensity from conflict at one extreme through intermediate stages of competition, coexistence and co-operation to collusion at the other extreme (Easton, 1988).

This thesis prefers the term "competing" to denote the process of vying for resources and "competitors" to specify which rivals are involved in these processes, rather than using the abstract noun "competition"<sup>3</sup>. The definition of competing derived from Barnett (1997) is used because it is consistent with both structural and social-constructivist perspectives. The next section examines customers, which are the resources that firms compete over most commonly.

---

<sup>3</sup> "Competition" is used for grammatical reasons in some sentences and when summarizing extant literature that does not distinguish competing and competitors.



### 2.4.2 Customers

The need for firms to engage with customers to complete sales transactions that enable the firm's survival drives the process of competing (Hunt, 2013). Most SMEs that internationalize operate in business-to-business (B2B) markets selling to other organizations (Knight & Cavusgil, 1996; Moen, Madsen, & Aspelund, 2008). For example, many studies of SME internationalization, particularly of rapid internationalization, focus on SMEs selling high-technology products to advanced industrial customers (e.g. Efrat & Shoham, 2012; Gabrielsson & Gabrielsson, 2013; Laanti et al., 2007; Shrader, 2001). Aspelund and Moen (2012) found that more than half of the Norwegian SMEs they surveyed sold directly to industrial customers abroad and most of the remainder sold to industrial customers via intermediaries. Internationalizing SMEs work closely with key industrial customers to develop next generation products to differentiate themselves from competition (Chetty & Campbell-Hunt, 2003; Yli-Renko, Autio, & Sapienza, 2001) and a common motivation for internationalization is following MNE clients into other countries (Bell, McNaughton, Young, & Crick, 2003; Crick, 2009; Freeman, Edwards, & Schroder, 2006). Accordingly, in this thesis, customers are assumed to be industrial or commercial organizations.

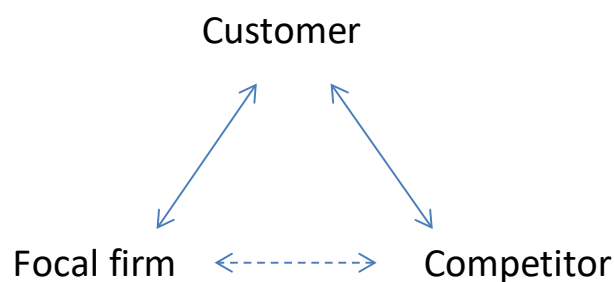
### 2.4.3 Competitors

Competitors are seldom mentioned in extant SME internationalization literature, and then usually in relation to SMEs avoiding large competitors (e.g. Aspelund & Moen, 2005; Gabrielsson et al., 2008). This simplification ignores that potential competitors vary in size and location: both large and small firms exist in domestic markets as well as large and small firms originating in the foreign markets that internationalizing SMEs enter. Internationalizing SMEs may also face MNEs competing across multiple markets. Given large firms' greater resources and their ability to price below small firms due to higher output and lower marginal costs, large firms might be viewed as the main threats to SME survival. However the competition literature emphasizes that by operating in narrow market niches and addressing customer needs too specialized for large firms to justify modifying their high volume production systems to serve, SMEs are a distinct group which do not compete directly with large firms (Audretsch et al., 1999; Mas-Ruiz & Ruiz-Moreno, 2011) but instead compete primarily with each other (Carroll, 1985). The way that different-sized firms compete, and thereby influence industry evolution and change the competitive context, is discussed in Section 2.6 on evolutionary patterns in industries. Competitor influences on internationalizing SMEs may also vary according to where the SMEs compete, in terms of foreign market and market niche. From the critical realist view of structure, and given the divergence between the SME literature's emphasis on large firms as competitors and the competition literature's emphasis on other SMEs as competitors, this thesis takes a broad view when exploring which competitors may influence internationalizing SMEs.

#### 2.4.4 Competitive engagements

At the heart of the competitive analysis in this thesis is the triad of the internationalizing SME, the customer and the competitor (Easton, 1988) (see Figure 2-2). Dyadic firm-customer relationships are addressed in some internationalizing SME studies (e.g. Jones, Suoranta, & Rowley, 2013; Tolstoy, 2014; Yli-Renko et al., 2001; Zucchella & Palamara, 2006) but these relationships remain influenced by customer-competitor links (Easton, 1988; Ford & Håkansson, 2013) which at a minimum affect customer expectations of product functionality, pricing, quality and service levels. At the extreme a competitor may win the customer, depriving the internationalizing SME of the resources that sale would bring. An internationalizing SME thus has indirect relationships with competitors because, from its customer's perspective, the firm is partly defined by rivalry with its competitors.

Figure 2-2: Rivalry triad of customer-competitor-firm



Source: Easton (1988); Easton and Araujo (1994)

This triad can be conceptualized as strategic competitive interrelationships but can also be applied at a transactional level of rivalry. To complete a sales transaction a supplier firm and customer is necessary. Unless a firm has a monopoly, or is truly the very first company to offer an entirely new product category, a customer will have alternatives available in the form of competing or substitute products (offering similar utility in a different form) (Porter, 1980). An SME is unlikely to be a monopoly, and a first-mover SME will be joined by new entrants if the new product category has growth potential (Porter, 1980). Accordingly, this thesis argues that SME suppliers have relationships to competitors in almost every sales transaction, albeit indirectly and even though the focal firm may be unaware of them (Chen, 1996; Easton, 1988; Ford & Håkansson, 2013). Sirmon et al. (2008) call these sales transactions “competitive engagements” to make two conceptual distinctions. First, competitive engagements, where competing occurs, are separate from the firm's competitive advantages; a firm can only realize a benefit from its advantages by deploying them in competitive

engagements. Second, competitive engagements are distinct from competitive strategy, which is how a firm applies its competitive advantage. Competitive strategy, or *how* a firm competes in engagements, is expanded in the next section.

#### 2.4.5 Extant explanations of how internationalizing SMEs compete

Three generic competitive strategies are attributed to internationalizing SMEs; targeting market niches (Zucchella & Palamara, 2006), differentiating products (Bloodgood et al., 1996) and leveraging networks (Blomstermo et al., 2004a). As is developed below (and in greater detail in Chapter 4), these strategies either are not unique to internationalizing SMEs or do not provide a comprehensive explanation of how internationalizing SMEs are able to compete with both large and small rivals over time.

The first strategy of targeting niches drives the focus and pace of SME internationalization as “dictated by competitive imperatives to seize a leading position in niche or emerging markets”, pursuing narrow but deep penetration of market niches with often just a few key customers in each country (Chetty & Campbell-Hunt, 2004, p.63). Other researchers also emphasized that internationalizing SMEs targeted small, highly-specialized global niches (Bell et al., 2003; Crick, 2009; Laanti et al., 2007; Madsen & Servais, 1997; Rialp, Rialp, Urbano, & Vaillant, 2005b) to avoid larger competitors (Aspelund & Moen, 2005; Gabrielsson et al., 2008) and that this had a positive effect on their export performance (Moen, 2002). However, SMEs in general follow this niche-targeting pattern to avoid large firms (Audretsch et al., 1999) so this strategy is not specific to internationalizing SMEs.

A second strategy is product differentiation, with internationalizing SMEs “applying cutting edge technology to developing a unique product idea or to a new way of doing business... (they) tend to compete on value, strongly emphasizing product quality, high technology and differentiated product design” (Knight & Cavusgil, 1996, p.18). This central importance of technological advantage and product differentiation has been commonly noted (Aspelund & Moen, 2005; Bloodgood et al., 1996; Chetty & Campbell-Hunt, 2003; Crick, 2009; Freeman et al., 2006; Gabrielsson et al., 2008; Knight & Cavusgil, 2004; Laanti et al., 2007; Shrader, Oviatt, & McDougall, 2000; Yli-Renko et al., 2001) but again, this pattern does not appear unique to internationalizing SMEs.

A third strategy suggested in the literature is that internationalizing SMEs build business networks to gain information about opportunities (Blomstermo et al., 2004a; Kontinen & Ojala, 2011) and to overcome resource constraints (Chetty & Wilson, 2003; Freeman et al., 2006; Gassmann & Keupp, 2007). Internationalizing SMEs often forge alliances with large international corporations to stay abreast of industry developments and develop more competitive products (Crick, 2009; Laanti et al.,

2007; Sasi & Arenius, 2008; Zetting & Benson-Rea, 2008) because internationalizing SMEs may lack sufficient resources in their start-up and growth phases to survive on their own (Gabrielsson & Kirpalani, 2004; Oviatt & McDougall, 1994). Other partnerships may involve licensing and joint R&D with contract manufacturers (Crick, 2009), special projects (Luostarinen & Gabrielsson, 2006; Muzychenko & Liesch, 2015) and cooperation with competitors to eliminate them as a threat (Freeman et al., 2006). However, while networking and alliance-building explain how these SMEs gain access to additional resources, they do not explain competitive strategy, given that other firms would be expected to compete for the same relationships and resources, and the number of large corporations willing to partner is limited. In addition, studies have shown that strategic alliances had little impact on early internationalization (Li, Qian, & Qian, 2012), international intensity or global diversity (Preece, Miles, & Baetz, 1999), suggesting that the competitive benefits of alliances for internationalizing SMEs may be overstated.

These three generic competitive strategies attributed to internationalizing SMEs would not be effective against all types of competitors. For example, even though niche targeting may be effective against large firms, it does not explain how internationalizing SMEs compete against other SMEs in the same niche. Differentiation does not explain how internationalizing SMEs remain competitive once their rivals have time to either copy or develop alternative products. Seeking networks in foreign markets does not explain how internationalizing SMEs, as unknown outsiders, are able to compete with the local firms which are already well connected in that foreign market's business network.

#### 2.4.6 Research sub-question 1

The critique of the strategies in the previous section challenges assumptions in the literature (Alvesson & Sandberg, 2011) for failing to explain *how* internationalizing SMEs compete, and reflects the preponderance of the resource-based view in extant studies of internationalizing SMEs (Andersson et al., 2014), as explained in Chapter 1. Investigating internationalizing SMEs in isolation from their competitive context has resulted in researchers identifying generic patterns common to all SMEs rather than identifying distinctive competitive patterns. As a result, how internationalizing SMEs compete and the consequent mechanisms of competitor influence remain unclear (Medlin & Ellegaard, 2015) because contextual and competitive aspects have been only partially addressed in extant SME internationalization literature (Andersson et al., 2014; Jones et al., 2011). As a first stage, prior to building understanding of how competitors influence internationalizing SMEs, this thesis needs to first explore which competitive strategies internationalizing SMEs use and how these strategies might be effective against large and small competitors as well as foreign competitors. This leads to the first research sub-question, which is addressed in detail in Chapter 4:

Research sub-question 1: How do internationalizing SMEs in a given population compete against both large and small rivals over time?

Although niche targeting may be an incomplete explanation of competitive strategy, as described in Section 2.4.5 (and Section 4.3.5 in Chapter 4), it is nevertheless central to how SMEs internationalize and compete (Aspelund & Moen, 2005; Crick, 2009; Gabrielsson et al., 2008; Hennart, 2014; Knight & Cavusgil, 1996; Laanti et al., 2007), as developed in the next section.

#### 2.4.7 Niches

Niche targeting is a strategy to limit competitive intensity by selecting a market opportunity not addressed, and not able to be addressed, by competitors (Echols & Tsai, 2005). From an SME's perspective, an ideal niche would fit only one firm, operating as a monopoly. Mudambi and Zahra (2007) noted that internationalizing SMEs might be adept at finding market niches overlooked by incumbents so that the total number of sellers in a market may not reflect the competitive intensity faced by individual firms. Niche-based strategies involve specialization, scarcity through limited production volumes, competitive isolation, a strong customer orientation and some element of originality or exclusivity as perceived by the customer (Dalgic & Leeuw, 1994), and are characterized by non-price factors such as quality, technology and customer service (Zucchella & Palamara, 2006). Understanding market niche selection is important in this thesis because decisions early in the development of SME may have path-dependent effects on firm survival or failure (Arthur, 1994; Oviatt & McDougall, 1994). However, a literature review of studies into niche strategies among internationalizing SMEs found little recent research on how firms used this strategy, inadequate distinction between niche strategies and differentiation and concluded that niche strategies were poorly understood in theory and practice (Stachowski, 2012).

Two niche selection strategies used by internationalizing SMEs have been theorized in extant literature. Firms may select niches so narrow that a single country niche is insufficient for firm survival, meaning the firm must internationalize to reach sufficient customers (Madsen & Servais, 1997). This first strategy potentially precludes even small competitors from entering the niche. However, this strategy seems difficult for an internationalizing SME to put into practice; it would need exceptional international market knowledge to be assured that the niche existed in an addressable form in foreign markets and that other firms would remain excluded in the future. A second strategy is replicating a proven niche targeting approach from a domestic market into foreign markets (Almor, 2013; Cannone & Ughetto, 2014; Cavusgil & Knight, 2015) to achieve scale efficiencies (Chetty & Campbell-Hunt, 2004; Fan & Phan, 2007; Freeman et al., 2006). However, while operating efficiently is clearly desirable for resource-constrained internationalizing SMEs and some knowledge may be

transferrable, internationalizing in order to achieve scale efficiency to drive down prices is not a sustainable competitive strategy against large firms or other internationalizing SMEs, although it may provide a cost advantage over purely domestic SMEs.

Both these strategies appear to be based on assumptions that internationalizing SMEs have excellent market information, are able to make niche targeting decisions in isolation, all the factor resources required are accessible, and niches are free from existing competitors and relatively static, thereby allowing internationalizing SMEs to make a strategic choice to enter niches and then develop the firm around that choice. Yet in the emerging and high-technology industries where many internationalizing SMEs operate (Fernhaber et al., 2007), niches are likely to be highly dynamic as a consequence of the constant competitive actions of rivals (Katila, Chen, & Piezunka, 2012), and the changing requirements of customers (see Section 2.6.3 on industry evolution). In practice, internationalizing SMEs cannot make niche choices in isolation because firms are interdependent (DiMaggio & Powell, 1983; Upson & Ranft, 2010), so that the niche targeting actions of one SME limits the choice available to another SME if both seek competitive isolation (Echols & Tsai, 2005). Internationalizing SMEs are more likely to have relatively limited foreign market knowledge than extensive, accurate knowledge (Johanson & Vahlne, 2009; Nordman & Melén, 2008). Competitors might not perceive the niche boundaries in the same way as the internationalizing SME (Porac et al., 1989), resulting in overlaps in niche targeting. Customers might not want to be limited to a single supplier and seek a broader set of suppliers, thereby forcing firms to compete.

#### 2.4.8 Research sub-question 2

The problematic assumptions underlying extant explanations of niche selection suggest further research is necessary (Alvesson & Sandberg, 2011). In this thesis, understanding why internationalizing SMEs enter particular niches relative to other firms in the same industry population is central to understanding which competitors might influence the internationalizing SME. This leads to the second research question, addressed in detail in Chapter 5:

Research sub-question 2: How do internationalizing SMEs in a given population select niches?

Having investigated the structures in which internationalizing SMEs compete (see Figure 2-1), the next section of the theoretical framework examines issues in evaluating the outcomes of competition on the success of internationalizing SMEs.

## 2.5 Success outcomes of internationalizing SMEs

The overarching question in this thesis concerns competitor influences on internationalizing SME success. From the critical realist causal model, “success” is a judgement about an outcome, where the judgement may be made relative to other firms and so inherently involves performance evaluation. Growth and survival are the two performance dimensions suggested as appropriate for evaluating internationalizing SMEs (Zahra, 2005). The primary growth measure is change in revenue (Autio, Sapienza, & Almeida, 2000), with employee numbers and unit sales as alternate growth measures. Profitability is generally an unsuitable performance measure for internationalizing SMEs due to the high costs involved in start-up and internationalization (Sapienza, Autio, George, & Zahra, 2006) making break-even the relevant financial target for many small or new businesses (Zucchella, Palamara, & Denicolai, 2007).

Survival, a fundamental outcome of business performance, may be considered both as initial survival prior to growth (Khalid & Larimo, 2012; Sapienza et al., 2006) and as independent survival beyond five years as a measure of long-term success (Efrat & Shoham, 2012), although survival is at stake at all stages of development (Gabrielsson & Gabrielsson, 2013). Sapienza et al. (2006) argued that earlier internationalization increased the probability of SME growth but reduced the probability of survival, and that growth and survival were distinct outcomes because survival does not guarantee growth and not all growth is profitable and therefore sustainable in the longer term.

This thesis focuses on survival as the primary measure of internationalizing SME success because survival is so fundamental, with high failure rates often attributed to new SMEs in general (Geroski, Mata, & Portugal, 2010), and internationalizing SMEs in particular (Lyles, Saxton, & Watson, 2004). Given their limited slack resources, SMEs may be at greater risk of failure as the result of strategic errors than large firms (Andries & Debackere, 2007; Nummela et al., 2016). Survival is the outcome of interest in evolutionary processes, which are investigated later in this framework (see Section 2.6) and applied theoretically within a number of the papers. Survival can be observed objectively from outside the firm, whereas reliable, comparable financial data to evaluate growth are hard to obtain and verify because privately-owned SMEs are not required to publish financial results and these firms are sensitive about releasing financial data to researchers (Gerschewski & Xiao, 2015). Survival is a more nuanced outcome than it might first appear, and the next section examines the survival outcomes investigated in this thesis.

### 2.5.1 Survival outcomes

Although many researchers have focused on SMEs that internationalized successfully, few studies consider those that fail (Nummela et al., 2016). Success has typically been evaluated as continuing

survival under independent ownership and anything else as failure (e.g. Gabrielsson et al., 2008; Gabrielsson & Gabrielsson, 2013; Mudambi & Zahra, 2007; Puig, González-Loureiro, & Ghauri, 2014), leading to potentially distorted evaluations of outcomes (Wennberg & DeTienne, 2014) because in many countries, entrepreneurs build firms with the objective of selling the firm (Cefis & Marsili, 2011; Plehn-dujowich, 2010). Although an internationalizing SME's entrepreneurial "DNA" may survive after acquisition (Madsen & Servais, 1997), in time it becomes indistinguishable from the larger firm. Coad (2014) provided a framework to consider business survival as an outcome by distinguishing the motivation for firm exit and acquisition, with entrepreneurial exit a case of firm survival if the business continues operations under new owners after the entrepreneur leaves, while sale due to unsatisfactory performance or entrepreneur retirement considered as failure (Coad, 2014). Accordingly, binary "independent survival" or "failure" performance measurements in much of the SME internationalization research that uses this technique (e.g. Efrat & Shoham, 2012; Mudambi & Zahra, 2007) may underrate the number of successful outcomes. Acquisition must be evaluated as a separate outcome because this is an initial goal sought by some entrepreneurs as an attractive return on investment (Cefis & Marsili, 2011) and acquisition is an appropriate strategic choice for some internationalizing SMEs (Gabrielsson et al., 2008). This distinction is also important for this thesis because an acquired firm may remain in the population of competitors after it is sold.

Four outcomes for internationalizing SMEs will be evaluated in this thesis: independent survival in the same industry population, firm sale, exit from the population through failure, and exit to another industry population. *Independent survival* describes SMEs that remain independently owned into the longer term, variously defined as three to five years (Efrat & Shoham, 2012). SMEs that *are acquired* survive if the business continues independent operations under new owners rather than being fully amalgamated (Coad, 2014). These firms remain in the population, albeit often under another name. Further, acquisition may not represent failure if the entrepreneurs planned that exit strategy from the outset (Cefis & Marsili, 2011). *Exit through bankruptcy* or managed shutdown means the firm does not survive and represents failure. A fourth path, barely recognized in the literature, is *exiting the industry sector* then continuing to operate. A firm may be unsuccessful at establishing itself in a viable market sector against competition and move to an entirely different sector that better fits its capabilities, technology and structure (Greve, 1996), or an SME may attempt to internationalize, be unsuccessful and withdraw to domestic-only operations (Bell et al., 2003; Kuivalainen, Sundqvist, Saarenketo, & McNaughton, 2012; Welch & Welch, 2009), which represents a failure even though the firm survives. Distinctions between these four outcomes, in terms of survival/death, success/failure and effect on the competitor population, are shown in Table 2-2:



Table 2-2: Internationalizing SME outcomes

<b>Outcome</b>	<b>Firm survival or death</b>	<b>Effect on competitor population</b>	<b>Success or failure</b>
<b>Independent survival</b>	Survival	Remains in population	Success
<b>Firm acquisition</b>	Depends on extent of amalgamation into new firm	Remains in population	Depends on motivation for sale
<b>Exit through bankruptcy or managed shutdown</b>	Death	Exits population	Failure
<b>Exit industry sector</b>	Survival	Exits population	Failure

In summary, these four paths represent the survival outcomes possible for internationalizing SMEs over time and represent a more comprehensive conception of success than simply independent survival or failure. While multiple factors might influence these outcomes, the influence of competitors is the focus of this thesis. The previous sections on structure and outcomes present a firm-level perspective of internationalizing SMEs and how they compete, albeit with the outcomes for the internationalizing SME interdependent with the actions of competitors and customers (DiMaggio & Powell, 1983; Upson & Ranft, 2010). The next section examines the competitive context and takes a population-level perspective of the conditions in which individual internationalizing SMEs compete.

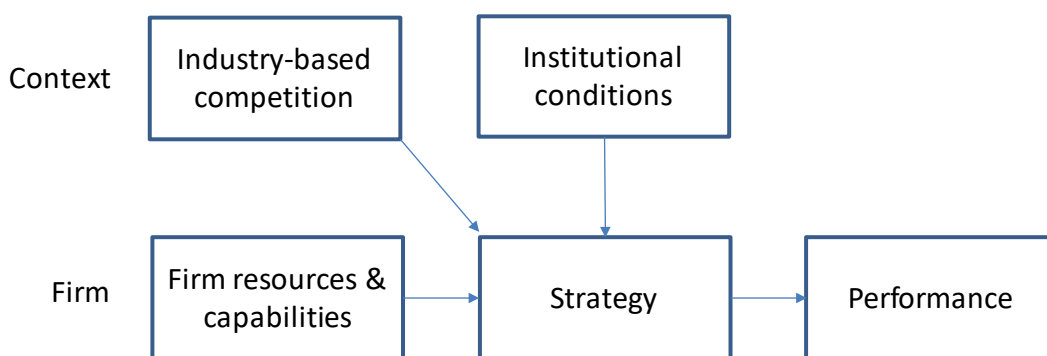
## **2.6 Competitive context**

Competitive engagements, where internationalizing SMEs compete with rivals for customers, are embedded in industry and foreign market contexts. Context is the set of factors that exert some influence on a phenomenon and can be defined as “explanatory factors associated with a higher level of analysis than those expressly under investigation” (Whetten, 2009, p.31). Peng, Wang, and Yi (2008) argued that in addition to firm-specific resources and capabilities, the strategy and performance of internationalizing firms are determined by two contextual conditions; industry-based competition and institutional conditions, as shown in Figure 2-3.

In relation to internationalizing SMEs, Fernhaber et al. (2007) theorized that industry-based contextual factors such as industry evolution, industry concentration, industry knowledge intensity, internationalization patterns of the domestic industry and the global integration of the industry would all have a substantial influence on performance. They argued that internationalizing SMEs would be found in knowledge-intensive industries at the growth stages of industry development, where there was extensive internationalization knowledge locally or extensive global integration, and with the stage of industry evolution having the most effect. This section follows Peng et al. (2008) in order to

justify the focus on both industry-based competition and institutional conditions in examining the context in which internationalizing SMEs compete; namely, the patterns shown by populations of firms competing for resources in the environment, competition as industries evolve and institutional conditions that vary by foreign market and industry. In examining contextual conditions, this theoretical framework first examines industry-based competition, and the way firms compete in industry populations.

Figure 2-3: Components of international business strategy



Source: Adapted from Peng et al. (2008)

### 2.6.1 Resources and evolutionary processes

Because internationalizing SMEs have only limited firm-specific resources and capabilities (Chetty, Johanson, & Martín Martín, 2014; Sapienza et al., 2006; Sui & Baum, 2014) they must access the additional resources that they need to survive and grow from their environment. Evolutionary theories of competition assume that these environmental resources are limited so firms must compete to capture or control them (Aldrich & Reuf, 2006). Key resources are customers, which provide SMEs with money and other benefits in return for products and services. In addition, inputs to ongoing firm development such as knowledgeable management and staff (Loane, Bell, & McNaughton, 2007), access to the latest technology (Zettinig & Benson-Rea, 2008), partners for joint development initiatives (Chetty & Wilson, 2003) and international sales channels (Gabrielsson & Kirpalani, 2004) have been suggested as critical factor resources for internationalizing SME success yet are limited in supply and sought after by multiple firms in factor markets (Markman et al., 2009). Factor-market rivalry can occur at any point along a firm’s value chain, so that competitors able to “divert, block,

hold up, or destroy resources that are critical for rivals' operations can interrupt even routine functions in factor markets and undermine competitiveness in product markets” (Markman, Gianiodis, & Buchholtz, 2011, p.205).

Organizational ecology (Hannan & Freeman, 1977) is an evolutionary theory explaining how populations of firms compete for resources in *ecological* niches. Defined somewhat differently to market niches (see Section 2.4.5), an ecological niche represents a subset of the wider resource pool where a particular organizational form can persist; all firms operate in ecological niches because they focus their efforts in some way on gaining particular resources (Hannan & Freeman, 1977). In other words, ecological niches are populated by multiple organizations competing for similar resources. DiMaggio and Powell (1983) refer to ecological niches as organizational fields: aggregates of suppliers and consumers of similar products and services. Generalist firms operate in wide organizational fields, meaning they can survive in a wide range of environmental resource conditions, while specialist firms operate in narrow fields, focus on specific environmental resource conditions and may not survive outside this range of conditions (Carroll, 1985). In this thesis, the ecological niches that internationalizing SMEs may compete within are referred to using DiMaggio and Powell’s term “organizational fields” to distinguish them from market niches.

Variation, competition, selection and retention are central to evolutionary organizational theories (Aldrich & Reuf, 2006). Firms with a *variety* of characteristics (such as structure, routines, and competencies) *compete* with each other to obtain scarce resources. Those firms that compete successfully in an organizational field are *selected* by the environment and survive while unsuccessful firms either do not survive or move to another field (Hannan & Freeman, 1977). New firms entering the field mimic successful firms (DiMaggio & Powell, 1983; Fernhaber & Li, 2010), meaning their characteristics are *retained* (Hannan & Freeman, 1977). Despite the common misperception that evolution creates the “fittest” firms, variation, selection and retention processes occur independently from their effect on the population and, in combination with historical path dependencies, can mean that the surviving firms are less than optimum (Aldrich & Reuf, 2006; Hodgson, 1993), leading to maladaptive outcomes where populations become weaker (Barnett & Hansen, 1996) (see Section 2.7.3).

The relative size of firms competing in organizational fields is also explained by the same competitive evolutionary processes. The surviving firms selected by customers in their environment as “better” have room to grow larger as they take over the resource space of the firms that fail. In stable environments, selected firms adapt to become generalists in order to address more of the resources (customers) in a market; however because an organization also has to maintain extra capacity in resources and skills to be ready in case the market changes, firms generalize at the cost of performance and inertia limits how far they are able to adapt (Hannan & Freeman, 1977). In uncertain

environments where change is relatively rapid, such as in the emerging and high-technology industries where many internationalizing SMEs operate (Fernhaber et al., 2007), smaller firms that specialize are favored over larger firms that generalize. However this also implies a high failure rate of specialized firms because many will be unable to adapt to adverse environmental shifts (Hannan & Freeman, 1977) and new small firms arise, better suited to the new environment (Hannan & Freeman, 1984).

Evolutionary patterns caused by firms competing for resources have important effects on the competitive context of internationalizing SMEs by influencing firm survival, and by determining the sizes of firms within the organizational field. These evolutionary patterns also mean that firms compete most intensely with firms their own size; lacking the resources of large firms, small firms cannot afford to be generalists and so specialize, and effectively partition the organizational field with large firms to address different customer needs (Carroll, 1985). Paradoxically, the rise of large firms in a market increases the survival chances of small firms (Hannan & Freeman, 1977) because as the concentration of (large firm) generalists rises, more space becomes available for (small firm) specialists with greater flexibility than large firms in the prices, products and services offered (Carroll, Dobrev, & Swaminathan, 2002). This also has the effect of trapping mid-sized firms in the middle because they still lack the resources to compete directly with large firms, yet have more expensive structures that make them vulnerable to specialized small firms (Hannan & Freeman, 1977).

Evolutionary explanations of small firm competitive behavior are consistent with empirical evidence that internationalizing SMEs compete in specialist niches in dynamic industries (Chetty & Campbell-Hunt, 2004), that successful internationalizing SMEs tend to remain small (Dimitratos, Johnson, Slow, & Young, 2003; Moen, 2002) and that large firms are unlikely to be SMEs' main competitors (Audretsch et al., 1999). This adds weight to the argument made in this thesis that SME competitors are likely to be more important influences on internationalizing SMEs than large competitors. The importance of evolutionary patterns in the competitive context is the reason why the phrase "in a given population" is used in the research sub-questions and why the thesis case method focuses on the competing firms a single industry segment: competitor influence needs to be understood within the context of the population of firms in that organizational field. The next section reviews industries, which represent firm populations in the same organizational field (DiMaggio & Powell, 1983), and industry boundaries.

## 2.6.2 Industries

An industry is broadly understood as a group of competitors (Easton, 1988); "a homogeneous set of interdependent companies producing similar goods" (Parolini, 1999, p.xx), yet the boundaries of the competitive group may be unclear. "Industry" is often operationalized in research using standard

industry classifications<sup>4</sup>, better thought of as classifications of mature products or services rather than classifications of competitors. For example, Klepper and Graddy (1990) investigated industry evolution by considering the number of manufacturers of products like jet engines, ballpoint pens and shampoo to reveal patterns of industry evolution. However, in an industry category such as sedan automobile manufacturing, Rolls Royce and Kia would not be competitors at a strategic level, let alone at a transactional, competitive-engagement level. Further, rapid changes in technology make product-based definitions of industry boundaries obsolete for identifying rivals in high-technology industries (Parolini, 1999), such as those in which internationalizing SMEs often compete (Fernhaber et al., 2007).

When Easton, Burrell, Rothschild, and Shearman (1993) investigated industry boundaries by asking industry participants to define them, they found boundaries varied greatly. Managers within the dominant firms in a market were aware of other large competitors but unaware of some of the smaller specialists. Conversely, managers in these specialists considered the large firms to be their major competitors. Even within firms, individual managers had different interpretations of which firms were competitors, and thus where industry boundaries were, even though these are fundamental assumptions underlying a firm's core design (Easton, 1988). Rather than industries being well defined, where all firms are aware of all others and the borders clearly delineated, within industries there is uncertainty about who is a competitor and who is not. This might impact how individual firms interpret their competitive context, and is another reason why social-constructivist perspectives of competing are explored in this thesis alongside structural perspectives.

While an industry is broadly a group of competitors, a market can be contrasted as a group of customers or potential customers. Another way of determining which firms are competitors is identifying rivals for target customers in a product-market within the boundaries of a strategic grouping, industry or geography. Product-based definitions of markets (product-markets) are typical (Storbacka & Nenonen, 2011), and are often further subdivided by country or geographic region. Product-markets may be categorized as vertical or horizontal, derived from the economic idea of vertical and horizontal product differentiation (Dos Santos Ferreira & Thisee, 1996). Vertical markets are defined according to customer industry requirements, where products are differentiated to suit particular industries or applications (Dalgic & Leeuw, 1994). Horizontal markets provide the same product functionality delivered in a differentiated way, often through different technologies, where competitors offer substitute products.

In summary, delineating an industry to identify which firms are the competitors of internationalizing SMEs is not straightforward because product-based definitions may be too broad and are rapidly

---

<sup>4</sup> For example, North American Industry Classification System (NAICS).

obsoleted while participant firm definitions are inconsistent because managers have limited awareness of all competitors. The implications of ambiguous industry boundaries on Method are addressed in Section 3.4.2. Boundaries also change because industries are not static. As environmental resources in an organizational field are consumed or change, the industry population will evolve as some firms are selected and others fail. The evolution of industries is reviewed next.

### 2.6.3 Industry evolution

Industries evolve as firms enter to compete for resources, with some firms succeeding and others failing. The number of firms in a new industry grows to a peak then falls sharply after a shake-out of the less competitive firms (Klepper & Graddy, 1990). Hannan and Freeman (1989) explained this evolutionary dynamic as density dependence. When a new industry starts, its potential is uncertain so pioneering firms have little legitimacy; potential resource providers such as customers, equity and finance providers, partners and sales channels and other key actors are unlikely to endorse the new firms (Fisher, Kotha, & Lahiri, 2016; Stinchcombe, 1965). Legitimacy is a fundamental concept within organizational ecology (Hannan & Freeman, 1977) as well as within institutional theory (DiMaggio & Powell, 1983), with legitimacy being a social judgement that the actions of a firm are appropriately congruent with some socially-constructed system (Suchman, 1995). With initial success, firms gain some legitimacy, attracting additional resources, which in turn encourages other firms to enter, creating a compounding effect of greater legitimacy and greater resources. Eventually the density of firms competing for resources forces out some of the weaker firms (Hannan & Freeman, 1989). Extending density dependence theory, density delay suggests that firms that enter the industry later than other firms have a lower survival rate because they are forced to compete by extracting value from inferior resources remaining at the edge of an organizational field (Carroll & Hannan, 1989).

An industry is dynamic as a consequence of changes in the amount of resources available in an organizational field, the legitimacy of the firms seeking access to those resources, the number of firms competing and the intensity of that rivalry. Fernhaber et al. (2007) argued that internationalizing SMEs would mostly be found in emerging and growing industries. From density dependence, this would suggest that internationalizing SMEs face an increasing number of competitors for an increasingly constrained amount of resources, within an industry gaining legitimacy. Initially, rivalry between firms may be low but would increase in intensity as the industry grew and greater numbers of firms entered. Density dependence (Hannan & Freeman, 1989) and density delay (Carroll & Hannan, 1989) imply that the timing of entry for internationalizing SMEs also affects their success because if firms enter too late, the resources will already be controlled by earlier industry entrants.

This empirical pattern of the number of firms increasing to a peak as an industry grows followed by a rapid decline can also be explained by technology evolution (Suarez, Grodal, & Gotsopoulos, 2015; Suarez & Utterback, 1995). Because they do not need to produce at scale, small firms with only moderate capital investment but high labor skills and flexibility can easily enter specialist fields. Early entrants introduce many new product variants and learn rapidly through feedback from users. As a consequence of active competition amongst alternative products, a dominant design is selected through customer preference. Firms that pursued the “losing” design lack the technological expertise, legitimacy and resources of firms that pursued the dominant design, leading to a rapid reduction in the number of firms in the industry. Because small new firms do not have the resources for formalized research and development (R&D), in the early stages of an industry innovations in product design are identified through firm interaction with users, but after the shakeout innovations are focused on manufacturing process improvements driven by traditional R&D in the large firms remaining (Abernathy & Utterback, 1978). Dominant design theory is consistent with what is known about internationalizing SMEs entering the growth stages of knowledge-intensive industries (Fernhaber et al., 2007). Given their scarce resources, internationalizing SMEs focus on product differentiation (Bloodgood et al., 1996) within specialist niches (Zucchella & Palamara, 2006) by working closely with key industrial customers (Chetty & Campbell-Hunt, 2003; Yli-Renko et al., 2001).

Evolutionary theories of industry competition have been criticized for implying that firm success depends primarily on random factors, as well as for being deterministic, because long-run organizational survival is primarily determined by environmental conditions with inertia preventing organizations from making fundamental changes (Astley & van de Ven, 1983). This criticism overlooks a “levels” difference: industrial evolution explains changes in populations rather than changes at the firm level (Salimath & Jones, 2011). Astley and van de Ven (1983) acknowledge that density dependence is an appropriate theory for analyzing populations of relatively small and powerless organizations with dispersed resources (such as internationalizing SMEs), rather than for large, politically-connected organizations where resources are concentrated. Another general criticism of evolutionary theories is their implication that managerial actions have no influence on firm outcomes. However, managers are unlikely to sit passively waiting to succeed or fail; instead, managers take action to buffer their firms from competitive forces through strategy and structure *in response* to contextual evolutionary pressure:

“Rather than strategy and structure driving competitiveness, competition drives evolution which is then shaped by the strategies and structures of organizations. The more they mollify selection pressures, the more that strategies and structures allow organizations to survive regardless of their ability to learn from the market.” (Barnett, Greve, & Park, 1994, p.24)

This thesis similarly argues that the competitive strategy of internationalizing SMEs is a response to the contextual competitive pressures on those firms. On their own, evolutionary processes of competition driving industry evolution suggests a one-way influence of industry on firm yet, as Barnett et al. (1994) point out, firms take action to shape their environment as well as being shaped by it (Giddens, 1984; Storbacka & Nenonen, 2011). Returning to the contextual conditions influencing international business strategy suggested by Peng et al. (2008) (See Figure 2-5), a structural understanding of industry-based competition needs to be augmented by an understanding of institutional conditions.

#### 2.6.4 Institutional conditions

Institutions, made up of regulative, normative and cultural-cognitive elements, are social structures that provide stability and meaning to social life (Scott, 2008). While regulative elements of institutions address regulations and laws, and normative elements address values and morally-governed action, cultural-cognitive elements are the shared conceptions and “taken-for-grantedness” that frame how actors create meaning (Scott, 2008). Giddens (1984) identified a duality in institutions: these social structures are socially constructed by the actions of many knowledgeable actors aware of their situation yet those actors are only able to act as a consequence of the structure created. Giddens called this process “structuration”, where institutions have both top-down and bottom-up social processes maintaining them.

Institutions operate with their own logics that, in particular, integrate normative elements with cultural-cognitive elements. Institutional researchers have more recently addressed these institutional logics as “the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality” (Thornton & Ocasio, 2008, p.101). Seven broad logics have been identified - family, community, religion, state, market, profession and corporate – each with its own sources of legitimacy, authority, identity, norms and controls (Thornton et al., 2012) and which cut across the regulative, normative and socio-cultural pillars identified by Scott (2008). Firms are thus embedded in multiple societal logics, such as “market” “religion” and “state” logics (Friedland & Alford, 1991), as well as more specific logics that may operate in the firm’s industry (Lounsbury & Boxenbaum, 2013) and in the professional logics of its employees (Smets, Jarzabkowski, Burke, & Spee, 2015). Large corporations may have created their own institutional logics (Thornton et al., 2012). Among a population of competitors in an industry, institutional logics provide a shared understanding that influences the way that firms compete for resources and build (and maintain) legitimacy (Pahnke, Katila, & Eisenhardt, 2015a; Smets et al., 2015). However, multiple logics create potential contradictions and tensions in firms making sense of



their competitive context (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011; Seo & Creed, 2002). Internationalized firms sell in multiple markets, creating potential for further inconsistency and contradiction in logic between one foreign market and another (Seo & Creed, 2002; Värlander et al., 2016).

Institutional logics have been extensively investigated in IB, although typically under the concept of culture (e.g. Kogut & Singh, 1988; Sommer, 2010; Witt & Redding, 2009). For example, in “The logic of Chinese business strategy” (Haley & Haley, 2006a, 2006b), the authors explicated how historic and cultural characteristics led to a specific logic underlying the practices of Chinese managers. Networks of Overseas Chinese (Haley, Haley, & Tan, 2009) and Overseas Indians (Haley & Haley, 1998) bring their own logics to complement the local business practices of countries within South East Asia, emphasizing that logics are not homogeneous within countries. This IB literature, however, typically addresses the impact of logics on how MNEs compete.

As internationalizing SMEs expand into foreign markets, the institutional complexity they operate within is multiplied (Värlander et al., 2016). From the social-constructivist perspective of competing described in Section 2.4.1, this institutional complexity makes the mental models that managers hold about their industry and competitors particularly influential in how internationalizing SMEs are likely to compete because mental models are used as a means of reducing complexity by simplifying the variables considered in making a decision (Holcomb et al., 2009). Further, institutional conditions are also likely to affect how managers interpret the actions of their foreign competitors (Porac et al., 1989). Both industry-based competition and institutional conditions change when SMEs internationalize and the next section reviews some of the implications.

### 2.6.5 Competing internationally

This section integrates the theoretical concepts of evolution and institutional logics as contextual conditions in the critical realist model of causality (see Figure 2-1) into the theoretical framework of this thesis.

Although the process of SME internationalization is not the focus of this thesis, that process occurs in parallel to the process of competing. Internationalizing specifically involves small, often new firms entering substantially different competitive contexts, yet there is a paucity of research into the influence of competitors on SME internationalization (Andersson et al., 2014; Fernhaber et al., 2007). When SMEs internationalize, resources different from their domestic market become accessible, but to win these foreign resources in the face of competitor rivalry, internationalizing SMEs need to build legitimacy in these foreign markets (Bangara, Freeman, & Schroder, 2012). Building foreign legitimacy requires conforming to multiple foreign institutional logics (Värlander et al., 2016) but as

outsiders, internationalizing SMEs need to first recognize and understand differences between foreign logics and familiar domestic market logics.

As described in Section 2.6.3, the industries in which internationalizing SMEs compete are evolving as a result of two interrelated dynamics; rivalry between firms for scarce resources and legitimacy building (Hannan & Freeman, 1989). In internationalized industries, legitimacy building has competitive effects across regional and national boundaries while rivalry effects are more localized (Dobrev, Kim, & Carroll, 2002; Hannan, Carroll, Dundon, & Torres, 1995). Barnett and McKendrick (2004) found that competitive strengths (i.e. resources, capabilities, legitimacy) in a domestic market did not make firms stronger when they competed in foreign markets – domestic firms needed to relearn competitive skills in new contexts as industries globalized. Mascarenhas (1996), however, showed that the rate of specialized new firm start-ups in the offshore oil exploration industry was driven by global densities within organizational fields rather than national densities. Overall, this suggests that the large firms that internationalizing SMEs may perceive as major threats are weaker than they first appear, even in their domestic markets, and may be even less formidable when faced in a foreign market (Barnett & McKendrick, 2004). In summary, rivalry between individual firms drives industry evolution across borders and in turn international industry evolution influences individual firms.

Understanding the context in which internationalizing SMEs compete requires this thesis to address the complexities of industry-based competition, including evolutionary competitive pressure and dynamic organizational fields, in a firm's familiar domestic competitive context and in foreign markets. In addition, the institutional conditions in which internationalizing SMEs operate may be based on multiple and sometimes conflicting institutional logics. Section 2.6 has examined the theoretical concepts used to understand competitive contexts and conditions. The next section reviews potential firm-level mechanisms by which competitors may influence the performance of internationalizing SMEs.

## **2.7 Mechanisms of competitor influence**

Potential mechanisms of competitor influence (see Figure 2-1) are outlined in this section, leading to Research sub-questions 3 and 4. Mechanisms are processual accounts of how particular entities or activities are arranged in order to produce regular changes (Gross, 2009) and explain how lower-level processes can be aggregated to explain changes at a higher level (Tavory & Timmermans, 2013). Social mechanisms, such as those investigated in this thesis, are metaphorically like “gears in some social machinery and thus stand in relationship of lesser to greater vis-à-vis the causal effect they bring about” (Gross, 2009, p.363). Mechanisms may be intermediary elements that may not on their

own account for all of the success (or failure) of internationalizing SMEs but instead may contribute causally to the outcomes identified in Section 2.3 (Tavory & Timmermans, 2013). At the firm-level, competitors may directly influence the success of internationalizing SMEs, such as by winning a customer and thereby precluding the SME from that revenue and other benefits, or indirectly, such as acting as a model for the SME to mimic. Four types of mechanism are described in this section: competing for resources in competitive engagements, social construction and mental models, learning from competitors and Red Queen adaptation through competing.

### 2.7.1 Competing for resources in competitive engagements

Competitors may directly influence internationalizing SMEs by winning competitive engagements. To survive, firms must compete with other firms to access scarce customers and factor resources (Aldrich & Reuf, 2006; Markman et al., 2009). Winning a customer provides revenue, as well as knowledge and legitimacy. Unless firms win customers, they are unable to survive in the longer term (Hunt, 2013) because although capital funding provides initial cash at start-up, ongoing revenue is necessary to cover expenses. Failure to deliver revenue financing is one of the predictors of SME failure (Laitinen, 1992). Winning B2B customers potentially also provides greater knowledge of customer applications that internationalizing SMEs can use to adapt their product development processes, along with greater understanding of customers' industry and markets, allowing the firm to identify other prospective customers and unrecognized applications for their products. Winning customers in foreign markets allows the internationalizing SME to learn about different requirements from their domestic market as well as foreign industry institutional logics (Thornton et al., 2012). Winning customers can also build a firm's reputation and legitimacy with key stakeholders and resource providers. Customer endorsements are particularly powerful in building legitimacy for internationalizing SMEs (Bangara et al., 2012).

Factor resources are inputs to ongoing firm development, such as staff, capital and knowledge, along with raw materials (Markman et al., 2009). Entrepreneurs are able to create value by buying factor resources at a lower price and selling value-added goods at a higher price because people value resources differently (Shane & Venkataraman, 2000). Resource valuations differ because people apply different simplifying assumptions as they make sense of complex information and incorporate new information (Holcomb et al., 2009; Shane & Venkataraman, 2000). Factor resources are limited, and factor-market rivals may come from outside an SME's market or industry, making it difficult for firms to predict where competition for these resources will occur (Markman et al., 2011).

SMEs may enter collaborative agreements with larger firms as a mechanism for gaining access to knowledge as well as legitimacy (Zettinig & Benson-Rea, 2008). These collaboration partners can

also be considered as a factor resource. Johanson and Vahlne (2009) emphasized the importance of internationalizing SMEs building business networks as a mechanism for identifying new opportunities, so a business network may also be considered a factor resource. Although competitors may directly influence internationalizing SMEs by targeting the same customers and factor resources, competitors can also indirectly influence SMEs socially and cognitively, as discussed in the next section.

### 2.7.2 Social construction and mental models of competitors

Structural perspectives of competing imply that firms respond to latent opportunities in markets, yet research into social-construction practices suggests that market participants including customers, competitors and focal firms co-create their markets over time by influencing market configurations (Storbacka & Nenonen, 2011). Porac and Rosa (1996) showed how managers in firms infer markets as a result of cues from customers and competitors in sales transactions. Rivalry evolves as firms define their opportunities, responses and roles in relation to other firms in that market space. Rivalry need not be symmetric, in the sense of two firms mutually recognizing each other as competitors, and is itself a process:

“...ambiguity of markets is at the root of how managers make sense of their competitive environment. Rivalry is not static. It is, instead, a cycle of competitive enactment, as firms collectively assess market situations, formulate strategies, and allocate resources to realize their competitive intent.” (Porac & Rosa, 1996, p.370)

Just by participating in markets, competitors influence how other firms make sense of their competitive context. Porac et al. (1989) argued that to identify competitors of concern as well as define market boundaries, managers create simple mental models of their industry that cluster organizational similarities and differences into salient characteristics, such as organizational type, location and size. Mental models have been defined as “deeply ingrained assumptions, generalizations, or images that influence how individuals or market actors understand the world and how they take action” (Storbacka & Nenonen, 2011, p.247). Mental models have been recognized as influential in how managers develop simple decision rules or heuristics that affect what they learn (Holcomb et al., 2009), how population-level learning occurs in an industry (McKendrick, 2001) and how SMEs internationalize (Cavusgil & Knight, 2015; Child & Hsieh, 2014; Harms & Schiele, 2012).

The mental models of entrepreneurs who establish internationalizing SMEs have been investigated as the basis for firm action, although not specifically in relation to competition. These managers have mental models that discount the risks of early internationalization (Cavusgil & Knight, 2015; Gassmann & Keupp, 2007) and help them make sense of their firms’ position (Harms & Schiele,

2012) with these models evolving with internationalization experience (Child & Hsieh, 2014; Maitland & Sammartino, 2015). In particular, researchers note that managers in gradually internationalizing SMEs may hold mental models that are limited in scope due to their extensive prior activity in domestic markets, unlike the unfettered models of those in Born Globals (Knight & Cavusgil, 2004; Prange & Verdier, 2011).

Through structuration (Giddens, 1984), mental models are constantly constructed and revised (reframed) as managers engage with other people in everyday activities, with reframing influenced by firm-level processes driven by experiential learning (Gray, Purdy, & Ansari, 2015) as well as institutional logics (Lounsbury & Boxenbaum, 2013). In other words, top-down regulative, normative and cultural-cognitive institutional elements interact with the bottom-up mental models of managers and entrepreneurs. Sarason, Dean, and Dillard (2006) highlighted that structuration processes (Giddens, 1984) co-create opportunities between individual entrepreneurs and the institutional system – that opportunities do not necessarily exist *a priori* in the environment. Mental models are influential in how entrepreneurs identify opportunities and how they act on these opportunities (Holcomb et al., 2009; Shane & Venkataraman, 2000).

In summary, industries and markets can be understood as socially constructed with competitors and other participants (Porac et al., 1989). To make sense of their industry and potential competitors, managers construct mental models which change as they learn through competitive experience (Easton, 1988; Porac et al., 1989). These competitive learning mechanisms are discussed next.

### 2.7.3 Learning from competitors

Competing and learning reinforce one another because competing is a catalyst for organizations to learn, thereby intensifying competition and triggering an adaptive response in competitors (Barnett & Sorenson, 2002). Rather than considering all learning theories, this section focuses on how competitors impact firm learning; through the experience of competitive interaction (Barnett & Hansen, 1996), firms mimicking competitors' actions (Greve, 2000) and learning vicariously from the outcomes of competitor actions (Kim & Miner, 2007).

Evolutionary theories assume that organizations rely on ongoing experiential learning to develop a high competence in the skills required for evolutionary success (Nelson & Winter, 2002). Trial and error learning is seen as a way of introducing variation into a population, while mimicry is an example of selection (Aldrich & Reuf, 2006). Experiential learning, based on the accumulated direct experiences of the SME, is necessarily limited for new firms, although the combined experience of managers prior to joining the firm provides an initial starting point (Hilmersson & Johanson, 2014a). Experiential learning is likely to be influenced by managers' mental models of what is salient plus the

heuristics or “rules of thumb” that managers have already developed to simplify decision-making in complex environments (Holcomb et al., 2009).

Mimicry is an isomorphic or imitative process where one firm copies another (Fernhaber & Li, 2010; Lieberman & Asaba, 2006). Firms have been shown to mimic the actions of competitors in close geographic proximity (Henisz & Delios, 2001; Pouder & St. John, 1996) and with similar characteristics (Greve, 1999), particularly in relation to mergers, alliances and geographic expansion (Gimeno et al., 2005; Sui, Baum, & Malhotra, 2016). Three motivations for mimicry have been proposed: as a consequence of decision-making under uncertainty, where the firm believes it better to copy a competitor’s actions with the assumption the competitor has better knowledge (Lieberman & Asaba, 2006); institutional, where a smaller firm mimics larger firms due to social pressures and the need for legitimacy (Greve, 2000); or to match rivals to maintain relative positions and neutralize the rival’s initiative (Lieberman & Asaba, 2006). In international expansion, McKendrick (2001) showed that in the growth stages of an industry, firms from the same country in the same product segment were more likely to mimic each other’s international expansion patterns than later in the industry evolution where global patterns emerged. In the disk drive industry, learning occurred through the trade press and industry analysts rather than through network ties, and was driven by the perceived success of salient larger competitors with similar characteristics to the imitating firms (McKendrick, 2001). In the growth stages of an industry when the firm population is likely to be SMEs (Suarez & Utterback, 1995) and where internationalizing SMEs are typically found (Fernhaber et al., 2007), the larger SMEs able to gain additional information through their marketing initiatives and R&D may be mimicked by relatively smaller SME competitors (Lieberman & Asaba, 2006).

Vicarious learning occurs when firms observe and analyze the success and failure of other organizations, including competitors, and apply the lessons to their own firms (Kim & Miner, 2007). While mimicry involves copying what a rival does, vicarious learning may lead a firm to take a different action from rivals. Unlike experiential learning, vicarious learning does not carry the cost of exploration and the consequences of failure, so can complement a firm’s own experiential learning (Terlaak & Gong, 2008). New firms were shown to learn from the success, failure and near-failure of salient competitors, so that the failure of individual firms could have a positive effect at a population level (Kim & Miner, 2007).

Although organizational evolution through learning and adaptation is often presented as a positive force leading to stronger firms and better outcomes overall, the same evolutionary processes can lead to maladaptive outcomes where both populations and firms become weaker (Barnett & Hansen, 1996). Firms are constrained by past lessons, leading to competency traps that encourage firms to apply historically successful solutions to current problems (Barnett & Sorenson, 2002). Additionally, firms face complex and constantly-changing environments so lessons learned through co-evolution with old

competitors may not be effective against newly-emerging rivals with different organizational forms (Barnett & Hansen, 1996). While these problems may seem to be of more concern for larger firms rather than internationalizing SMEs, early learning can have substantial path dependent effects affecting a firm's subsequent survival (Swaminathan, 1996). Imitation and vicarious learning can lead to population-level learning, meaning choices by a single small firm may influence population-level success (Kim & Miner, 2007; McKendrick, 2001). Because managers learn by observing, the success of other organizations, but this leads to distorted conclusions because they observe a biased sample that underrepresents failure – unsuccessful firms may already have exited (Denrell, 2003).

Observation can give the impression that a risky practice is successful when it really means that the surviving firms gambled and won. Characteristics necessary for survival but not critical to high performance may not be observable, while frequent visible practices among high-performing organizations may not be linked to success. Although managers, industry consultants and academics frequently focus on the most successful firms to determine “best practice”, they risk learning the wrong lessons (Denrell, 2003), providing a further reason for researching a population of firms in their business context rather than preselecting those that appear to be successful and then focusing on their internal characteristics.

The timing of learning in industry development (Denrell, 2003) and the nature of the observed competitor impacts the effectiveness of mimetic and vicarious learning (Terlaak & Gong, 2008). Early adopters reveal far more about a practice's value than later adopters who may simply be mimicking, yet managers are unable to gain guidance from firms that evaluated a practice and determined not to adopt it or firms that abandoned a practice later (Terlaak & Gong, 2008). Managers tend to observe firms with similar characteristics to their own, inherently recognizing that the value of a practice varies according to firm characteristics, and applying and reframing their mental models of salient competitors and characteristics (Porac et al., 1989; Terlaak & Gong, 2008). For internationalizing SMEs at the emerging and growth stages of industry evolution, these mechanisms of experiential, mimetic and vicarious learning suggest that competitors may have a substantial influence, both positive and negative, through learning. Another learning mechanism is Red Queen adaptation, a competitively-driven form of experiential learning, which is explained in the next section.

#### 2.7.4 Red Queen adaptation through competing

Barnett and Hansen (1996) argued that competing is a dynamic, adaptive learning process driven by evolutionary forces and that actions by one firm constrain the performance of other firms. In Red Queen competition, which is a form of experiential learning, firms have to compete harder and harder

just to stay in the same place<sup>5</sup>. Specifically, firms take initiatives to achieve better performance, which, in time, may reduce the relative performance of a competitor, and trigger a competitive response. As the competitor becomes stronger, a new search is triggered in the first firm for improved performance resulting in a counter-response. This response and counter-response of competitive action is a self-reinforcing process that makes both organizations stronger overall, although not in relation to each other (Barnett & Hansen, 1996). Red Queen learning may not necessarily be conscious or planned, and learning will not lead to sustained competitive success.

Barnett and Hansen (1996) discovered that firms with recent competitive experience were more likely to survive than firms with no or old experience – in other words, competing with one firm makes a firm stronger against other firms. Barnett (1997) found that large firms were robust survivors but weak competitors at risk when environments changed rapidly. He attributed this to institutional influence and resources that obscured the poor performance of individual units within a larger firm: units that would not survive if they had to compete on their own. Barnett and McKendrick (2004) later confirmed that by far the strongest competitors in a market were firms that survived competition when they were small, and that large firms were weak competitors surviving on their institutional influence. The adaptive benefits of Red Queen competition challenge the argument that successful internationalizing SMEs avoid competitors by targeting isolated niches (Chetty & Campbell-Hunt, 2004; Gabrielsson et al., 2008) because such a strategy might instead reduce firms' survival prospects in the longer term.

Four mechanisms linking structure to outcomes, as shown in the critical realist model of causality (see Figure 2-1) have been described in this section: competing for resources in competitive engagements, social construction and mental models, learning from competitors and Red Queen adaptation through competing. These mechanisms suggest how competitors could influence the success of internationalizing SMEs, although which mechanisms operate at any point is unclear. The way these mechanisms operate may also be affected by contextual conditions such as industry evolution and institutions, as examined in Section 2.6 and leads to Research sub-questions 3 and 4, as described in the next section.

#### 2.7.5 Research sub-questions 3 and 4

This thesis has argued that contextual competitive conditions in the industry and foreign market (as outlined in Section 2.6) as well as firm-level competitive mechanisms (as outlined in Section 2.7) will affect the survival outcomes of internationalizing SMEs (Section 2.5). In the broader competitive

---

<sup>5</sup> An evolutionary biology theme using an analogy from the fantasy novel "Alice through the Looking Glass".



context, competitors may influence internationalizing SMEs as they struggle with each other to access resources and build legitimacy. As an industry evolves, the results of this ongoing competitive activity will force changes in internationalizing SME strategy, as well as affect individual firm survival. Industry institutional logics of competing are socially constructed by competing firms through multiple competitive engagements over time, and may vary by foreign market. In addition to these contextual mechanisms, the potential influence of competitors on firm outcomes may operate through multiple mechanisms, such as control of scarce customer and factor resources, changing manager mental models, firm learning and firm adaptation. Investigating these mechanisms in context leads to the third research sub-question, which is addressed in detail in Chapter 6:

Research sub-question 3: What influence do competitors have on the development of internationalizing SMEs?

Having developed an understanding of competitor influence, it is necessary to identify which competitors apply this influence. Although the extant SME internationalization literature emphasizes large competitors, Section 2.4 highlights that the competitive strategies attributed to internationalizing SMEs may not be effective against SME competitors, suggesting these firms may have more influence on internationalizing SME success. Further, MNEs and competitors located in foreign markets may have a different influence than those in internationalizing SMEs' domestic markets (see Section 2.6 on context), as well as having a better understanding of foreign institutional contexts (Section 2.6.4). Thus different competitor types may potentially influence internationalizing SMEs via different mechanisms, leading to the fourth research question, also addressed in Chapter 6:

Research sub-question 4: How do competitors of different size and location influence internationalizing SMEs?

## **2.8 Chapter summary & conclusions**

Research into SME internationalization originally emphasized the competitive nature of the phenomenon, with Zahra (2005) questioning how small new firms could compete internationally and survive against much larger firms. Despite SMEs being a mainstream feature of modern international business (Cavusgil & Knight, 2015; Zahra, 2005), little subsequent research has addressed this question (Andersson et al., 2014).

Extant SME internationalization research does not consider competitors in detail partly as a consequence of researchers assuming that SMEs avoid competition by targeting niches that are too narrow for large competitors to contest (Gabrielsson et al., 2008) and then discounting the influence of SME competitors. Although many internationalizing SMEs are recognized as competing through

technological innovation and differentiated product designs (Aspelund & Moen, 2005; Chetty & Campbell-Hunt, 2003; Crick, 2009; Gabrielsson et al., 2008; Knight & Cavusgil, 2004; Laanti et al., 2007), new ideas and inventions are rarely developed in isolation, with other firms possessing related knowledge (Podolny, Toby, & Hannan, 1996). While internationalizing SMEs may inhabit market niches to avoid competition (Chetty & Campbell-Hunt, 2004; Crick, 2009), these niches are necessarily within existing markets with incumbent competitors offering related products (Podolny & Stuart, 1995), and may still be populated by other small firms (Hannan & Freeman, 1977; Podolny et al., 1996). Networks may provide access to resources (Blomstermo et al., 2004a; Gassmann & Keupp, 2007) but do not explain how internationalizing SMEs compete.

Because internationalizing SMEs are often found in emerging and growing industries (Fernhaber et al., 2007) along with other SMEs, competitors that seek resources and legitimacy put evolutionary pressure on other firms as the industry develops (Barnett et al., 1994; Hannan & Freeman, 1977). Multiple and conflicting institutional logics (Thornton et al., 2012; Värlander et al., 2016) make this competitive context more complex as SMEs internationalize to seek customers, factor resources and legitimacy in foreign markets (Hannan & Freeman, 1989; Markman et al., 2011). Competitors may influence the success of internationalizing SMEs directly through competing for resources in competitive engagements (Aldrich & Reuf, 2006), or indirectly through social construction and mental models (Porac & Rosa, 1996), firm learning (Fernhaber & Li, 2010; Hilmersson & Johanson, 2014a; Kim & Miner, 2007) and Red Queen adaption through competing (Barnett & Hansen, 1996).

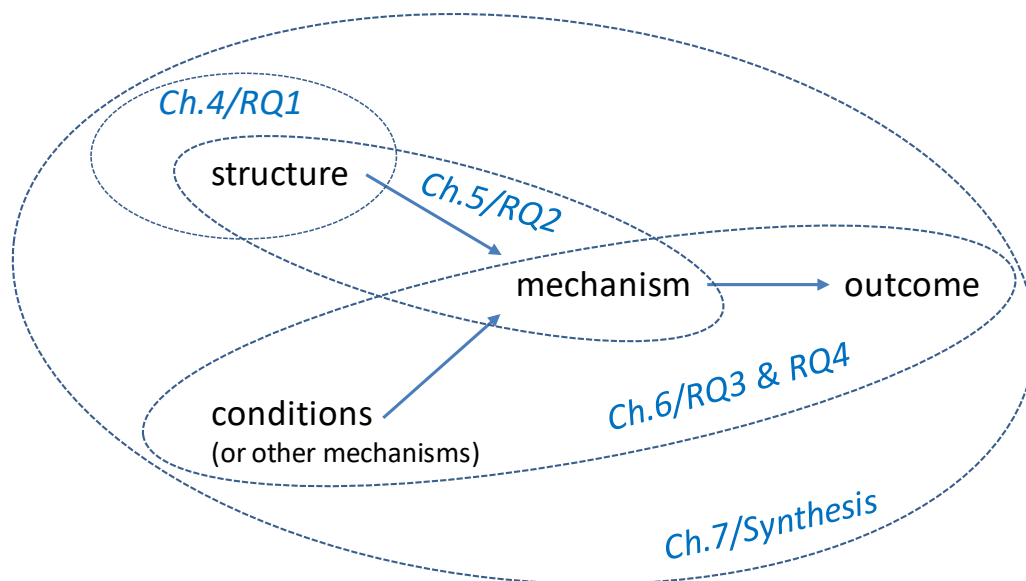
The theoretical framework developed in Chapter 2 has shown how structure, conditions and mechanisms may be interlinked to cause various success outcomes for internationalizing SMEs through competitor influence. The structural perspective of competing as a consequence of market and industry context (Medlin & Ellegaard, 2015) introduced in Section 2.4.1 is associated with the contextual conditions described in Section 2.6. The social-constructivist perspective of competing as a sense-making process is associated with institutional logics (see Section 2.6.4) and the firm-level mechanisms described in Section 2.7. The broad question addressed in this thesis is “How do competitors influence the success of internationalizing SMEs?” and four specific research sub-questions have been developed in this chapter. Table 2-3 summarizes the key concepts addressed in the thesis and their theoretical sources:

Table 2-3: Key concepts

Concept	Key references
<b>Structure</b>	
Internationalizing SMEs	(Aspelund & Moen, 2012; Baum et al., 2015; Olejnik & Swoboda, 2012; Oviatt & McDougall, 1994)
Competitors	(Audretsch et al., 1999; Barnett, 1997; Mas-Ruiz & Ruiz-Moreno, 2011)
B2B customers	(Aspelund & Moen, 2012; Chetty & Campbell-Hunt, 2003; Yli-Renko et al., 2001)
Competitive engagements	(Ford & Håkansson, 2013; Sirmon et al., 2008)
Structural perspectives	(Fernhaber et al., 2007; Porter, 1980; Pouder & St. John, 1996)
Social-constructivist perspectives	(Medlin & Ellegaard, 2015; Porac & Rosa, 1996; Porac et al., 1989)
Internationalizing SME competitive strategies	
Niche targeting	(Acs & Audretsch, 1988; Cannone & Ughetto, 2014; Carroll, 1985; Zucchella & Palamara, 2006)
Differentiation	(Bloodgood et al., 1996)
Business networks	(Blomstermo, Eriksson, & Sharma, 2004b; Burt, 1992; Håkansson & Snehota, 1995; Shipilov, 2008)
<b>Conditions</b>	
Internationalization	(Johanson & Vahlne, 2009)
Institutions	(DiMaggio & Powell, 1991; Peng et al., 2008; Thornton et al., 2012; Värlander et al., 2016)
Industry evolution	(Andersson, 2004; Andersson et al., 2014; Fernhaber et al., 2007; Hannan & Freeman, 1989; Suarez et al., 2015; Suarez & Utterback, 1995)
Factor resources	(Markman et al., 2009)
Legitimacy	(DiMaggio & Powell, 1983; Suchman, 1995)
<b>Mechanisms</b>	
Firm learning	
Experiential	(Barnett, 2008; Holcomb et al., 2009; Johanson & Vahlne, 2009)
Mimicry	(DiMaggio & Powell, 1983; Fernhaber & Li, 2010; Lieberman & Asaba, 2006)
Vicarious	(Kim & Miner, 2007; Terlaak & Gong, 2008)
Manager mental models	(Child & Hsieh, 2014; Maitland & Sammartino, 2015; Porac et al., 1989)
<b>Outcomes</b>	
Independent growth	(Efrat & Shoham, 2012; Gabrielsson et al., 2008; Gabrielsson & Gabrielsson, 2013; Mudambi & Zahra, 2007)
Acquisition	(Cefis & Marsili, 2011; Gabrielsson et al., 2008)
Industry exit	(Coad, 2014)
Failure	(Coad, 2014; Nummela et al., 2016)

Figure 2-4 shows the general relationship between the components of this theoretical framework, the research sub-questions and the four papers in Chapters 4 to 7 that are the core of this thesis. Chapter 4 focuses on the structures between internationalizing SMEs, customers and competitors to address Research sub-question 1: How do internationalizing SMEs in a given population compete against both large and small rivals over time? Chapter 5 links structures and the mechanisms of competitor influence to investigate Research sub-question 2, How do internationalizing SMEs in a given population select niches? While Chapters 4 and 5 are at the firm level, Chapter 6 investigates industry conditions and their links to mechanisms and outcomes to address Research sub-questions 3 and 4: What influence do competitors have on the development of internationalizing SMEs? and How do competitors of different size and location influence internationalizing SMEs? Chapter 7 integrates structure, mechanisms, conditions and outcomes in a conceptual model of competitor influence.

Figure 2-4: Relationships between theoretical framework, research sub-questions & thesis papers



Source: Adapted from Sayer (2000, p.15)

This theoretical framework highlights that competitive context is central to explaining how competitors might influence internationalizing SMEs' success. Accordingly, this research is based on a population of firms that included internationalizing SMEs to understand how these firms competed over time. The research method is considered in the following chapter.

## Chapter 3. Method

### 3.1 Chapter overview

This chapter addresses the methods used in this thesis to answer the research questions introduced in Chapter 1 and developed in Chapter 2. The initial section details the study's critical realist ontology and epistemology. Section 3.3 outlines the multiple case study design using systematic combining as the method for collecting and analyzing data, and abductive reasoning to build from existing theories. The selection of the Fleet Management Systems industry sector in NZ as the research context is explained in Section 3.4 along with the census approach to identifying case firms. Section 3.5 on data collection describes two phases of interviewing plus desk research of secondary data sources, while Section 3.6 on data analysis provides background on abductive analysis techniques and the operationalization of the systematic combining method. Finally, the methods used in the thesis are compared against case study best practice.

### 3.2 Ontology

This section explains the philosophical foundations in this thesis in understanding the reality of internationalizing firms and the competitive influences of other organizations upon them. The main research question, "How do competitors influence the success of internationalizing SMEs?" seeks understanding of the actions of two different organizations (internationalizing SMEs and their competitors) and the processes that interconnect them. This section first explains organizational research and then Section 3.2.2 explains process research.

Organizational theorists have noted two different ways to understand organizations (Tsoukas & Chia, 2002; Weick, 1969); as *entities* or objects comprised of smaller components that interact, so that organizations change by moving from one state to another (van de Ven & Poole, 2005), and as *social processes* comprised of smaller processes so that the organization is constantly changing – hence *organizing* as an activity. This second way of understanding organizations is based on the proposition that reality is best understood as processes rather than material entities, in which change is reality's "pervasive and predominant feature" (Rescher, 1996, p.7). Entities may be constantly changing, even though from an observer's perspective such entities may appear static. For example, a firm at the beginning of the week is not the same firm at the end of the week because, as the firm goes about its activities, staff learn, stakeholders change their opinions about the organization, customers are gained

or lost, and organizational routines are modified (or reinforced) based on the firm's activities during that week.

Internationalizing SMEs are organizations with change as their pervasive characteristic, particularly those SMEs that internationalize rapidly (Chetty & Campbell-Hunt, 2003), yet much of the extant research into internationalizing SMEs focuses on firm attributes, thereby emphasizing these organizations as relatively static entities rather than social processes (Knight & Liesch, 2016). Two difficulties are apparent in understanding changing organizations such as internationalizing SMEs. Firstly, although we know that organizations have changed, exactly what caused the change and how it occurred are not generally observable. Secondly, because the English language favors the "object" view, we lack the vocabulary to talk with research participants and amongst scholars about change as a central understanding of reality (Tsoukas & Chia, 2002). Critical realism is an ontology that addresses both these difficulties, as is explained in the next section.

### 3.2.1 Critical realism

Realism is an ontology that assumes that the world exists independently of our experience of it, so "reality" is *something*, and that "something" can have a causal influence or ability to generate events (Ryan et al., 2012). Critical realism is an approach to social science that offers a middle path between the "spurious scientificity of positivism and idealist and relativist reactions to positivism" (Sayer, 2004, p.6) and distinguishes three domains of reality in the world; the real, the actual and the empirical (Sayer, 2000). The *real* is what exists, whether or not we have empirical experience of it and regardless of whether we adequately understand it. The real is the domain of objects having certain structures and powers that give them capacities or susceptibilities to behave in certain ways (although these powers may not be exercised). The *actual* is the domain where these powers are exercised, along with their consequences, while the *empirical* is the domain of experience, which may or may not be related to the domains of the real and actual (Sayer, 2000). Within social science, critical realism is concerned with causal explanation and contextualization (Sayer, 1992).

Unlike research in the natural sciences where phenomena can often be measured accurately in controlled situations, many phenomena of interest in business are socially constructed; that is, produced through the interaction of humans and under constant revision (Bryman & Bell, 2011). This means social phenomena, such as organizations and organizing, are imprecise, dependent on human interpretation and cannot be reduced to law-like generalizations like natural objects (Orlikowski & Baroudi, 1991). Observability makes business researchers more confident in their knowledge of what they think exists in the empirical domain, but what exists does not depend on it being observed (Sayer, 2000). Like critical realists, positivist researchers argue that reality exists separately from human

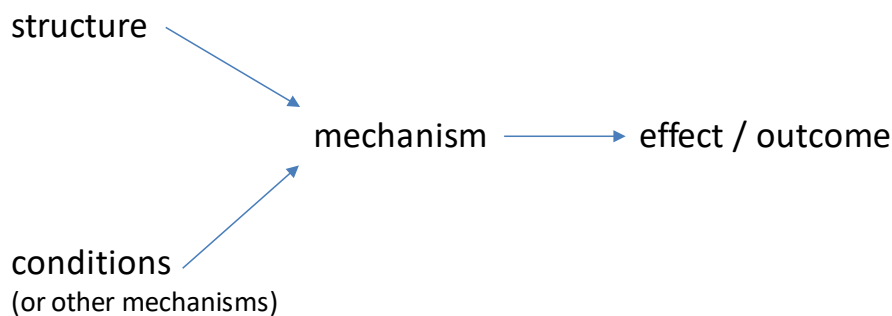
experience of it. However, positivists only accept as knowledge those phenomena confirmed by the senses, and assume that objects in the real world can be accurately measured in controlled situations (Guba & Lincoln, 1994). In contrast, critical realists are willing to accept unobservable phenomena as knowledge and in stressing that reality does exist in social objects, critical realists also differ from interpretivists, who argue that people's actions are so determined by social constructions that researchers can only subjectively interpret what an individual's reality might be (Bryman & Bell, 2011). Thus, critical realist ontology addresses the difficulty of observing change by being willing to include theoretical elements unable to be observed directly into causal explanations (Bryman & Bell, 2011). Accordingly:

“We will only be able to understand – and so change – the social world if we identify the structures at work that generate those events and discourses ... Those structures are not spontaneously apparent in the observable pattern of events; they can only be identified through the practical and theoretical work of the social sciences.” (Bhaskar, 1989, p.2)

Because of perceptual and linguistic limitations that cause humans to focus on objects rather than underlying mechanisms that are not observable, reality is not perfectly apprehendable by humans (Tsoukas & Chia, 2002). Critical realists further acknowledge that there is a difference between the objects themselves and the concepts and language used to explain them, with the latter subject to constant revision (Sayer, 1992). Language, theories and institutions are socially-constructed objects interpreted from the researcher's point of reference, yet still exist regardless of the researcher's interpretation. Thus, critical realist ontology addresses the linguistic difficulties of talking about change as a pervasive reality by acknowledging that the production of knowledge remains a fallible, social practice because knowledge is only a representation of reality (Sayer, 1992). Accordingly, critical realism makes both ontological and epistemological assumptions (Easton, 2010).

Guba and Lincoln (1994) stress that resolving ontological questions about the nature of reality comes prior to answering epistemological questions about the nature of knowledge, but that both questions must be answered before determining an appropriate method for answering a given research question. Critical realist researchers need to adopt epistemic relativism (Ryan et al., 2012), reflexively accepting that their knowledge of organizations and processes is not the same as the nature of these phenomena in reality, and that past experiences and theoretical perspectives shape what researchers can and cannot “see”. Unlike positivists, who argue that their methods prove their findings “true” critical realists claim only that their findings are “probably true” (Guba & Lincoln, 1994, p.109). Rather than simply identifying correlations between factors and events, critical realism seeks to answer the question “what caused those events to happen?” (Easton, 2010, p.121), with causal explanation identifying the connecting mechanisms.

Figure 3-1: Critical realist view of causation



Source: Sayer (2000, p.15)

As shown in Figure 3-1, this critical realist model of causal explanation requires consideration of the entities involved and their structure, the causal powers and susceptibilities of those entities, and various conditions that influence the mechanisms leading to particular outcomes (Sayer, 1992). Causal mechanisms and process-oriented research are addressed next.

### 3.2.2 Process-oriented research

“Process” is a term used in business research in three general ways:

- 1) to explain a causal relationship between independent and dependent variables in a variance theory (Mohr, 1982);
- 2) as a category of concepts of individual and organizational actions, with processes operationalized as constructs (Abbott, 1988), and;
- 3) processes as sequences of developmental events that explain how things change over time (van de Ven & Poole, 1989).

The first use of process requires highly restrictive assumptions about the order and sequence in which events unfold in organizations to infer the process from statistical correlations between independent and dependent variables (van de Ven & Huber, 1990) and does not explain what happens in detail between inputs and outputs (van de Ven & Poole, 1989). The second use quantitatively distinguishes *if* a change occurred but not *how* (van de Ven & Poole, 1989) by assuming reality is made up of stable entities with changeable attributes then measuring attribute change (Abbott, 1988). The third approach requires a historical development perspective, describing how incidents, activities and stages that occur over the course of an individual’s, organization’s or industry’s existence represent a pattern of



change (van de Ven & Poole, 1989). This thesis applies the third use of “process” since the research question is concerned with “how” competitors influence internationalizing SMEs. That competitors *do* influence internationalizing SMEs is evident from the theoretical framework in Chapter 2. The nature of the influence competitors exert can only be determined once the mechanisms creating that influence are better understood.

Processes potentially involve multiple actors at multiple levels, including managers within organizations at the individual level, and internationalizing SMEs, competitors, sales agents, distributors and customers at the firm level (in a business-to-business market). Firms act in aggregate in populations as industries and markets at the contextual level (Meyer, Brooks, & Goes, 1990), creating interaction across levels. The direction of change is also ambiguous, because internationalizing SMEs may be constantly changing as a result of the actions of managers (Crick, 2009; Shane & Venkataraman, 2000) yet also acted on through external processes and transformations in which these actors have no direct part (Meyer et al., 1990). A critical realist ontology requires a research design that allows for these multiple processes and levels to be included, rather than assuming them away. This thesis looks at the process of competing across two levels: the contextual level of populations of firms competing for resources and legitimacy in an industry and the firm level of actions that individual firms take in competing.

In summary, this thesis applies a critical realist ontology and epistemology. Ryan et al. (2012, p.302) suggested that critical realist research follows an iterative, spiral path rather than a linear progression as researchers work through the “messy reality of research”, commonly moving back and forth between theory, empirical data and analysis. Four main tasks are required in critical realist research: research design, field investigation, abductive analysis and causal explanation (Ryan et al., 2012) and the next section provides a detailed discussion of the first of these: the design of this research.

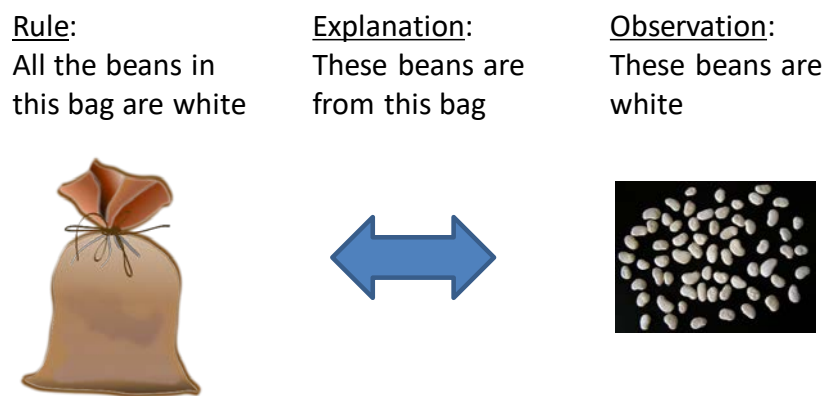
### **3.3 Research design**

This section explains the interrelated sub-elements in the design of this study. To sequence what is, in practice, an iterative cycle of design decisions, this section moves from the conceptual to the empirical yet necessarily refers to other design sub-elements. The section begins by comparing abductive reasoning to inductive and deductive patterns, then outlines the method of systematic combining (Dubois & Gadde, 2002). Key design requirements that emerge from the research sub-questions are presented and the section concludes by explaining the multiple case approach used.

### 3.3.1 Abduction

Abductive reasoning and critical realism are intertwined (Easton, 2010; Piekkari et al., 2009; Ryan et al., 2012). In showing that abduction is an alternative form of reasoning to induction and deduction, Mantere and Ketokivi (2013) identified three parts of scientific reasoning: rules, explanations and observations. Figure 3-2 uses Peirce's example from his early work on abduction (1878) to illustrate the distinction between the three parts:

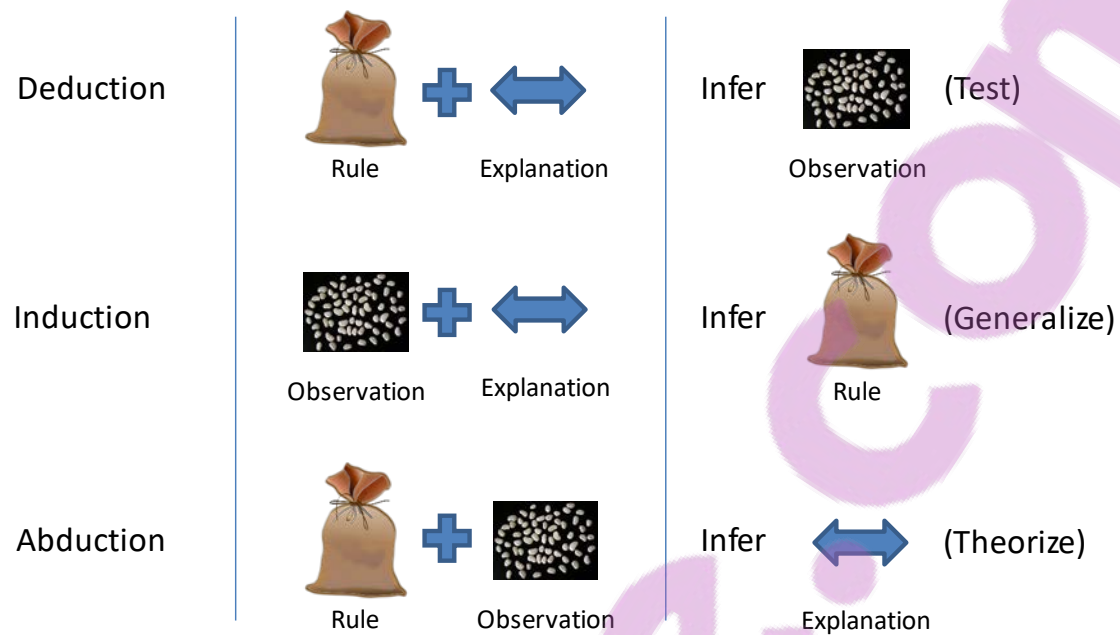
Figure 3-2: Three parts of scientific reasoning



Source: Adapted from Peirce (1878)

Interconnecting the three parts of scientific reasoning, as shown in Figure 3-3, deduction takes the rule and explanation as premises to derive the observation (as a hypothesis of what should be observed, which can be tested). Deductive methods are concerned with developing propositions from existing theory and making them testable (Dubois & Gadde, 2002). Induction generates theory from data (Dubois & Gadde, 2002) by combining the observation and explanation to infer (generalize) the rule (Mantere & Ketokivi, 2013) as the likelihood of particular events occurring (Bertilsson, 2004). Abduction (Peirce, 1878) however, combines the rule and observation to infer the explanation (Mantere & Ketokivi, 2013). From the observation of a handful of white beans and knowing that the beans in the bag are white, abduction theorizes that the beans came from the bag. Accordingly, abduction provides a presumptive and conjectural, rather than strictly logical, theoretical hypothesis that typically precedes deduction (Mantere & Ketokivi, 2013) and represents the inspired “creative leap” required to move from data analysis to theory development in both induction and deduction (Langley, 1999, p.691).

Figure 3-3: Scientific reasoning



Source: Adapted from Peirce (1878)

The critical realist model of causation (see Figure 3-1) identifies the role of abduction in theorizing the unobservable mechanism (explanation) that causes an observable effect or event (observation) based on certain structures and conditions (rules). Abduction has been identified as appropriate for exploratory case study research in international business (Piekkari et al., 2009) and a method that applies abductive reasoning as part of reconstructing the relationship between theory and the empirical world is systematic combining (Dubois & Gadde, 2002), as is explained in the next section.

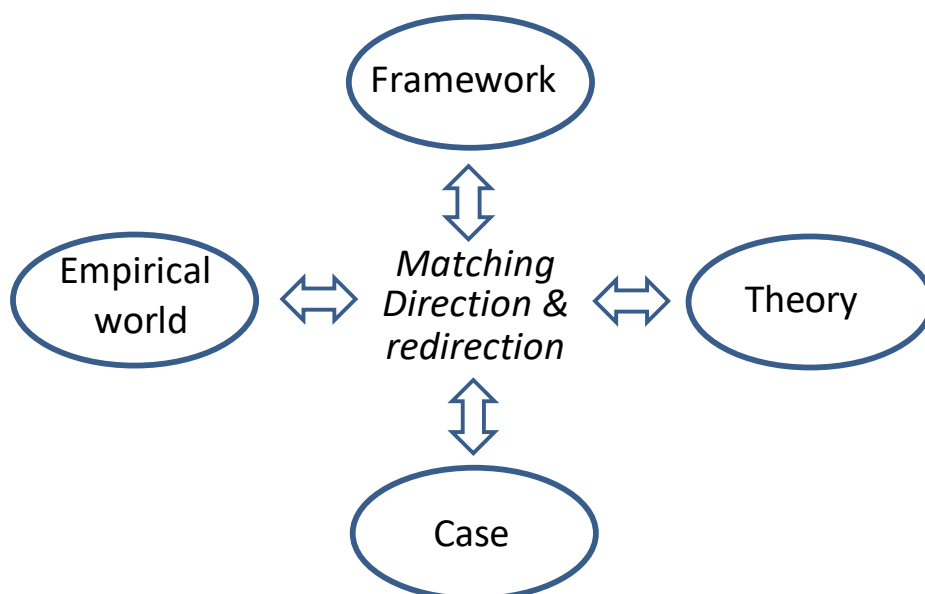
### 3.3.2 Systematic combining method

Despite the linear case method prescriptions in research textbooks, where researchers move progressively from one phase to another, scholarly learning is unlikely to proceed in a such a structured way (Dubois & Gadde, 2002). Systematic combining is a case research method that intertwines empirical data gathering and theory development by the researcher moving back and forth between the two activities, rather than gathering data first and analyzing it later (Dubois & Gadde, 2002). Systematic combining is consistent with a critical realist ontology and epistemology because it has abductive analysis at its core (Ryan et al., 2012).

In systematic combining, the researcher forms an initial analytical framework of expectations to guide the search for empirical case data and then by “confronting theory with the empirical world”, constantly modifies this framework based on the data uncovered in fieldwork and data analysis (Dubois & Gadde, 2002, p.555). Continually reorienting between research issues, analytical framework, empirical data and theory, researchers can expand their understanding of theory and phenomena under study (Dubois & Gadde, 2002). Systematic combining is an abductive process in that the researcher compares observations of a phenomenon with the “rules” of the theories that explain the phenomenon (see Figure 3-3). Where there is inconsistency, the researcher theorizes an alternate explanation and seeks further observations.

The two key activities within systematic combining are matching and direction/redirection (Dubois & Gadde, 2002). Matching involves trying to link theory with the empirical data revealed in the study, with a continuous iteration as the study progresses between framework, data sources and analysis. Empirical observations may be inconsistent with initial theoretical expectations identified in the research framework, encouraging additional data collection and alternative theoretical explanations (Dubois & Gadde, 2002). Direction/redirection involves combining alternative sources of data but unlike case study triangulation (Yin, 2009), the objective is to uncover new dimensions of the research that might necessitate a change in research direction. Figure 3-4 illustrates the components and activities within systematic combining.

Figure 3-4: Systematic combining



Source: Dubois and Gadde (2002, p.555)

The empirical world lacks the boundaries required by a research study (Dubois & Gadde, 2002). For example, processes continue after research into the processes is completed (research's artificial time boundary), and organizational borders for defining a case firm are ambiguous – for example, in knowledge-oriented firms such as internationalizing SMEs, where does firm knowledge begin and end? (Nonaka & Tyama, 2002). Systematic combining allows the precise boundaries of the case and early specification of theoretical propositions (as recommended by Yin, 2009) to be deferred, allowing emergent ideas to be tested against evidence from other sources during direction/redirection (Piekkari, Plakoyiannaki, & Welch, 2010). The researcher constantly asks “What is this a case of?” (Welch et al., 2016).

As highlighted in the theoretical framework in Chapter 2, although researchers have investigated SME internationalization patterns, they have not given much attention to competitor effects, making this research exploratory in nature. However, unlike grounded theory where the researcher starts from a relatively atheoretical perspective to generate new theory (Charmaz, 2006; Gligor, Esmark, & Gölgeci, 2016), systematic combining extends existing theory by using abductive reasoning to develop novel conceptual insights (Dubois & Gadde, 2002; Langlely, Smallman, Tsoukas, & van de Ven, 2013). Given that theories of competition and internationalization are well-established in relation to large firms, this thesis investigates these phenomena in relation to the context of SMEs internationalizing and so emphasizes contextualized theory development rather than theory generation (Edmondson & McManus, 2007), and builds from the theories outlined in the theoretical framework in Chapter 2. Having explained abduction as a means of scientific reasoning and its application within a systematic combining method, the next section details the design requirements that emerge from the research questions.

### 3.3.3 Study design requirements

Use of both abduction and systematic combining suggests that a case study design is suited to this research. Case research takes a number of forms (Bryman & Bell, 2011; Yin, 2009) so the research question guides specific design requirements. Specifically, the main research question, “How do competitors influence the success of internationalizing SMEs?” led to more specific sub-questions (see Chapters 1 and 2):

Research sub-question 1: How do internationalizing SMEs in **a given population** compete against **both large and small rivals over time**?

Research sub-question 2: How do internationalizing SMEs in **a given population** select **niches**?



Research sub-question 3: What influence do competitors have on the **development** of internationalizing SMEs?

Research sub-question 4: How do **competitors of different size and location** influence internationalizing SMEs?

Key words (in bold) in the research questions that influence the design are “a given population”, “niches”, “large and small rivals/competitors of different size and location”, “development” and “over time”. Accordingly, to address the theoretical levels and constructs, the research design needed to meet three requirements:

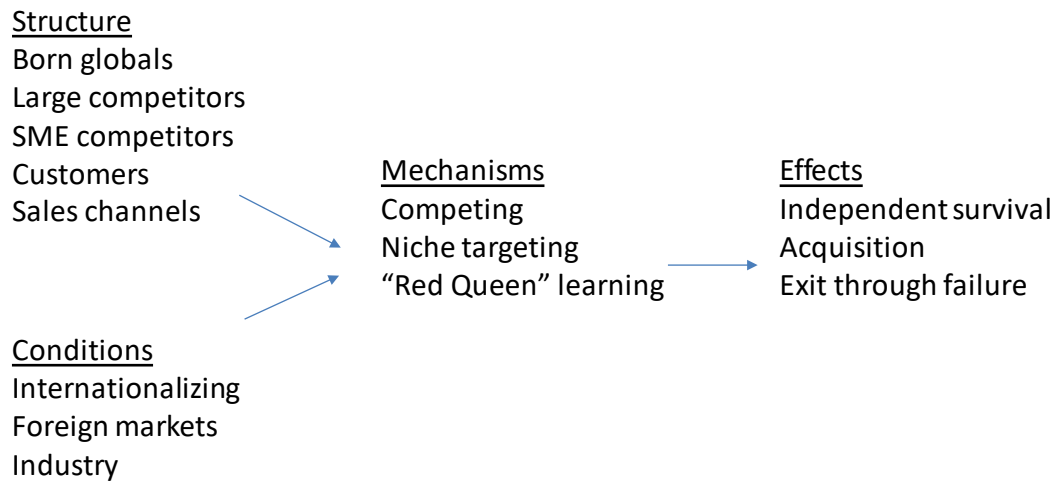
- 1) To research a population of firms related to each other within markets in order to compare firms within the same competitive context to discover and recognize mechanisms that might be operating across population and firm levels;
- 2) To consider a range of internationalizing small firms, including gradually internationalizing and rapidly internationalizing SMEs, as well as their large and small competitors, in order to compare how competitive interaction might influence firms differently;
- 3) To follow the population over time to evaluate the outcomes of competing in order to explain firm development and survival outcomes.

These requirements were mapped to the critical realist causation model (see Figure 3-1) to create the initial research framework used in systematic combining. This initial framework represents understanding prior to data gathering and was substantially modified through the course of the study<sup>6</sup>. From the research questions, the unit of analysis is the internationalizing SME, although it was initially unclear whether the speed of internationalization was salient or not. As explained later in Section 3.6.2, the unit of analysis changed as the systematic combining progressed and the causation model similarly changed. The population of related firms, including competitors, customers and sales channels made up the rest of the structure. The effects of interest were the success outcomes of internationalizing SMEs, evaluated as independent survival, acquisition or exit. Conditions that appeared to influence the mechanisms were internationalizing into foreign markets and the industry where the population operated. Systematic combining starts with preliminary expectations, so mechanisms that appeared likely from the review of extant literature to influence the outcomes were competing, niche targeting and adaptive learning. Figure 3-5 illustrates the initial causation model for systematic combining at the start of the research implementation.

---

<sup>6</sup> Specifically, the initial framework does not directly map to the Theoretical Framework presented in Chapter 2, which instead reflects the final causation model at the conclusion of the study.

Figure 3-5: Initial causation framework



Source: adapted from Sayer (2000, p.15)

A multiple case study method is suited to answering the four research sub-questions above because it allows comparison and contrast of the findings derived from each of the cases across the population (Bryman & Bell, 2011). This case study approach is described next.

### 3.3.4 Multiple case study design

To address the three design requirements outlined in Section 3.3.3, this thesis used multiple case studies of internationalizing firms in a single industry segment from a single country to develop contextualized theory on how internationalizing SMEs compete. Case studies provide the opportunity for researchers to learn about the interaction between a phenomenon and its context (Bryman & Bell, 2011; Guba & Lincoln, 1994) and are suitable for “how” and “why” questions (Eisenhardt & Graebner, 2007) such as those in this thesis, as well being an appropriate method for investigating processes (Pettigrew, 1990) which underlie competition. Case study research with a critical realist ontology is well-suited to studying industrial networks (Easton, 2010), which is the empirical context for this thesis.

However, it is important to clarify that not all case study research has the same ontology and motivation as used in this thesis. Welch et al. (2011) categorized theorizing from case studies in international business and found that inductive theory-building case studies seeking generalities, as exemplified by the positivist orientation of Eisenhardt (1989; and Eisenhardt & Graebner, 2007) were

the prevalent type with testable propositions as their outcomes. Natural experiments seeking causes, as exemplified by the positivist orientation of Yin (2009), were also common with inductive cause-effect linkages as outcomes. However, these inductive theory building and natural experiment case studies isolated the contexts from the causes. Welch et al. (2011) identified a number of case studies based on critical realism where contextualization was successfully integrated with causal explanation. This type of case study searched more subjectively for causes, but as a consequence was limited in how the research outcomes could be generalized. Nonetheless, critical realist case design offers a means of:

“... reconciling context and explanation by acknowledging the complexity of the social world, the bounded scope and contingency of causal relationships, and the simultaneous operation of multiple interaction effects. The possibility of such a reconciliation is also an abiding theme in IB, given that as a field its *raison d'être* is to explain phenomena in diverse national, cultural and institutional contexts.” (Welch et al., 2011, p.756)

McGrath (1981) noted that a single piece of research could not simultaneously maximize its generalizability to populations and precision in control and measurement of behavior, while achieving contextual realism. The case study design used in this thesis trades generalization and measurement precision for depth of contextual explanation. The next section explains how the industry and cases for study were selected.

### **3.4 Industry-based case selection**

Previous studies of internationalizing SMEs have often used case study methods to compare the characteristics of clearly successful SMEs across multiple industries. Such cross-industry sampling has a number of limitations. Firstly, by separating SME cases from their competitive context, the impact of the environment on firm processes cannot be understood (Fernhaber et al., 2007). Secondly, there is an inherent survivor bias in selecting only successful SMEs (Denrell, 2003; Nummela et al., 2016) because it is unclear whether unsuccessful SMEs also followed the same processes. Thirdly, researchers lack universally-agreed definitions of success for internationalizing SMEs (Cesinger et al., 2012) with predefined “success” thresholds of speed, scale and scope of internationalization acknowledged as arbitrary (Crick, 2009; Knight & Cavusgil, 2004) and lacking contextual embeddedness (Cesinger et al., 2012).

Instead of cross-industry sampling, this thesis uses case studies of all the internationalizing firms in a single industry segment in a single country to develop theory on how competitors influence internationalizing SMEs. The approach taken in systematic combining is similar to theoretical



sampling in grounded theory (Charmaz, 2006; Dubois & Gadde, 2002); in this case deliberately selecting a population of competing firms for study that were likely to replicate or illuminate extant theory (Eisenhardt, 1989). Investigating all firms in an industry segment provides the means to understand the competitive dynamics of firms within their environment while maintaining a perspective of all the competitors (McKendrick, 2001). This single industry census design also avoids preselecting cases according to size, speed, scale and scope thresholds (see Section 2.3.1) because all firms are included, regardless of their performance outcomes. The approach for selecting the country and industry is described next.

#### 3.4.1 Selection of country and industry

For practicality, the industry selected needed to operate in New Zealand (NZ), given the researcher's location and limited budget. This is not a research limitation, however, since NZ is recognized as an ideal country for conducting research into internationalization because of its small and open market (Chetty & Campbell-Hunt, 2004; Gerschewski, Rose, & Lindsay, 2015). Further, because the small domestic market constrains growth, firms in NZ are motivated to expand to foreign markets. NZ is small enough to gather data on all the firms in an industry sector yet, in technology industries, NZ firms are able to compete in global markets.

To select a suitable industry sector as a research context, the annually-produced report on the 200 largest technology exporting firms in NZ by the Technology Investment Network (2011) was analyzed to identify industry sectors with multiple internationalizing firms. The desired characteristics of the sector for investigation were:

- a) At least five years old to give time for SMEs to start up and mature (to reach outcomes of acquisition or independent survival) (Gabrielsson et al., 2008);
- b) New enough that the industry had not already consolidated (Suarez & Utterback, 1995);
- c) Not so old that any failed firms had been forgotten, or that the people involved would be difficult to find, or have difficulty recalling the early history of the industry (Golden, 1992; Huber & Power, 1985);
- d) Technology-based, business-to-business markets because these are where internationalizing SMEs are typically found (Aspelund & Moen, 2012; Fernhaber et al., 2007);
- e) Active competition rather than passive “pull” sales through a website. To enable the development of theoretically-useful case studies, the firms in the sector needed to have considered who their rivals might be, and have encountered them, in order to provide substantive data (Dubois & Gadde, 2002; Eisenhardt, 1989), along with;

- f) Global markets rather than nationally-specific markets characterized by strong formal institutional influences such as regulations or specific market structures that might distort the nature of competition, and;
- g) Containing both NZ and international firms in the domestic market to ensure internationalizing SMEs were potentially exposed to a mix of large and small, domestic and foreign competitors (see Section 3.3.3).

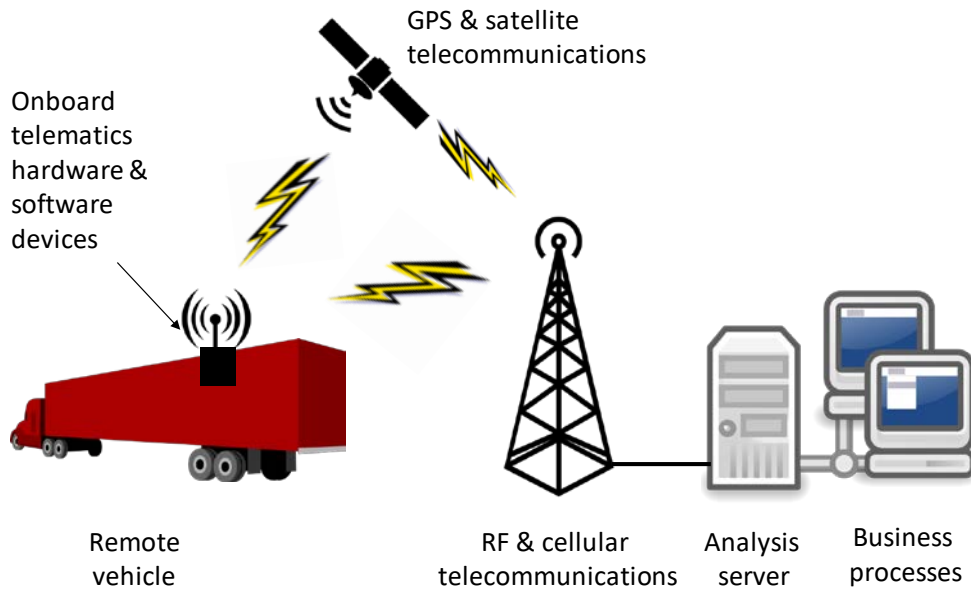
Three possible industry sectors were identified; navigation and tracking systems, new battery-related technology, and titanium powder technologies. However, after further investigation through secondary sources, the latter two industry segments were eliminated because they were found to be in early formation, with much of the NZ sector still associated with university start-ups, and with insufficient evidence of internationalization.

Fleet Management Systems (FMS) (also known as telematics), a sub-segment of the navigation and tracking system industry, was selected as the research context. FMS combine specialized hardware devices installed in vehicles, cellular data communications, GPS tracking, and internet-based software to create integrated systems for the remote management of trucks and other high-value assets. Real-time data about vehicle location and vehicle operating diagnostics (such as engine, vehicle weight, braking, acceleration, fuel consumption, temperature) are transmitted via mobile telecommunications or satellite networks to powerful centralized servers for analysis. Figure 3-6 shows how FMS systems operate. Appendix A contains an overview of FMS technology, vertical industry applications and the industry and market structures in NZ, Australia, US and Europe.

FMS was selected as a research context because it is international in scope and the sector had developed over 15 years in NZ, allowing time for individual firms to prosper or fail. The first firm to build a sustainable business selling vehicle tracking technology using GPS appears to have been established in the UK in 1996. A leading technology analysis firm first noted wireless fleet tracking technologies in 1997 and began tracking FMS as an emerging technology in 2003 (Gartner Group, 1997, 2003). The first New Zealand FMS firm formed in 2000 and NZ subsequently generated a large number of firms in FMS relative to its small domestic market size. A number of different types of internationalizing firms including NZ-owned Born Globals and gradually internationalizing SMEs could be identified at the start of the research. Several firms had been successful at penetrating large international markets, demonstrating that significant opportunities for NZ-based internationalizing SMEs in the FMS sector were both available and achievable. Several multinational firms involved in FMS had established sales offices in NZ. FMS technology has global customer potential across organizations with fleets of vehicles, ranging in size from SMEs to multinationals and FMS appear relatively unconstrained by institutional or regulatory factors that might cause large variations across

foreign markets by using publically available Internet, GPS services and digital telecommunications carriers.

Figure 3-6: Fleet Management Systems



Born Globals (Cavusgil & Knight, 2015) and internationalizing SMEs more generally (Buckley, 1997; Coeurderoy, Cowling, Licht, & Murray, 2012; Crick & Jones, 2000) have been associated with innovative, high-technology industries, and in recent year FMS has been a forerunner industry of the current global technology trend towards the “Internet of Things” (IoT)<sup>7</sup>; networks of embedded sensors within everyday items enabling greater product automation capabilities, including monitoring, control, optimization, and even autonomy. Porter and Heppelmann (2014) argued that the IoT would act as the catalyst for a new wave of competition by altering industry structures, reshaping industry boundaries and exposing firms to new competitive opportunities and threats. Accordingly, FMS not only met the characteristics of a suitable sector for researching SME internationalization, it was a relevant and contemporary industry. The next section explains how the case firms were identified.

---

<sup>7</sup> Clem Driscoll (Industry analyst), Keynote address, Connected Fleets Conference, Atlanta, 2014.

### 3.4.2 Identification of case firms

The case design is a census of all the internationalizing firms in the FMS industry in NZ, so case firms were not sampled or selected but instead identified as being within that population. This identification process is described in this section.

The birth of the FMS industry in NZ occurred in 2000 with the formation of three firms around that time. By 2014, about 25 firms were active in the FMS sector in the NZ market, although only half of these were international in scope (both NZ-heritage firms and foreign MNEs operating in NZ). The other firms were either resellers of overseas technology or treated FMS as a minor segment within their domestic product range, and none had a substantial domestic market share or was influential in the industry's development. The 13 internationalized firms that make up the population investigated in depth in this thesis were identified from desk research and during the case research process where firms identified their key competitors over time (see Sections 3.5.1 and 3.5.4). Accordingly, two of these cases are of "failed" firms: an MNE that failed internationally but whose local operations were bought by another MNE; and a NZ SME that exited the FMS industry due to competitive pressure but survived and internationalized in another industry sector.

As described in Section 2.6, industry boundaries are ambiguous. In this thesis, a shorter list of industry participants was initially compiled by the researcher through desk research based on product definitions of the industry. This list was extended through the initial interview phase to add those firms identified by respondents as being in the FMS industry and attempting to internationalize. Accordingly, the list of the internationalizing firms in the FMS sector was compiled from both an external perspective and the perspective of industry participants.

A research target was to interview the key managers within all of the 13 internationalized firms identified as being in the NZ industry, but three firms were unwilling to be interviewed. Nevertheless, these firms are still included within the study because extensive public information was available on one firm, and an interview from a founder who had since left the firm provided information on another's early years. The third firm has become one of the most successful FMS firms in the US. Other research participants were able to provide detailed information about the three firms as rivals, and this data was corroborated across multiple respondents. The next section describes the data gathering approaches used.

## 3.5 Data collection

Field investigation in systematic combining is iterative (Dubois & Gadde, 2002; Ryan et al., 2012), although the following section presents the data collection approach used in this study as linear by first outlining the initial development processes, followed by the two phases of primary data collection, secondary data collection and concluding with verification procedures. Data were gathered primarily in NZ in 2014 to 2016, but also in the US in 2014.

### 3.5.1 Desk research

Desk research was conducted on the FMS industry and its participants in NZ, Australia, Europe and the United States (US), starting with technically-oriented industry analysis by Gartner Group (2012). This identified major suppliers of FMS technology in the US and Europe. Building from the Technology Investment Network industry directories (2011-2014), internet searches and the results of news searches about the FMS industry in NZ (Dow Jones, 2015), an initial list was compiled of FMS firms in NZ, with this list subsequently refined and extended as the research progressed. To initially determine which firms had internationalized, firm websites were reviewed, seeking mention of activities or branches in other countries. Additional secondary data was gathered throughout the research project.

### 3.5.2 Interview guide

The initial interview guide was based on competition from a Red Queen evolutionary theoretical perspective (Barnett, 2008) and competitive dynamics (Chen, 1996), with broad open-ended questions about how competitors had influenced respondents' firms. The questions and conceptual motivations are shown in Table 3-1. Consistent with the matching and direction processes of the structured combining method (Dubois & Gadde, 2002), with iterative data gathering, analysis and redirection as the study progressed, a tightly structured interview guide was unnecessary because the interviews adapted over time as aspects identified in earlier interviews were probed. Interview questions were piloted with an experienced manager in a different industry to get feedback on the interview approach. No changes were required.

Variations on this interview guide were used for interviewing managers from the three MNEs operating in NZ, managers in New Zealand Trade and Enterprise (NZTE, the government's export trade body) and consultants (see Appendix B). The questions sought similar information but from the perspective of that respondent within the industry.

Table 3-1: Phase 1 questions for SME managers

Question	Conceptual motivation	References
1. What is the history of (your firm)? How has (your firm) developed since start up?	Broad introduction allowing respondent to tell the story in their own way and identify what was important in their firm's history without prompting	(Bryman & Bell, 2011; Kvale, 1996; Wengraf, 2001)
1.a. What prompted you to sell internationally?	Antecedents to internationalization	(Fan & Phan, 2007; Kuivalainen et al., 2012)
2. Who are / were your main competitors? ( <i>prompt and clarify geographic locations, product-markets</i> )	Identification of salient competitors and competitive context	(Porac & Rosa, 1996; Porac et al., 1989)
3. As your firm grew, did your competitors change? If so, how?	Identification of salient competitors Identification of salient characteristics	(Porac & Rosa, 1996; Porac et al., 1989)
3.a. What events prompted the changes? ( <i>probe for changed strategies and key events by existing competitors as well as new competitors</i> ).	Contextual and processual influences on competition	(Suarez & Utterback, 1995; van de Ven, 1992; van de Ven & Poole, 2005)
4. Which competitors did you specifically address in your business plan?	Did SMEs have a business plan that addressed competitors? Competitive dynamics (awareness, motivation) Rechecking salient competitors	(Chen, 1996)
4.a. What strategies did you implement in relation to competitors?	Competitive dynamics (response), Red Queen response	(Barnett, 2008; Chen & Miller, 2012)
5. How did your sales channel partners and alliance partners assist you in identifying and responding to competitors?	Influence of third parties in internationalization	(Gabrielsson & Kirpalani, 2004; Zucchella & Palamara, 2006)
5.a. Did any other organizations assist you in identifying and responding to competitors?	Influence of third parties in internationalization	(Freeman et al., 2006; Zettinig & Benson-Rea, 2008)
6. Can you describe a time when a competitor won a deal you expected to win yourselves? ( <i>if time</i> )	Seeking detailed examples of how SMEs competed	(Dubois & Gadde, 2002; Easton, 2010)
7. Can you describe a situation where you had to rapidly change (your firm's) strategy in response to a competitor's action? ( <i>if time</i> )	Seeking detailed examples of how SMEs competed	
8. What was the most damaging thing a competitor did?	Seeking detailed examples of the extent of competitor influences	
9. In summary, how have competitors most influenced (your firm's) development and success?	Respondent priorities	(Porac & Rosa, 1996; Porac et al., 1989)

10. Who else could I speak to in (your firm) who could provide a perspective on competitors?	Checking seniority of respondent	
11. Can you think of any small start-up firms in FMS that were acquired or went out of business? Do you have the contact details of their managers?	Checking framework of FMS industry in NZ	
12. Can you suggest the names of people in other firms or your alliance partners who could give me their perspectives of the FMS sector?	Seeking introductions for additional interviews Checking close relationships between manager and other firms in industry	

### 3.5.3 Ethics procedures

Procedures to ensure ethical standards within the research were planned, submitted to The University of Auckland Human Participants Ethics Committee for review and approval gained on May 3, 2014 (Ref 011702). Respondents were sent a Participant Information Sheet (PIS) prior to interview and asked to sign a consent form indicating they understood the research objectives and their options. The respondent PIS and consent form are in Appendix C.

Given the intense competition among the firms in the study population, maintaining the confidentiality of firms and respondents was critical. Because the FMS industry in NZ is small, respondents could infer which other firms were likely to be in the study, so in this thesis the case firms are referred to by code names and care has been taken not to identify which firm is which. Other procedures to protect confidentiality were using a transcriber in another country, having the transcriber sign a confidentiality agreement, and maintaining strict control of data and transcripts under lock and key and electronic passwords. Somewhat mitigating confidentiality concerns is the two- to three-year time lag between gathering the data and publishing this thesis so in the rapidly changing business environment of FMS, any strategies revealed to the researcher would now have been implemented and possibly superseded.

### 3.5.4 Interviews Phase 1

Interviews were conducted in two phases, involving a total of 33 interviews with respondents from a range of perspectives, as summarized in Table 3-2:

The initial invitation to participate in Phase 1 of the research was made via email to the most senior manager, explaining the research, emphasizing its value to the technology industry in NZ and

attaching the PIS. In most cases, there was no response to the email invitation and so after two weeks a follow-up was made by phone via the main switchboard of the firm. In some cases, a phone conversation gained a positive response to participate but in others, it took multiple phone messages, follow-up emails as well as introductions through third parties to reach the key people in the firms. One publically listed firm declined to take part because of confidentiality concerns and this may also be due to NZ Stock Exchange regulations that associate research with making public statements. A second firm initially agreed to participate but then withdrew, also citing confidentiality concerns. The key NZ manager in a third firm could not be reached despite repeated phone messages, as well as introductions via the firm's US staff and the US Chamber of Commerce in NZ. Given the extent of these efforts over the course of a year, the conclusion must be that this manager did not want his firm to participate.

Table 3-2: Respondent categories

<b>Respondent category</b>	<b>Phase 1</b>	<b>Phase 2</b>
Senior managers of NZ firms	9	5
Local managers of international firms	2	0
Managers in firms no longer in FMS industry	3	0
Foreign competitors	6	0
Industry consultants; government export agency	8	0
<b>Total</b>	<b>28</b>	<b>5</b>

In the first phase of interviews, in-depth interviews were conducted with senior managers in NZ firms, managers of MNEs operating in NZ, NZ industry consultants, and managers in New Zealand Trade and Enterprise. Most of these interviews occurred between August and October 2014, but three further interviews were conducted in March and April of 2015. In face-to-face interviews lasting 60 to 90 minutes (plus three Skype interviews), managers described the history of their firm, their key competitive strategies, their competitors' strategies and the impact of competitors on their business. Firms that appeared to be less influential in the market were deliberately selected for the first two interviews in case the interview approach was unable to elicit the detailed data sought, thus giving an option to reformulate the approach before interviewing managers from more influential firms. After conducting and transcribing these two initial interviews, minor changes to the interview guide were made.

The first interviews were semi-structured, following the interview guide in general (see Table 3-1). The exact wording of the questions varied in each interview, in response to the respondent's prior comments. Additional probes clarified respondent comments. As Phase 1 progressed, the interviews



became less structured to allow the respondent to set the direction of the interview and the researcher asked follow-up questions to ensure all the points in the interview guide had been covered. Following the structured combining method (Dubois & Gadde, 2002), new areas were probed based on the comments analyzed from prior data collection (e.g. “Why have so many FMS firms emerged in NZ?”) and specific questions asked about individual competitor strategies in relation to the respondent’s firm (e.g. “Why has your firm not developed capabilities in RUC reporting for the NZ domestic market in response to Firm X?”).

Towards the end of each interview, all respondents were asked to identify firms that were no longer in the industry. This was to capture “failed” firms that may have been overlooked in preliminary analysis and to verify the list of internationalized firms from NZ. LinkedIn (2014) was used to find managers from two key firms that had exited the industry, whom were then sought out and interviewed. The competitors that respondents discussed in the interviews confirmed that the list of firms in the FMS industry was complete.

### 3.5.5 Connected Fleets industry conference

In November 2014, the researcher attended the three-day Connected Fleets/Telematics Update conference in Atlanta, USA, which is the major US industry conference in the FMS sector. The conference attracted about 200 marketing and engineering managers and a small tradeshow ran concurrently. Attending this conference provided awareness of contemporary industry trends and issues from the perspective of industry experts external to NZ. As is detailed later in the findings (and in Appendix A), the US is the world’s largest country-market for FMS technology so the US industry has an influence on competition elsewhere in the world. A number of internationalizing NZ SMEs case firms had entered the US market.

During this event, shorter interviews were conducted with six US-based senior managers from four US-owned companies in FMS. These firms would be large firm competitors of any NZ firms that entered the US, albeit indirect competitors. Three US industry consultants were also interviewed. All interviews focused on their knowledge of NZ firms in the FMS sector and the potential for NZ firms to be successful in the US. Conference presentations by industry experts were recorded and, where relevant to the research, transcribed.

### 3.5.6 Interviews Phase 2

In late 2015 and early 2016 (12-15 months after the first phase) follow-up interviews were conducted with five NZ SME firms from Phase 1. There was no reason to re-interview managers from the two

firms that had exited the industry or the two currently operating MNEs. No new internationalized firms had entered the NZ industry in the intervening period.

Interviews in the second phase were conducted in a semi-structured format. Questions addressed changes in the firm over the previous 12 months, changes in competitors and allowed specific follow-up questions to be asked in relation to themes that had emerged during analysis of data from Phase 1. Phase 2 questions are shown in Table 3-3:

**Table 3-3: Phase 2 questions for SME managers**

<b>Question</b>	<b>Conceptual motivation</b>	<b>References</b>
1. How has your company changed over the last year?	Broad introduction allowing respondent to identify what was important in their firm during previous year without prompting	(Bryman & Bell, 2011; Kvale, 1996; Wengraf, 2001)
2. Who are your current domestic competitors?	Changes in salient competitors	(Porac & Rosa, 1996; Porac et al., 1989)
3. Who are your overseas competitors?	Changes in salient competitors	(Yu, Wang, & Brouthers, 2015)
4. What are the characteristics of competitors that matter for your firm? How do you identify who a competitor is?	Criteria in identifying salient competitors	(Porac & Rosa, 1996; Porac et al., 1989)
5. How have your target markets changed?	Strategic changes	(Zucchella & Palamara, 2006)
6. What impact has the Telematics Alliance had on your business?	Probe on competitive alliances in NZ industry	(Chetty & Wilson, 2003; Freeman et al., 2006)
7. Is the NZ fleet management/telematics industry in a consolidation phase? Why?	Probe industry evolution	(Fernhaber et al., 2007; Hannan & Freeman, 1989; Suarez & Utterback, 1995)
8. What resources are critical to you in foreign markets?	Probe factor resources	(Markman et al., 2009, 2011)
9. How have you built your reputation in foreign markets?	Probe legitimacy	(Bangara et al., 2012; Fernhaber & Li, 2010; Suchman, 1995)
10. What are the current issues for the fleet management/telematics industry?	Probe salient strategic issues	(Barreto & Baden-Fuller, 2006; Garud & Van de Ven, 2002; Porac et al., 1989)
11. Where do you expect the global industry to head next?	Probe industry evolution, expected changes in salient competitors	(Ocasio, 1997; Suarez et al., 2015; Suarez & Utterback, 1995)
12. Revenue, connections and staff numbers 2010-2015	Verify performance data	

### 3.5.7 Summary of primary data collection

The spread of interviews in the 13 case firms and other sources for both Phase 1 and Phase 2 are shown in Table 3-4. Code names are used to de-identify the firms. External case interviews were with managers no longer employed at that firm or knowledgeable third parties. Primary data collection generated over 30 hours of audio recording and 510 pages of transcripts.

Table 3-4: Interviews by case and research phase

Case firm	Phase 1			Phase 2			Study total
	Internal	External	Total	Internal	External	Total	
<i>Avro</i>	1	1	2	1		1	3
<i>Bulldog</i>	1		1	1		1	2
<i>Comet</i>	1	1	2				2
<i>Dakota</i>	0	1	1				1
<i>Eagle</i>	2		2				2
<i>Fairey</i>	1		1				1
<i>Gloster</i>	1		1	2		2	3
<i>Heron</i>	1		1	1		1	2
<i>Javelin</i>	1		1				1
<i>Kestrel</i>	1		1				1
<i>Lancaster</i>	0		0				0
<i>Meteor</i>	0	1	1				1
<i>Nimrod</i>	0		0				0
<b>Consultants/ analysts</b>		8	8				8
<b>Intl competitors</b>		6	6				6
<b>TOTAL</b>	<b>10</b>	<b>18</b>	<b>28</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>33</b>

### 3.5.8 Secondary data sources

Public information on all firms was sought by extensively searching the internet. Sites methodically reviewed were: case firm websites, Factiva international press articles (Dow Jones, 2015) and the New Zealand Companies Office (2015). Glassdoor (2015) provided employee reports on larger companies and a number of documents detailing ownership of foreign operations were found on statutory databases in Australia and the US (Australian Business Register, 2015; United States Securities and Exchange Commission, 2015). This secondary research generated over 250 documents to verify

information gained in interviews or provide additional insight. These documents were catalogued according to year, firm and country. Table 3-5 lists the sources investigated.

Table 3-5: Secondary data sources

<b>Case firm</b>	<b>Factiva</b>	<b>NZ Co. registration database</b>	<b>Glass-door</b>	<b>Other web searches</b>	<b>Intl Co. registration databases</b>	<b>Total</b>
<i>Avro</i>	519	9	12	15		555
<i>Bulldog</i>	8	8	0	5		21
<i>Comet</i>	100	30	0	10		140
<i>Dakota</i>	303	22	1	135	4	465
<i>Eagle</i>	107	20	0	20	2	149
<i>Fairey</i>	146	15	25	20		206
<i>Gloster</i>	93	15	1	15	2	126
<i>Heron</i>	187	12	0	10		209
<i>Javelin</i>	53	15	0	5		73
<i>Kestrel</i>	164	8	0	15		187
<i>Lancaster</i>	161	20	1	25		207
<i>Meteor</i>	907	15	1	10		933
<i>Nimrod</i>	308	9	40	55	3	415
<b>Other competitors</b>			20	250		270
<b>Total</b>	<b>2537</b>	<b>189</b>	<b>89</b>	<b>575</b>	<b>11</b>	<b>3401</b>

In summary, data collection involved a census study of the population of internationalized firms in the FMS sector operating in NZ since the birth of the industry in 2000 (including firms that failed or exited). By including “failed” firms, survivor bias was eliminated. The section concludes by describing how this data was verified and triangulated.

### 3.5.9 Data verification

Interviews were recorded and the researcher took notes on key points as a backup in case the recording failed (although all recordings were audible). In total, over 30 hours of recordings were transcribed by an independent person and then checked and corrected by the researcher against the interview recordings. Transcripts were returned to respondents for review. Although none chose to modify any of the transcripts, several respondents asked for particular details, such as the names of

particular customers, not to be recorded so additional code names were used in some transcripts. Their concern emphasized the competitive intensity and commercial sensitivities of the FMS sector in NZ.

During interviews, respondents were asked about the present and future of their industry, but also to provide retrospective reports about their firms' history and development. Retrospective reports potentially contain inaccurate or biased data (Golden, 1992) because respondents are motivated to present themselves in a positive light or because of individual perceptual and cognitive limitations such as imperfect recall or hindsight bias (Huber & Power, 1985; Podsakoff & Organ, 1986). To minimize this, a number of the strategies recommended by Huber and Power (1985) were applied: attempting to identify the person most knowledgeable about the issue of interest such as the entrepreneur who started the firm or members of the senior management group, encouraging factual information within the questions, encouraging respondents to provide accurate information by stressing that the research would contribute to the development of NZ's IT sector, asking follow-up questions to probe answers and challenging answers that appeared inconsistent with what was known to the researcher through other sources.

Inevitably, within the SMEs investigated in this research, only a few people have the requisite knowledge to comprehensively answer questions about firm competitors and strategy: potentially only the CEO or most senior sales manager. This implies that some case findings necessarily rely on internal data gained from a single respondent but that these singular views may be more insightful in answering the research question than interviewing a variety of less knowledgeable respondents. Although the cases in this study that rely on a single respondent are no less valid than those with multiple respondents (Llewellyn & Northcott, 2007), a risk of single source bias remains (Podsakoff & Organ, 1986). To mitigate this, multiple interview sources were gained in four of the eleven case firms interviewed (two case firms had no interviews), including interviews with managers who were no longer with the firm and potentially were less motivated to misrepresent the situation (Huber & Power, 1985). Additionally, respondents were encouraged to comment about their competitors. By comparing the data from within a firm with data about the firm from their competitors as well as from knowledgeable independent observers such as consultants and government trade specialists, multiple perspectives were gained of all firms in the population to reduce the risk of single source bias (see Table 3-1).

Jick (1979) described triangulation as using multiple methods to generate data on the same phenomenon to test external validity as well as using different techniques within a single method to check internal consistency or reliability. In this study, the latter approach of using different techniques for reliability within the case study method was employed, with qualitative interviews partially validated by secondary data. No instances were uncovered where information from interviews was inconsistent with secondary sources; participants appear to have either provided as accurate

information as they were able, or declined to answer a question they felt was too sensitive. Having described the data collection methods, the next section considers how this data was analyzed.

## **3.6 Data analysis**

Ryan et al. (2012) identified analysis as the third of the four main research tasks in abductive case study research and causal explanation as the fourth. This section describes the processes for analyzing the data collected as well as the progression through multiple iterations of systematic combining to uncover causes.

### **3.6.1 Analysis processes**

To generate abductively-reasoned theory, three recursive analysis methods are needed (Timmermans & Tavory, 2012). “Revisiting” the case involves researchers in constantly re-experiencing the interviews and ideas expressed by respondents, “de-familiarization” forces researchers to separate from the taken-for-granted in order to explain the results to an outside audience and “alternative casing” encourages researchers to seek different conceptual and theoretical frameworks for any anomalies observed (Timmermans & Tavory, 2012).

Transcripts were entered into NVIVO qualitative analysis software. All competitor references were coded, along with major themes of acquisition, competitive environment, customers, major events, geographic markets, pricing, resources, and survival, which provided a detailed knowledge of the transcript data. Coding occurred as the study progressed, allowing ongoing matching between empirical findings and theory (Dubois & Gadde, 2002). Using data from Phase 1 transcripts and combining this with secondary data, the researcher wrote case reports on all thirteen firms, and updated these after Phase 2 with more recent events. These analysis steps encouraged “revisiting” the case (Timmermans & Tavory, 2012).

At the end of Phase 1 interview data collection, all transcripts were recoded to drill down into emerging themes to create subcategories. Major themes were extended to social networks, performance, sales channels, vertical markets and NZ-specific factors influencing the industry. The final coding set is shown in Appendix D. A number of conference papers were written to interpret the findings from different theoretical perspectives and levels and these have continued to be developed and rewritten to become Chapters 4 to 7 in this thesis. These activities encouraged “de-familiarization” while insight-driven re-coding and applying different theoretical explanations in papers encouraged “alternative casing” (Timmermans & Tavory, 2012).

Major events in the development of each case firm were entered into timeline diagramming software. Events included firm foundation, first sales, first internationalization, ownership changes, mergers and exits. This data was gathered initially through interviews and then verified through secondary sources. Timeline analysis highlighted that the industry in NZ had gone through a number of phases (detailed in Chapter 6), with clustering of firm entry and internationalization. Often, however, respondents could not identify precisely when events occurred in their retrospective recounts of firm development, even at the “year” level of precision. Given this temporal unreliability, event analysis could not be extended into a full process analysis of other events in firms’ histories.

Network diagrams of the competitive relationships acknowledged by firms were developed from the interview data. Over the course of the study, these were adapted to better illustrate how these relationships changed, eventually applying the diagramming technique used by Porac and Rosa (1996) to display rivalry networks (see Chapter 6). This layout best represented changes in competitive relationships over time and allowed visual separation of domestic and internationally-located rivals.

Gathering reliable and comparable performance data on the case firms was difficult. Privately held firms have no reason to publish any performance data and publically listed firms did not report performance at the level of detail needed to make comparisons with other case firms. Tables of data were compiled from secondary sources (where available) on global revenue, global staff, share of international revenue in relation to NZ domestic revenue, target markets, and countries where operational (including via channels) by year and noting the data source. In Phase 2 interviews, managers were asked to comment on the data gathered on their firm and respondents indicated either this data was generally accurate or provided additional information to correct it or fill in gaps. Nonetheless, the performance data gathered was incomplete, particularly in earlier time periods. As the study progressed, however, it became clear that publishing detailed data on case firm performance in this thesis risked causing commercial damage to some firms. Accordingly, only 2014 data is provided in Chapters 4 and 5 and performance data over time is summarized into qualitative categories in Chapter 6 to convey order-of-magnitude performance differences for data that are not central to the thesis.

Data analysis occurred as the study progressed. The progression of systematic combining meant analysis drove data collection and theory building, as detailed next.

### 3.6.2 Progression of systematic combining

Because systematic combining does not follow a linear progression but instead moves back and forth between one type of research activity and another, and between empirical observation and theory,

researchers must be actively involved in directing the next steps (Dubois & Gadde, 2002). This requires a knowledgeable and reflexive researcher, able to reason abductively:

“Abduction... depends on the researcher's cultivated position. The disposition to perceive the world and its surprises—including the very reflection on one's position in this world—is predicated on the researcher's biography as well as on an affinity and familiarity with broader theoretical fields... Unanticipated and surprising observations are strategic in the sense that they depend on a theoretically-sensitized observer who recognizes their potential relevance.” (Timmermans & Tavory, 2012, p.173)

Accordingly, the researcher's previous experience as a senior marketing manager in internationalized high-technology firms contributed to this study by generating credibility and rapport with respondents, which encouraged them to offer a greater depth of data than business generalities. This background also allowed recognition of subtle variations in the business practices that each respondent described and inconsistencies within their narrative that could be probed with further questions. Far from reducing objectivity, this “cultivated position... (and) biography” as an experienced international manager allowed insights that may have been missed by a researcher with a purely academic background.

The processes of matching and redirection involved in systematic combining (Dubois & Gadde, 2002) meant the research framework was constantly being modified and redirected as the study progressed. Table 3-6 lists some of the most significant theories that were considered against the data, although not all found a place in the final thesis. While many theories provided partial answers to the research questions, no theory offered a comprehensive explanation of the empirical data.

The research framework went through several iterations of tightening then loosening then tightening again (Dubois & Gadde, 2002). In particular, matching the level of research and the theories was difficult: specifically, whether to treat case firms as a population or as individual organizations. Entrepreneurial theories encouraged consideration of the personal characteristics and motivations of individual managers. There were also changes in defining what some of the firms “were a case of” (Welch et al., 2016): as International New Ventures (Oviatt & McDougall, 1994) Born Globals (Knight & Cavusgil, 1996) or more loosely as internationalizing SMEs.



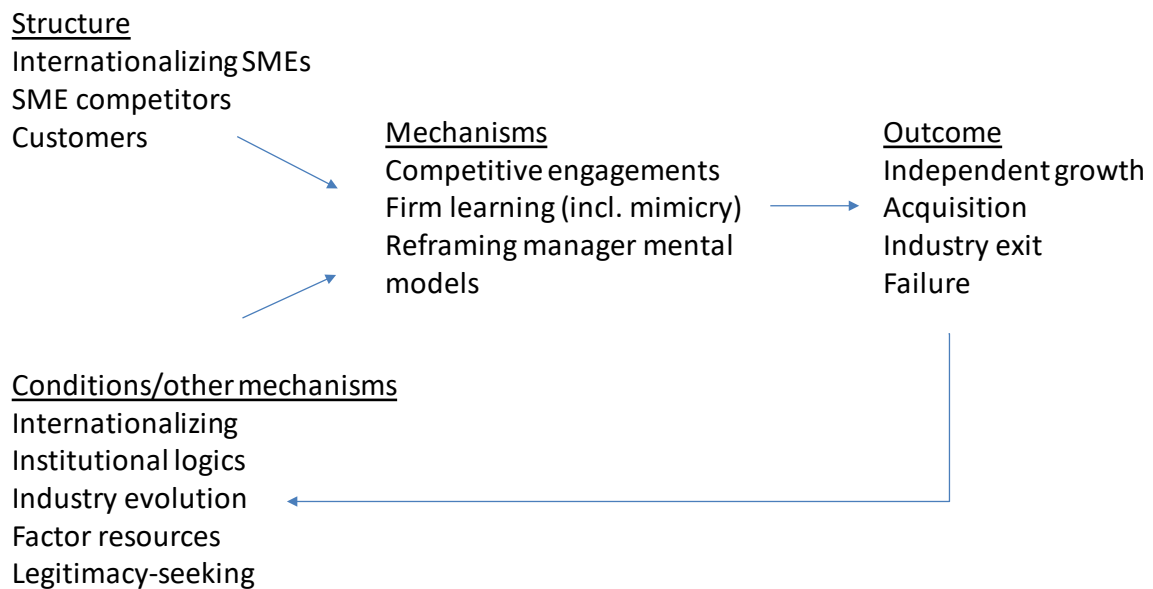
Table 3-6: Aspects considered within systematic combining in this research

	<b>Aspects considered during matching and redirection</b>	<b>Key sources</b>
<b>Framework</b>	Level: population, firm, individual	(Geels, 2010; Klein, Dansereau, & Hall, 1994)
	Process motors	(van de Ven & Poole, 1995)
<b>Theory</b>	Evolutionary	(Abernathy & Utterback, 1978; Barnett & Hansen, 1996; Carroll & Hannan, 1989; Hannan & Freeman, 1977)
	Competitive strategy	(Barnett & McKendrick, 2004; Chen & Hambrick, 1995; Easton, 1988; Medlin & Ellegaard, 2015; Porter, 1980; Sirmon, Hitt, & Ireland, 2007)
	Resource / economic	(Audretsch et al., 1999; Barney, 1991; Markman et al., 2009)
	Punctuated equilibrium	(Tushman & Romanelli, 1985)
	Business networks	(Burt, 1992; Håkansson & Snehota, 1995)
	Institutional	(Aldrich & Fiol, 1994; DiMaggio & Powell, 1983; Thornton et al., 2012)
	Learning	(Denrell, 2003; Lieberman & Asaba, 2006; Terlaak & Gong, 2008)
	Niches	(Dalgic & Leeuw, 1994; Zucchella & Palamara, 2006)
	Framing/mental models	(Giddens, 1984; Porac & Rosa, 1996; Porac et al., 1989; Purdy & Gray, 2009)
	Entrepreneurship	(Sarason et al., 2006; Sarasvathy, 2001; Shane & Venkataraman, 2000)
	Internationalization process	(Johanson & Vahlne, 1977, 2009)
	International entrepreneurship	(Chetty & Campbell-Hunt, 2004; Gabrielsson et al., 2008; Oviatt & McDougall, 1994; Sapienza et al., 2006)
	<b>Case</b>	Internationalizing SME definitions
Respondent and firm conceptions of time		(van de Ven & Poole, 2005)
Respondent perspectives: Firm position in industry, respondent position in firm		(Sandberg & Tsoukas, 2011; Tsoukas, 1989; Tsoukas & Chia, 2002)
<b>Empirical world</b>	Location: Market /industry/country	(Parolini, 1999; Storbacka & Nenonen, 2011)
	Technology	(Porter & Heppelmann, 2014)

The iterative abductive research process concludes with causal explanation (Ryan et al., 2012). By the completion of the analysis and writing up stages, the initial critical realist causation model (Sayer, 2000) developed at the start of the study (Figure 3-5) had changed substantially. The unit of analysis had become the internationalizing SME and the structure had simplified into the triad of internationalizing SME, SME competitors and customer. Evolutionary and institutional factors represented the conditions influencing mechanisms of competitive engagements, firm learning and

mental model framing. The outcomes were refined into independent growth, acquisition, industry exit and firm failure. Figure 3-7 shows the final causation model, which is explicated in detail in Chapters 7 and 8.

Figure 3-7: Final causation model



The next section compares the method used in this thesis against case study best practice in IB and industrial marketing.

### **3.7 Best practice case studies**

Researchers have analyzed what makes for “good” case research. Piekkari et al. (2009) concluded that the disciplinary convention in IB was implicitly positivist with reliance on Yin (2009) and Eisenhardt (1989) for its philosophical foundations but recommended, however, that researchers be more reflexive in their use of case studies to go beyond these methodological conventions. Subsequently, in an analysis of three top industrial marketing journals between 1997 and 2006, Piekkari et al. (2010) identified eight criteria for best practice within industrial case research, as listed in Table 3-7 and this thesis meets all eight. Piekkari et al. (2010) also noted twelve innovative practices, with this thesis using three of these practices.

Table 3-7: Industrial case study research best practice

<b>Practice identified by Piekkari et al. (2010)</b>	<b>Thesis implementation</b>
<u>Best practice</u>	
Theory-building case studies	Yes: Chapter 4: Challenges extant explanations of internationalizing SME competition. Extends the Uppsala internationalization process model (Johanson & Vahlne, 2009) to incorporate competition Chapter 5: Explains how factor resource competition (Markman et al., 2009) and social construction (Medlin & Ellegaard, 2015) influences niche selection Chapter 6: Evolutionary and institutional processes (Barnett & Hansen, 1996; Porac et al., 1989) used to understand a population of SMEs as they internationalized Chapter 7 : Applies institutional logics (Thornton et al., 2012) to internationalizing SME competition
Purposeful sampling of case studies	Yes: Purposeful sampling of suitable industry population and then consideration of all internationalizing firms in this population
Multiple data sources	Yes: Interviews, archival records, press articles, industry conference presentations
Data from actors with different perspectives	Yes: SME owner/founders, general managers, ex-managers, competitors, industry consultants, government trade department
Data analysis explained	Yes: Systematic combining, abductive analysis
Coding process conducted with special software	Yes: NVIVO used with two iterations of coding
Findings presented with cross-case analysis, case history analysis, thematic analysis, comparison between theory & data	Yes: Different analysis in the papers in Chapters 4 to 6, depending on the level
Triangulation techniques and respondent validation	Yes: Triangulation for reliability within the case study method; respondent asked to check transcripts; second phase of interviews to probe initial response from Phase 1
<u>Innovative practices</u>	
Abductive case studies	Systematic combining method with abductive analysis
Population studies – investigates whole population of network relationships in relation to focal firms	A multiple case study investigating interrelationships between all the internationalizing firms in a country's industry population
Critical realist approach underpins the case design and discussion of findings	Yes. Applies a critical realist ontology, with abductive analysis

The causal explanations (Piekkari et al., 2009; Ryan et al., 2012) to answer the four research sub-questions are contained in Chapters 4 to 7. Given these chapters represent complete papers submitted to journals or presented at conferences, each recaps the method used in relation to that particular part of the study, leading to duplication of aspects of this chapter. Each paper has slight variations in

methodological implementation, leading to different numbers of interviews recorded as the primary data (for example Chapter 4 was written from data gathered in the first phase of interviews) while analysis at the internationalizing SME firm level (Chapters 4 and 5) relies on only nine case firms because insufficient firm-level data could be gathered on the tenth firm. Having considered the method used, the next chapter is the first paper, entitled “Competing on the edge: Implications of network position for internationalizing small- and medium-sized enterprises”.

# **Chapter 4. Competing on the edge: Implications of network position for internationalizing small- and medium-sized enterprises**

## **4.1 Chapter overview**

Chapter 4 addresses the first research sub-question: How do internationalizing SMEs in a given population compete against both large and small rivals over time? Three generic competitive strategies attributed to internationalizing SMEs of targeting niches, differentiating products and leveraging networks fail to adequately explain how SMEs win customers in foreign markets against both large and small competitors. This chapter distinguishes competitive strategy (*how* firms compete) from competitive advantage, and from competitive engagements where firms deploy their competitive advantages to win customers within business network relationships. Building from business network theory and by abductively reasoning from the competitive engagements entered into by the internationalizing SMEs from the Fleet Management Systems industry segment in New Zealand, Chapter 4 shows that these firms often compete with foreign rivals by using their position on the edge of a business network to leverage information asymmetries across structural holes. The paper contributes by integrating this conception of internationalizing SME competitive strategy as bridging structural holes with the business network foundations of the Uppsala internationalization process model.

## **4.2 Introduction**

Small- and medium-sized enterprises (SMEs) begin competing with firms in foreign countries when they internationalize and must have a competitive advantage (Caves & Porter, 1977; Rugman et al., 2011) in order to overcome their liability of foreignness (Zaheer, 1995) and to win customers. The resource-based view (RBV) - with ownership of valuable, rare, inimitable and non-substitutable resources as the basis of a competitive advantage (Barney, 1991) - has been the dominant theoretical perspective for investigating SME internationalization (Freeman & Cavusgil, 2007). However, competitive advantage remains only a potentiality until the firm competes against rivals to win customers, and thereby survive and grow:

“Owning or having access to a valuable and rare resource is necessary for competitive advantage yet alone it is insufficient. Such resources must be effectively bundled and

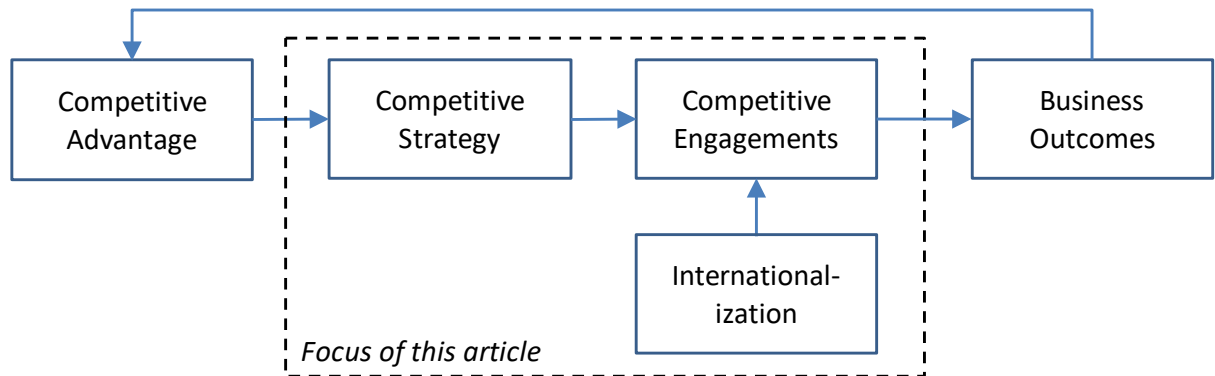
deployed ... in specific competitive engagements for a firm to realize a competitive advantage” (Sirmon et al., 2008, p.919).

In the RBV competitors are only acknowledged indirectly as entities over which to gain advantage, with the theoretical focus inside the firm (Kraaijenbrink, Spender, & Groen, 2010) and the mechanisms by which resources influence business outcomes against rivals relatively unexplained (Sirmon et al., 2007). In other words, identifying an internationalizing SME’s competitive advantage is insufficient to explain *how* that SME competes with rival firms in a foreign market.

Internationalizing SMEs, particularly those in high-technology industries, rely on intangible firm-specific resources such as technological knowledge for their competitive advantage (Autio et al., 2000; Rialp et al., 2005a) but must compete with other firms for factor resources and customers when they enter a new country. Competing is a process involving the struggle for limited resources, yet the term is often applied loosely in business and scholarly research to both individual firm actions and the general activity of firms in a business environment (Grimm et al., 2006). In this paper, *competing* is defined as one organization vying, either directly or indirectly, with a rival for the same pool of resources in a zero-sum relationship (Barnett, 1997). *Competing* and *internationalizing* are related but not synonymous concepts; although internationalizing requires competing for resources in another country, competing does not require internationalizing.

Internationalizing SMEs have limited firm-specific resources, market knowledge and international experience (Hånell & Ghauri, 2016) yet are able to enter new countries, survive and sometimes prosper despite these limitations (Sui & Baum, 2014). How internationalizing SMEs compete against rivals encountered in foreign markets is the focus of this paper. Investigating this requires examining the interrelationships between firms, customers and competitors in the context of international business to distinguish three concepts bound up within “competing”; competitive advantages as potential firm-specific resources and capabilities that lie dormant until a firm can deploy them, competitive engagements as the points where SMEs encounter rivals seeking the same customers and resources (Easton, 1988; Sirmon et al., 2008), and competitive strategy describing *how* SMEs bring their competitive advantages to bear in competitive engagements (Grimm et al., 2006; Porter, 1980). Understanding competitive strategy is central to linking SME competitive advantage to business outcomes such as survival, growth and financial success within international contexts (Martineau & Pastoriza, 2016). In linking internationalizing to competing, we apply the revised (Uppsala) business network internationalization process model because it specifically addresses SME internationalization and provides a multi-level framework that includes network relationships with other market participants (Johanson & Vahlne, 2009). Figure 4-1 shows the locus of our paper:

Figure 4-1: Conceptual model of competing



Source: Adapted from Grimm et.al. (2006)

An examination of the three generic competitive strategies of niche targeting, product differentiation and network building attributed to internationalizing SMEs in the extant literature suggests that, even in combination, these strategies fail to fully explain how internationalizing SMEs deploy their competitive advantages in engagements to win customers against competitors both large and small. To investigate how internationalizing SMEs compete we used a multiple case study research design to explore the competitive strategies of the internationalizing SMEs in the Fleet Management Systems (FMS) industry segment from New Zealand (NZ). Fleet Management Systems combine hardware and software to allow businesses to remotely manage fleets of vehicles and is a high growth, high-technology global industry segment characterized by business-to-business markets. A census study of all the NZ FMS firms allowed comparisons between similar firms in a similar competitive context. An abductive approach to data gathering and analysis revealed that the SMEs' competitive strategy was to develop a small number of highly committed customer relationships to gain incremental resources and knowledge, which enabled them to expand into customers' industry networks over time. By bridging structural holes (Burt, 1992) in business networks, an SME's specific position on the edge of a network allowed it to compete against large firms, foreign market SMEs, and other internationalizing SMEs.

The paper's first contribution is to show theoretically and empirically that niche targeting, product differentiation and network building are inadequate explanations of internationalizing SME competitive strategies against SME competitors, which may be the primary competitors that internationalizing SMEs face. A second contribution is to show why a small number of highly committed business relationships, combined with a position on the periphery of a network, matter more for SME competitive success than being a network insider with many network relationships (c.f.

Johanson & Vahlne, 2009; Vahlne & Johanson, 2013). A third contribution is to propose how the Uppsala business network internationalization process model (Johanson & Vahlne, 2009) can be expanded into an internationalizing SME competitive process model in international contexts.

The paper is structured as follows. In the next section, we explain competing in business networks, summarize the revised Uppsala model, review the three competitive strategies typically associated with SMEs in the literature, and outline our methods. An overview of the FMS industry and its competitive context precedes cross-case analysis of internationalizing SME competitive patterns. We then further develop our theoretical argument about how SMEs compete internationally. Limitations and suggestions for future research conclude the paper.

## **4.3 Literature review**

### **4.3.1 Internationalizing SMEs**

Three types of internationalizing SME have been identified empirically (Olejnik & Swoboda, 2012): (1) gradually internationalizing SMEs which slowly expand overseas, making greater commitments as they gain experience; (2) entrepreneurially-initiated Born Globals which begin international sales within a few years of firm foundation; and (3) Born Again Globals which focus on their domestic markets for many years and then suddenly internationalize rapidly after a major strategic change. Twenty years of research into Born Globals has led to multiple definitions of rapidly internationalizing small ventures (Cesinger et al., 2012), with Welch et al. (2016) suggesting that researchers have progressively loosened the Born Global concept until it means little more than earlier internationalization relative to other SMEs. Gaining competitive advantage and improving competitive performance motivates internationalization (McDougall, 1989) and was a key attribute in the seminal definitions of Born Globals (Knight & Cavusgil, 1996, 2004) and International New Ventures (Oviatt & McDougall, 1994). To return to these competitive roots, this paper addresses all internationalizing SMEs and relates its findings to variations across SME types.

### **4.3.2 Competitors of internationalizing SMEs**

Competitors are seldom mentioned in extant SME internationalization literature, and then usually in relation to SMEs avoiding large competitors (e.g. Aspelund & Moen, 2005; Gabrielsson et al., 2008). The competition literature, however, emphasizes that SMEs are a distinct group competing with each other rather than with large firms (Audretsch et al., 1999; Mas-Ruiz & Ruiz-Moreno, 2011). Lacking resources, SMEs specialize and partition the market from large (generalist) firms by targeting different



customer needs and as a result compete most intensely with firms their own size (Carroll, 1985). Further, SMEs are more exposed to competition and its learning benefits, so that when firms internationalize, SMEs become more potent competitors than large firms (Barnett & McKendrick, 2004). This suggests that the main competitors of internationalizing SMEs are likely to be other SMEs.

#### 4.3.3 Competing internationally within business networks

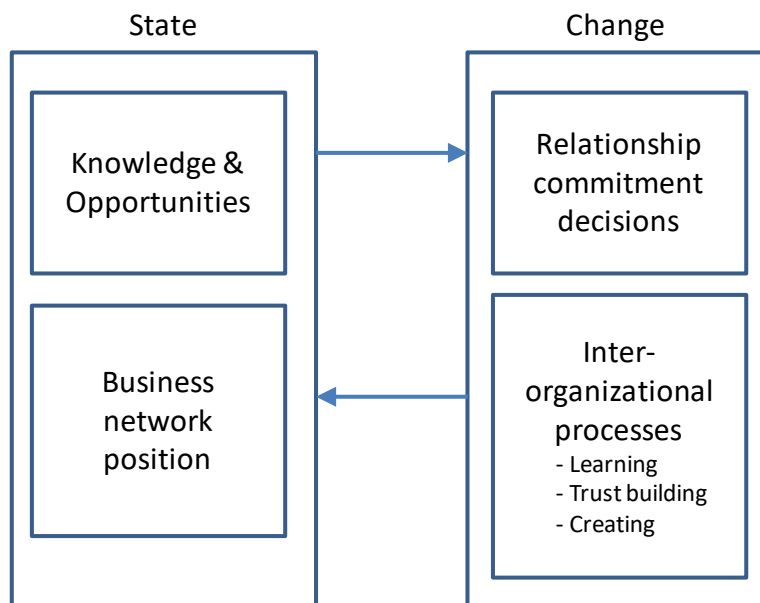
Competing occurs within a triad of business relationships between firms, customers and competitors (Easton, 1988; Ford & Håkansson, 2013; Medlin & Ellegaard, 2015) as part of a broader business network (Håkansson & Snehota, 1995). Dyadic relationships between firm and customer at the firm level cumulate to multiple links between multiple firms at the level of industry and market (Håkansson & Snehota, 1995). Customers have relationships with multiple suppliers, so competitors exist within a firm's network (Pahnke et al., 2015b) even though the focal SME may be unaware of them (Chen, 1996; Easton, 1988; Ford & Håkansson, 2013). "Competitive engagements" are the points within relationship triads of firm, customer and competitor where SMEs encounter rivals seeking the same customers and resources, and where firms deploy their competitive advantages (Sirmon et al., 2008) (see Figure 4-1). This paper argues that competing needs to be understood within populations of competitors because the actions of a firm influence its competitors through its business network.

Also building from research on business networks, the revised (Uppsala) business network internationalization process model (Johanson & Vahlne, 2009) provides a multi-level framework that includes international customers as relationship partners and the competitive context through the business network (see Figure 4-2). A firm is positioned within a business network at an industry and foreign-market level. Newly-internationalizing firms have only limited relationships within the network in another country (Johanson & Mattsson, 1988) so firms initially suffer a liability of outsidership (Johanson & Vahlne, 2009). Through actively building network relationships, firms recognize international opportunities and gain knowledge, leading to decisions to commit to specific relationships. Relationship commitments have both offensive and defensive competitive rationales:

"to develop new relationships ... (with) businesses, (plus) building bridges to new networks and filling structural holes ... to protect and support the firm's existing network of strategic relations" (Johanson & Vahlne, 2009, p.1424)

Commitments encourage firms to reconfigure inter-organizational processes of learning, creating and trust-building between firms, which leads to changed firm positions in the network, thus providing firms with new capabilities, knowledge and opportunities and so the cycle continues (Johanson & Vahlne, 2009).

Figure 4-2: Business network internationalization process model



Source: Johanson & Vahlne (2009)

Internationalizing SMEs start from a position outside or on the edge of a foreign market business network (with few relationships), although domestic market actors such as customers, suppliers and government agencies provide links from which to build (Hånell & Ghauri, 2016). As Johanson and Vahlne (2009) mention, in the process of building relationships as a newcomer, SMEs bridge structural holes between networks in one country and those in another.

#### 4.3.4 Bridging structural holes as a competitive strategy

Structural holes exist between individual networks that lack even indirect connections between them. Bridging structural holes is a competitive strategy to gain access to resources and knowledge unavailable to other firms (Burt, 1992). Innovative firms that bridge holes and then apply the knowledge gained are more profitable (Zaheer & Bell, 2005) but to achieve this business outcome (see Figure 4-1), firms must be able to recognize contradictions in the evaluations of the information gathered on either side of the hole:

“...value is created by network entrepreneurs strategically moving accurate, ambiguous, or distorted information between people on opposite sides of structural holes... people whose

networks span structural holes can expect to find themselves synthesizing new understandings, seeming to others to be gifted with creativity” (Burt, 2002, p.211).

Entrepreneurial firms exploit information asymmetries on either side of the hole to create new markets (Peng et al., 2014). Shipilov (2008) showed that entrepreneurial firms at the edge of a network (i.e. with low centrality) that bridged structural holes were more successful in competitive engagements (measured by winning customers from competitors) because, having less bargaining power and less motivation to take advantage of their position than firms with high centrality, they were entrusted with greater information by firms on both sides of the hole. Thus despite a liability of outsidership (Johanson & Vahlne, 2009), internationalizing SMEs are not as disadvantaged competitively at the edge of a foreign business network as might first appear. By bridging structural holes, SMEs can take greater advantage of snippets of knowledge, emerging opportunities and outright information asymmetries than more powerful (but less trusted) rivals with more central network positions.

#### 4.3.5 Competitive strategies of internationalizing SMEs

Competitive strategy describes *how* SMEs bring their competitive advantages to bear in competitive engagements (Grimm et al., 2006; Porter, 1980), with SMEs competing differently from large firms (Chen & Hambrick, 1995). The SME internationalization literature identifies targeting niches (Zucchella & Palamara, 2006), differentiating products (Bloodgood et al., 1996) and leveraging networks (Blomstermo et al., 2004a) as generic competitive strategies used by internationalizing SMEs to link competitive advantage to outcomes of survival and growth (see Figure 4-1). In explaining how SMEs win competitive engagements against both large and small firm rivals, we argue that the literature makes some assumptions about these strategies which have not been fully explored.

##### ***Targeting niches:***

Targeting niches (Audretsch et al., 1999) is the strategy most associated with SMEs. A niche is a market segment comprising only a few customers with similar needs (Dalgic & Leeuw, 1994), with niche-based competition characterized by non-price factors including quality, technology and customer service (Zucchella & Palamara, 2006). Large firms cannot justify modifying their high volume production systems to fulfill low volume market needs so, by targeting niches, SMEs avoid competing with large firms (Audretsch et al., 1999). Researchers have argued that internationalizing SMEs replicate a proven niche strategy into multiple countries (Cannone & Ughetto, 2014; Cavusgil & Knight, 2015) to avoid larger competitors (Aspelund & Moen, 2005; Gabrielsson et al., 2008), and achieve scale efficiencies relative to other SMEs (Chetty & Campbell-Hunt, 2004; Freeman et al.,

2006) by expanding their addressed market size (Fan & Phan, 2007; Zucchella & Palamara, 2006). These global niches may be so narrow that a single country niche is insufficient for firm survival (Madsen & Servais, 1997), potentially excluding even SME competitors.

Rather than an *ex ante* competitive strategy, however, we argue that niches are a *post hoc* market position discovered as a consequence of competing. To be an *ex ante* competitive strategy SMEs would have to identify the opportunity, correctly judge its size and partition it accurately so that competitors would not be motivated to enter, as well as know enough about potential customers to ensure their products could sell for sufficient margin. Global niches must be assumed to be identifiable in advance in multiple countries and empty of competitors. To be a sustainable competitive strategy, competitors must be unable to replicate products in a timely manner and the niche must remain small enough to deter competitor interest, which would limit the SME's growth. These assumptions necessary for niches to be an *ex ante* competitive strategy are unrealistic in fast-moving global marketplaces such as those inhabited by internationalizing SMEs. Instead, niches are best characterized as dynamic with constantly-changing boundaries and competitors (Zucchella & Palamara, 2006), and populated by disruptive new firms seeking new opportunities (Schumpeter, 1934). Niche strategies explain how internationalizing SMEs avoid large firms but do not fully explain how SMEs compete against other SMEs also targeting niches in rapidly-changing markets over time.

### ***Differentiating products:***

Another generic SME strategy is selling products or services differentiated from incumbent competitors (Aspelund & Moen, 2005; Bloodgood et al., 1996; Gabrielsson et al., 2008; Laanti et al., 2007). Specialized products and ongoing product development are characteristic of early stages of industry evolution when product designs are still changing as a consequence of ongoing competition amongst SMEs (Suarez & Utterback, 1995), often driven by customer contributions to innovation rather than formalized internal R&D (von Hippel, 1988). Born Globals are found in knowledge-intensive industries at an early stage of evolution, where customers are driven primarily by functionality and less by price (Fernhaber et al., 2007), with gradually internationalizing SMEs also following this approach to a lesser extent (Autio et al., 2000; Olejnik & Swoboda, 2012). We argue, however, that product differentiation is also a *post hoc* outcome of what SMEs discover while competing. To assume that SMEs follow a differentiation competitive strategy *ex ante* (as argued by some, c.f. Gassmann & Keupp, 2007) an SME would need to know more about a customer's needs and industry context than the customers themselves and have confidence that competitors could not emulate the differentiation. Although product differentiation helps internationalizing SMEs to avoid large competitors, it does not explain how they compete against other SMEs, which are also able to differentiate.

### ***Leveraging networks:***

A third SME competitive strategy is leveraging social and business network relationships (Zaheer & Bell, 2005). A network is a multi-level construct across social networks of family, friends and colleagues at the individual level, and organizational networks of ties with customers, suppliers, distributors and competitors at the firm and industry levels (Håkansson & Snehota, 1995). SMEs use relationships to gain information about opportunities (Blomstermo et al., 2004a; Kontinen & Ojala, 2011) and to overcome resource constraints as they internationalize (Chetty & Wilson, 2003; Freeman et al., 2006; Gassmann & Keupp, 2007). Social networks are influential in providing resources at start-up (Chetty & Wilson, 2003; Mort & Weerawardena, 2006; Sasi & Arenius, 2008), and internationalizing SMEs make extensive use of networked third-parties to sell overseas (Gabrielsson & Kirpalani, 2004). This literature seems to implicitly assume that recognizing an opportunity or accessing a resource is sufficient for an internationalizing SME to gain a competitive advantage that allows it to win competitive engagements with rivals in a foreign market (Sirmon et al., 2008) and that SMEs can recognize and accurately value the information and resources revealed through networks. Network strategies as described, however, do not explain how SMEs win competitive engagements with large firms - which have more network relationships - or why SME competitors cannot use the same networks to discover the information or access the resources, particularly when internationalizing SMEs have only a limited network in a foreign market compared with SMEs already established there.

Table 4-1 summarizes the implicit assumptions underlying the three generic SME strategies reviewed, as well as identifying exemplars in the SME internationalization literature. Although these strategies build from firm-specific advantages and characterize important aspects of SME activity in international markets, even in combination they fail to fully explain how internationalizing SMEs deploy their competitive advantage in engagements with large and small competitors over time (see Figure 4-1). Indeed, these strategies do not even distinguish internationalizing SMEs from domestic SMEs. This highlights that further investigation of the strategies that internationalizing SMEs use is warranted. Accordingly, our research asked, “How do internationalizing SMEs in a given population compete against both large and small rivals over time?”

Table 4-1: Summary of generic SME competitive strategies and implicit assumptions for winning competitive engagements

Competitive strategy	Strategy description	SME type	Competitor	Key References	Implicit assumptions for winning competitive engagements
<b>Targeting niches</b>	SMEs target an existing market opportunity too narrow for other firms enter in competition – effective monopoly within narrowly-defined segment	SME	All	(Audretsch et al., 1999; Kalinic & Forza, 2012)	Only one firm per niche SME identifies niche in advance and correctly judges its size
		BG	Large firms	(Chetty & Campbell-Hunt, 2004; Crick, 2009; Gabrielsson et al., 2008)	No change in customer needs or niche potential over time No retaliation from incumbents
	SMEs create new opportunity rather than compete over existing demand – monopoly within narrowly-defined new market segment	SME	All	(Katila et al., 2012; Phan & Markman, 2011; Schumpeter, 1934)	Firm identifies an opportunity valued by customers Competitors cannot copy in a timely manner
	SMEs internationalize by replicating niche knowledge into the same niche opportunity in other countries to give scale efficiencies	SME	Large firms	(Zucchella & Palamara, 2006)	Niche exists in other countries Necessary factor resources in new country are not controlled by competitors
		BG	Large firms	(Cannone & Ughetto, 2014; Cavusgil & Knight, 2015; Chetty & Campbell-Hunt, 2004; Fan & Phan, 2007)	Price is more important than differentiation in customer buying decision
<b>Differentiating products</b>	SMEs differentiate from competitors using technological knowledge to provide better functionality than competitor offerings	SME	All	(Acs & Audretsch, 1988; Aspelund & Moen, 2005; Bloodgood et al., 1996)	SMEs have more knowledge about customer needs than customers Competitors cannot copy differentiation
		BG	All	(Cavusgil & Knight, 2015; Gabrielsson et al., 2008; Gassmann & Keupp, 2007)	Differentiation is more important than low risk in customer buying decision
<b>Leveraging networks</b>	Organizational Network: SMEs align with strategic networks of suppliers, distributors, joint venture partners and even	SME	Unclear	(Blomstermo et al., 2004a; Chetty & Wilson, 2003; Kontinen & Ojala, 2011)	Resource constraints are the only limitation preventing competitive advantage Competitors cannot access the network

	competitors to overcome resource constraints	BG		(Freeman et al., 2006; Freeman, Hutchings, Lazaris, & Zyngier, 2010; Gabrielsson & Kirpalani, 2004; Gassmann & Keupp, 2007; Laanti et al., 2007; Mort & Weerawardena, 2006)	SMEs have sufficient bargaining power with partners to ensure they are not disadvantaged
	Personal network: SMEs use social networks to find opportunities and access resources internationally	SMEs BG	Unclear	(Johanson & Vahlne, 2009)  (Sasi & Arenius, 2008)	Knowledge of opportunity is sufficient for advantage over competitors Competitors cannot discover opportunities More relationships are better than fewer SMEs can recognize and accurately value opportunities
	SMEs use close relationships with key customers to generate new knowledge about opportunities	SMEs BG	Unclear	(Yli-Renko et al., 2001) (Nordman & Melén, 2008)	Knowledge is sufficient for advantage over competitors Competitors cannot discover knowledge

The theorizing above, where the assumptions underlying existing literature are challenged (Alvesson & Sandberg, 2011), guided our study through a systematic combining process in which our “articulated preconceptions” (Dubois & Gadde, 2002, p. 555) gradually shifted as we moved between the theoretical and empirical worlds to confront the inconsistencies revealed. Based on the extant literature on SME competition and internationalization, our study was initially informed by the expectation that individual SMEs in the FMS industry would compete by targeting the same niche across multiple countries using networks of intermediaries to sell the same differentiated products into each country, yet this was not the competitive strategy revealed empirically. The next section explains the multiple case study design used to investigate the research question and the systematic combining method for analyzing the empirical findings and theorizing from the unexpected results.

#### **4.4 Method**

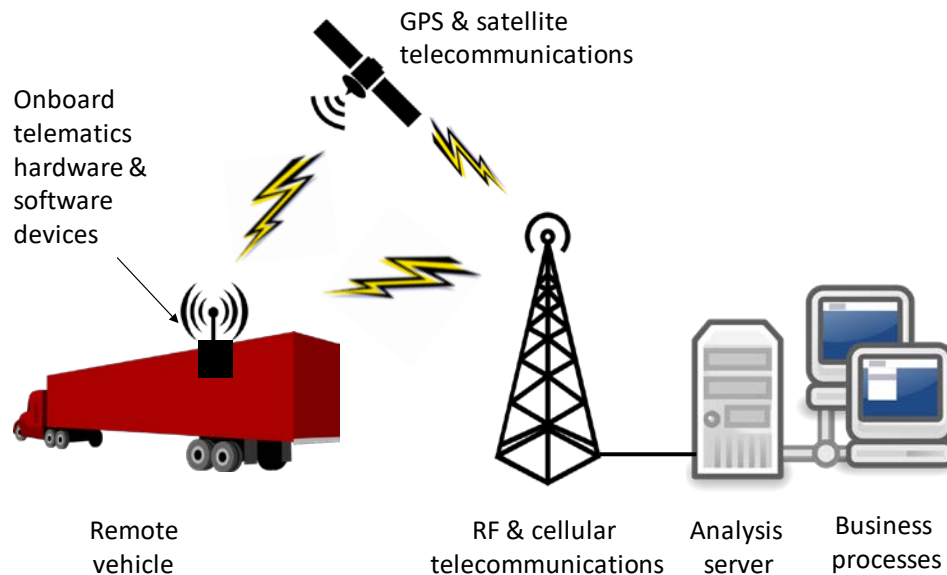
Case studies of internationalizing SMEs often compare the firm-level attributes of clearly successful SMEs across multiple industries (e.g. Gabrielsson et al., 2008; Rialp et al., 2005b). This cross-industry sampling has two limitations: separating cases from their industry context prevents understanding of the influence of competitors on firm strategies and assumes that firm attributes must be the cause of observed variations (Fernhaber et al., 2007); while selecting only successful SMEs has an inherent survivor bias (Denrell, 2003) because it is unclear whether unsuccessful SMEs deployed the same strategies. To avoid these limitations in our research, multiple case studies were conducted of all internationalizing firms within a single industry population from a single country. Case studies are suitable for “how” and “why” questions (Eisenhardt & Graebner, 2007), while industry studies provide the means to understand the dynamics of firms within their competitive international business context (Poulis, Poulis, & Plakoyiannaki, 2013) while maintaining a perspective of all competitors (McKendrick, 2001).

Adopting a post-positivist inquiry paradigm (Guba & Lincoln, 1994), we applied an abductive approach of systematic combining to explore, challenge and reconstruct the relationship between theory and the data (Dubois & Gadde, 2002). Systematic combining is a case research method that seeks to intertwine empirical data gathering and theory development by the researcher moving back and forth between the two activities, involving continual reiteration between case, theory, research framework and the empirical world (Dubois & Gadde, 2002). When the data does not match the theory, the researcher needs to consider alternative theories as well as gather more data (Dubois & Gadde, 2002). Abduction is a rearrangement of the reasoning sequence of deduction and induction to infer explanatory hypotheses from anomalous and unexpected empirical findings (Peirce, 1878), allowing the generation of novel conceptual insights (Langley et al., 2013), and is suited to



exploratory research in international business (Piekkari et al., 2009) and industrial marketing (Piekkari et al., 2010). Abduction represents the inspired “creative leap” required to move from data analysis to theory development in both induction and deduction (Langley, 1999, p.691), but provides a presumptive and conjectural, rather than strictly logical, theoretical hypothesis that typically precedes deduction (Mantere & Ketokivi, 2013). Our method was to abductively analyze the patterns observed in the competitive engagements of internationalizing SMEs in the FMS industry to reason which competitive strategies the firms had used.

Figure 4-3: Fleet Management Systems



Fleet Management Systems (FMS) was purposefully sampled as the industry context because it demonstrated the characteristics of a new industry, with no established dominant designs for products and related services (Suarez & Utterback, 1995), and it applied globally-applicable technology with few regulatory constraints that might influence how SMEs competed internationally. FMS (also known as telematics) combine specialized hardware devices installed in vehicles, cellular data communications, GPS tracking, and internet-based software to create integrated systems for the remote management of trucks and other high-value assets. Real-time data about vehicle location and vehicle operating diagnostics (such as engine, vehicle weight, braking, acceleration, fuel consumption, temperature) are transmitted via mobile telecommunications or satellite networks to powerful centralized servers for analysis. Figure 4-3 shows how FMS operate. The FMS industry has grown rapidly since 2000, allowing time for individual SMEs to grow or fail. Further, our location, New

Zealand (NZ), has generated a large number of firms in FMS, relative to NZ's small domestic market size, selling hardware and software technology products.

#### 4.4.1 Data sources

The first author conducted semi-structured interviews with senior managers and ex-managers in internationalizing SMEs from New Zealand, including entrepreneur founders, CEOs, general managers and sales directors. Multinational enterprise (MNE) competitors with NZ offices, industry consultants in both NZ and the United States (US), government international trade organization staff plus potential competitors in the US were also interviewed. As well as firms currently involved in the FMS industry in NZ, managers from two firms that had exited the industry were located and interviewed. Data sources across the entire population minimized survivor bias by including "failed" firms and ensured a holistic perspective of all case firms by speaking to representatives of the firms themselves as well as to their competitors and independent observers to minimize individual participant biases. In total 27 interviews were conducted and Table 4-2 shows their distribution by industry actor.

Table 4-2: Interview data sources

<b>Category</b>	<b>Number of interviews</b>
Senior managers in internationalizing SMEs from NZ	12
Local managers of MNEs	2
Managers in firms no longer in FMS industry	3
US managers from MNE competitors	4
NZ industry consultants; government export agency	3
US industry consultants	3
<b>Total</b>	<b>27</b>

Interview questions covered firm start-up and history, internationalization by country, firm competitive strategies, competitors' strategies, and business results. Consistent with the matching and direction processes of the structured combining method (Dubois & Gadde, 2002), with iterative data gathering, analysis and redirection as the study progressed, the interview frames adapted over time as aspects identified in earlier interviews were probed. Sometimes this required retrospective reports, which potentially contain inaccurate or biased data (Golden, 1992) because of individual cognitive limitations such as imperfect recall or hindsight bias and because participants are motivated to present themselves in a positive light (Huber & Power, 1985; Podsakoff & Organ, 1986). Techniques to

minimize this included: attempting to interview the person most knowledgeable about the issue of interest, questions encouraging factual answers, probing follow-up questions and challenging answers that appeared inconsistent with data known through other sources (Huber & Power, 1985). Interviews were recorded, and the interviewer took notes. In total, over 30 hours of recordings were transcribed by an independent person, then checked against the interview recordings and corrected. Transcripts were returned to participants for review and comment.

Inevitably within SMEs, few people have the requisite knowledge to comprehensively answer questions about firm competitors and strategy - potentially only the CEO or senior sales manager - which creates a single source bias (Podsakoff & Organ, 1986). To mitigate this, multiple interview sources were gained wherever possible, including with managers no longer with the firm and who were potentially less emotionally involved and hence less motivated to misrepresent the situation (Huber & Power, 1985). A triangulation approach used different techniques in our single method to check internal consistency and reliability (Jick, 1979); for example, within-case data were compared with data about the firm from competitors and knowledgeable independent observers such as consultants and government trade specialists. Further, primary data were validated against publically available secondary data from case firm websites, Factiva (Dow Jones, 2015) and the statutory NZ Companies Register (New Zealand Companies Office, 2015). No instances were uncovered where information from interviews was inconsistent with secondary sources; participants appear to have either provided as accurate information as they were able, or declined to answer a question they felt was too sensitive.

#### 4.4.2 Data analysis

To make abductive inferences, recursive analysis methods are needed to encourage informed but theoretically-agnostic researchers conscious of their socially-cultivated position to recognize anomalies between data and theory (Timmermans & Tavory, 2012). Transcripts were entered into NVIVO qualitative analysis software. All competitor references were coded along with major themes of: competitive environment, customers, geographic markets, pricing, resources, major events, survival and acquisition. Coding occurred as the study progressed, allowing ongoing comparison between empirical findings and theory (Dubois & Gadde, 2002). Case histories of all firms were written based on transcripts and secondary data. These analyses encouraged “revisiting” the case, with researchers re-experiencing the interview and ideas expressed by participants (Timmermans & Tavory, 2012).

At the end of data gathering, all transcripts were re-coded to drill down into emerging themes, creating subcategories and extending major themes to social networks, performance, sales channels, vertical

markets and NZ-specific factors influencing the industry. Various working theories were developed that interpreted the findings from different perspectives and levels. These steps encouraged “de-familiarization”, forcing the researchers to separate from the taken-for-granted in order to explain the results to an outside audience (Timmermans & Tavory, 2012). Insight-driven re-coding and application of different theoretical explanations encouraged “alternative casing”; seeking different conceptual and theoretical frameworks for anomalies observed (Timmermans & Tavory, 2012). The next section describes the FMS industry context and case findings.

## 4.5 Case Findings

An overview of the industry context and the nine case study firms is presented, followed by a cross-case analysis.

### 4.5.1 The Fleet Management Systems industry in New Zealand

NZ’s truck market is tiny compared with the US, the world’s largest fleet market. In 2012, NZ roads carried 110,000 trucks (about 80,000 over 3.5 tonnes). In comparison, US roads carried 8.2 million trucks over 4.5 tonnes in 2012<sup>8</sup>. Nonetheless, New Zealand’s FMS industry comprises approximately 25 supplier companies, primarily NZ-owned firms with a handful of MNEs with local sales offices. About ten NZ firms that developed their own products and services also sell overseas. Table 4-3 describes the nine key internationalizing firms in NZ’s FMS industry in this study, sorted by year of establishment. Insufficient data were available from the tenth firm so it was excluded from the analysis. Code names are used to de-identify the firms.

*Avro*, NZ’s pioneering FMS firm, was founded in 2001 as a division of a company with expertise in navigation products, and two other firms formed around the same time. Six firms started up between 2004 and 2007 and *Lancaster*, which was founded earlier but had a long gestation, re-launched in 2007. *Comet* exited the FMS industry in 2009 and moved to a different sector. No MNEs had a significant share of the NZ market at the time of the study; although a pioneering MNE from the UK had success in NZ in the early stages of the industry (2000-2005), it later collapsed globally.

---

<sup>8</sup> NZ Ministry of Transport.

<sup>9</sup> US Dept of Energy, 2013.

Table 4-3: Key internationalizing FMS firms from NZ (ranked by year established)

Company Code	Year Established	First International	Revenue 2014 \$ USD M	Current ownership	Heritage	International Markets
<i>Lancaster</i>	2000	2010	7.4	Public	First product in 2007	NZ, USA, Australia
<i>Avro</i>	2001	2001	85.1	US MNE	Originally division of NZ company; since sold several times	NZ, USA, Australia, Europe, South America
<i>Eagle</i>	2001	2002	5.3	Private	Merger with Australian company in 2007	NZ, USA, Australia, South Africa
<i>Dakota</i>	2003	2008	7.7	Private	Startup	NZ, USA, Australia
<i>Gloster</i>	2004	2008	8.0	Private	Previous firm bankrupt	NZ, Australia
<i>Heron</i>	2004	2007	3.5	Private	Startup	NZ, India, Middle East
<i>Javelin</i>	2005	2011	1.5	Private	Startup	NZ, USA Australia
<i>Bulldog</i>	2005	2011	1.5	Private	Startup	NZ, Australia
<i>Comet</i>	2006	2010	2.7	Private	Exited FMS in 2009, subsequently internationalized	NZ, USA, Australia

Sources: Interviews, analyst reports, press articles, company websites

Two NZ firms - *Eagle* and *Heron* - could be defined as “successful” Born Globals, based on thresholds of internationalization within the first three years of firm inception and maintaining over 25% of turnover from international sales (Knight and Cavusgil, 2004). *Bulldog*, *Comet*, *Dakota*, *Gloster*, *Javelin* and *Lancaster* could be described as failing to reach these success thresholds because they took longer to begin internationalizing or their proportion of foreign revenue fell below 25%. As a subsidiary start-up of a larger company *Avro* did not have low resources (Fan & Phan, 2007) but otherwise met the Born Global success thresholds. In 2014, all firms except *Avro* would be categorized as SMEs based on a European definition of fewer than 250 employees and turnover of less than €50M (equivalent)<sup>10</sup>. *Avro* was acquired by a large MNE in 2012 but previously would have been

<sup>10</sup> European Commission. (2014). What is an SME? *Enterprise and Industry*. From [http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm).

categorized as an SME. In summary, the nine internationalizing firms all began as entrepreneurial SMEs, with a mix of Born Globals and gradually internationalizing SMEs. The next two sections describe the competitive engagements and strategies of these case firms.

#### 4.5.2 Case firm competitive engagements

The nine firms showed a variety of competitive patterns as they internationalized between 2001 and 2012. Twenty-three market entries are shown in Table 4-4, with firms sorted by year of first market entry. Each market entry involved multiple competitive engagements with rivals. The market in NZ is included because some firms entered foreign markets before their domestic market.

#### 4.5.3 Generic competitive strategies

The three generic competitive strategies – niche targeting, differentiating products, and leveraging networks - are shown for each international entry in Table 4-4. Realized niches were either horizontal markets based on product technology differences (e.g. using different data transmission methods - cellular, radio frequency or satellite - to achieve similar product functionality), or vertical markets segmented by customer industry application (e.g. forestry, oil and gas, heavy trucking) (Dalgic & Leeuw, 1994). *Lancaster* was the only SME that targeted a horizontal technology niche and continued to pursue that same niche as it internationalized over time. All other SMEs changed niches as they developed, initially targeting horizontal niches, but later specializing by vertical. Of note is the use of direct methods to generate initial contacts in overseas markets – traditional selling with phone and email to canvass prospective clients and partners outside existing networks and then sales meetings and presentations to persuade them of the business potential. The column in Table 4-4 titled “Main competitors” highlights that participants typically identified other SMEs as their main competitors rather than large firms; in contrast to the SME literature but consistent with the competition literature.

No differences between SME types are apparent; gradually internationalizing SMEs and Born Globals followed similar competitive strategies, reinforcing the literature summarized in Table 4-1 that the three generic strategies are observed in all SMEs and not uniquely in Born Globals. Further, although these competitive strategies can be associated with engagements *post hoc*, this does not mean that these were the firms’ intended strategies. The managers interviewed acknowledged that their niches were only recognized after winning multiple customers in the same segment. Our abductive analysis identified findings in relation to niche changes and the role of product co-development unexplained within the extant literature, also shown in Table 4-4. The next section expands on these, along with contextual findings in relation to industry structure.

Table 4-4: Case firm competitive patterns

Case Firm	Country entered	Year	Initial niche(s)	Differentiation	Network		Main competitors	Other competitive characteristics	Outcome
					Sales channel	Initial contacts			
<i>Avro</i>	UK *	2001	Horizontal market	GPRS data transmission	Direct	Personal	SMEs	UK targeted to directly compete with and learn from early market leader	UK used as a base to expand into Europe
	NZ	2002	Horizontal market	GPRS data transmission	Direct	Personal	SMEs	Leveraged contacts and network of NZ parent company; <b>co-developed product lines with key NZ customers</b>	Changed to vertical industry niches as industry matured
	Australia	2004	Horizontal market	GPRS data transmission	Telco	Direct selling	SMEs	Parent company already had high visibility and legitimacy	Maintained very strong telco relationship
<i>Eagle</i>	Europe *	2002	Telematics software & service providers	Generic hardware	Direct	Direct selling	SMEs	Leveraged partner company in entrepreneur's portfolio	Discontinued; limited success
	Australia	2007	VIA: Supermarkets; concrete	Integrated enterprise hardware and software	Direct	Merger partner	SMEs	NZ hardware firm merged with Australian software firm in 2007 to build integrated platform	Moderate growth in enterprise customers
	US	2008	Enterprise telematics	Enterprise hardware	Direct	Direct selling	Large firms	Successes in 2 large enterprises in North America after three years of <b>project development</b>	Important reference sites for legitimacy
<i>Dakota</i>	NZ *	2003	VIA: Railway freight cars, construction machinery	Hardware to survive extreme operating conditions	Direct	Direct selling	SMEs	<b>Co-developed product</b> with key customers	Moved into heavy trucking niche as industry matured
	US	2007	VIA: Refrigerated trucks	Integrated chiller telematics	Direct	Tradeshows	SMEs & large firms	Partnered with large refrigeration <b>specialist firm and key</b>	Became highly specialized in this niche

								<b>customers to co-develop product</b>	
<b><i>Gloster</i></b>	NZ *	2004	Bespoke projects	Specialized applications	Direct	Direct selling / tenders	SMEs	<b>Co-developed product</b> with key customers	Expanded into vertical industry applications in local government and utilities
	Australia	2008	Project		Direct	Reseller	SMEs	Remotely managed hardware development project	No further development
	Australia	2012	VIA: Utilities, local government	Specialized applications	Direct	Direct selling / tender	SMEs & large firms	Senior managers shuttled between NZ and Australia to sell major projects	High growth
<b><i>Heron</i></b>	NZ *	2004	VIA: Forestry, long distance freight	RF data transmission, cloud-based software	Telco	Direct selling	SMEs	<b>Substantial customization for key customers</b>	Initial success but limited growth by 2012
	Australia	2007	VIA: Heavy trucking - Queensland	RF data transmission, cloud-based software	Reseller	Direct selling	SMEs	Reseller is ex-trucker with extensive local contacts	Low growth
	India	2007	Enterprise platform	Cloud-based software	Telco	Direct selling	SMEs	3 years to negotiate contract	Low growth, expired in 2012
	India	2010	VIA: Oil & gas	Cloud-based software	Direct	Direct selling	SMEs	Local development team to <b>co-develop with customers</b>	Low growth
	Middle East	2007	VIA: Cold-chain monitoring	Integrated telematics	Direct	Personal	SMEs	Entrepreneur had existing business connections and local firm	High growth
<b><i>Bulldog</i></b>	NZ *	2006	VIA: Light vehicles	Low cost	Direct	Direct selling, advertising	SMEs	Reconfigured a consumer vehicle tracking application after interest from SMEs	Changed from direct sales force to reseller channel in 2010 due to cost
	Australia	2011	Telematics platform	Low cost	Resellers	Direct selling	SMEs	Hardware and software system rebranded by resellers as their own product	Low growth



<i>Javelin</i>	NZ *	2005	VIA: Consumer finance (vehicle tracking)	Low cost	Reseller	Direct selling	SMEs	<b>Co-developed initial application with reseller partner</b>	Initial success but limited growth by 2012
	US	2011	VIA: Consumer finance (vehicle tracking)	Low cost	Distributor	Govt. trade delegation	SMEs	Export orientation	No success
<i>Comet</i>	NZ *	2006	VIA: Heavy trucking, forestry	Mapping integration	Direct	Direct selling	SMEs	<b>Co-developed with early customers</b>	Too late into market; exited FMS industry in 2008 – reapplied technology in another industry and subsequently internationalized
<i>Lancaster</i>	NZ *	2008	VIA: Heavy trucking; road tax	Authorized measurement systems	Direct	Direct selling	SMEs	Tied to institutional development of road tax compliance - <b>pilot testing with key customers</b>	Rapid growth
	US	2010	VIA: Heavy trucking; road tax	Authorized measurement systems	Reseller	Tender	SMEs & large firms	Tied to institutional development of road tax compliance - <b>pilot testing with key customers</b>	Take up in only one US state

Sources: Interviews, press articles.

Abbreviations: \* first country entered; VIA: Vertical industry application; Telco: telecommunications service provider

#### 4.5.4 Unexpected findings

Abductive methods build theory from unexpected empirical findings (Timmermans & Tavory, 2012) by constantly moving between the theoretical and empirical world as the research progresses and confronting any inconsistencies revealed (Dubois & Gadde, 2002). The next section describes four unexpected findings and why these differ from initial theoretical expectations. These findings also challenge the implicit assumptions that underlie niche targeting and product differentiation as *ex ante* competitive strategies (as identified in Table 4-1) because the case firms did not have detailed knowledge of niche conditions or product requirements in other countries before internationalizing.

##### ***Not global niches but industry fragmentation:***

On the surface, FMS appear to have a global market potential, with the technology applicable to customers in all countries and unconstrained by institutional or regulatory factors. FMS use publically available Internet and GPS services, along with digital telecommunications carriers. Trucks are a mature product category and customer organizations ranging in size from SMEs to multinationals with fleets of vehicles exist in all countries. All these factors suggest that fairly standardized technology could be sold in every country, leading to global competition between firms. Instead, study participants emphasized that there were no global leaders, smaller competitors proliferated and strong local competitors featured in every market. For example in the US market, no firm was dominant, with the largest supplier holding just a 6% share and the top 10 suppliers representing only 43% of the estimated units in service<sup>11</sup>. Although FMS was expected to be a global market, it was fragmented into relatively isolated networks of suppliers and potential customers in each country.

##### ***Not global requirements but country-specific customer needs:***

Further, instead of similar customer needs across countries as expected, SMEs discovered wide geographic, economic and evolutionary differences in each country when they internationalized. For example, in the Middle East, *Heron* found different economic and geographic drivers:

“If you look at a transport company in New Zealand the biggest cost in the books is labor and fuel. But in the Middle East, labor is cheap, fuel is cheap. So cold-chain transport became our

---

<sup>11</sup> CJ Driscoll & Associates, 2014.

sweet spot because everything in the desert is refrigerated, so (customers) wanted temperature monitoring.” (Interview, *Heron*, 2014)

Accordingly, firms typically did not replicate niches and differentiation from one country to another for efficiency as they internationalized but instead adapted in response to country- and industry-specific customer needs (see Table 4-4). This directly influenced ongoing product development.

***Not replicated product lines but product co-development:***

Theoretically, firms might be expected to replicate their knowledge, skills and capabilities in the form of existing hardware and software into new countries rather than adapting products for each market entry. Table 4-4 reveals that almost half of new market entries were characterized by co-development of products with local customers (shown in bold), and these co-developments were associated with more successful internationalization outcomes. Many internationalizing SMEs identified their initial customer relationships as key to their competitive strategy at firm start-up:

“A lot of small businesses are built on customer relationships to start with... The technology is important but the relationships are much more important in terms of maintaining and protecting a competitive advantage and a position in the market to start with. I think that happens within a city or a country, but it doesn’t scale internationally.” (Interview, *Dakota ex-manager*, 2015)

SMEs needed to prove their commitment to their customers before there was a direct benefit in return, while early customers needed to be convinced to commit to the relationship while the SME learned:

“You need the friendly customer who's bought into your vision and is going to come along for the ride and test your prototypes. In exchange, that customer gets to set the requirements of how the product develops in the early stages.” (Interview, *Consultant*, 2014)

“It’s not like a normal sale. You don’t have something when you first go in, so you had to sell the dream. And it was a long journey for these customers, with a lot of pain they had to go through, and us swapping units out and learning.” (Interview, *Dakota ex-manager*, 2015)

SMEs did not need multiple relationships at the initial stages of new market entry because their meager resources were consumed in ongoing commitments to customers and applying what they were learning. As one manager observed:

“We swallow elephants. And so in the process of swallowing, you only have to swallow one a year to be very full.” (Interview, *Eagle*, 2015)

After building strong committed relationships with early customers, SMEs then used those customers as references to sell to other firms within the customers' networks, with self-funded expansion.

Another interviewee described it as:

“... a snowball effect. You do one thing to specialize. You pick up a big account who says “Great, now I want this”. So you do that, now you have two things. That makes it a lot easier to go to another customer. And when that one says, “Great, I want a special system”, you’ve picked up enough units to staff up a bit more.” (Interview, *Avro* ex-manager, 2014)

### ***Not network leverage but direct sales channels:***

Although SMEs were expected to rely on networks of agents and partners to sell overseas, case firms primarily sold direct to make relationship commitments stronger:

“If you go through a channel partner, you lose that direct relationship... If someone’s in between and they’re selling it for different motive, it tends not to work so well.” (Interview, *Gloster*, 2014)

“The channel that you may think is there is not there, it’s already been taken up by other vendors.” (Interview, *MNE*, 2014)

Internationalization processes identified in the Uppsala model (Johanson & Vahlne, 2009) were evident through these direct sales channels. Customer commitment was reinforced through product compliance with local regulations, direct communication channels between management in each organization and localized customer support. Inter-organizational processes, developed as part of product co-development, allowed the SMEs to learn about country and industry requirements as well as their customers' competitive context, building trust within the relationship and legitimacy externally in the broader network. In summary, the case SMEs' competitive strategies were to build committed relationships directly with early customers in each country, often co-developing specialized products and then expanding via reference selling. This strategy was used by Born Globals as well as gradually internationalizing SMEs. The implications of these findings are discussed in the next section.

## **4.6 Discussion**

In seeking to understand the competitive strategies used by internationalizing SMEs, this study has reasoned abductively from the patterns shown by these firms in competitive engagements based on

interactions between firms, customers and competitors within business networks. The revised (Uppsala) business network internationalization process model uses these same networks to explain how firms internationalize (Johanson & Vahlne, 2009) (see Figure 4-1).

Despite an initial expectation based on extant literature that FMS SMEs would internationalize by targeting the same niches in other countries with the same products using networked sales channels (Cavusgil & Knight, 2015; Hallbäck & Gabrielsson, 2013) as a consequence of the apparently global nature of FMS technology and market needs, the SMEs in this study adapted their approaches in each country. Specifically, the SMEs tended to enter a country by establishing very close relationships with their first customers in order to co-develop technology with that customer, and as relative outsiders, attaching to the edge of the business network in the new country via these customers.

The business network internationalization process model (Johanson & Vahlne, 2009) partially explains how internationalizing SMEs compete at this network edge (see Figure 4-2). The case SMEs identified opportunities and gained knowledge from early customers through product co-development (Yli-Renko et al., 2001). They proved their commitment through localized marketing implementation and developed inter-organizational processes, which built trust, created new firm capabilities, and assisted the SMEs to learn about the country, customer and local needs. These processes improved the firm's network position, giving it access to additional knowledge and opportunities to expand beyond the initial customer relationship.

However, the critical SME competitive strategy in the complex knowledge environment of FMS was using their position to bridge structural holes (Burt, 2002) to overcome information asymmetries between FMS industry knowledge and customers' knowledge of their own industries and markets in foreign countries (Peng et al., 2014). The internationalizing SMEs did not need high network centrality with multiple network connections; they could build committed relationships and gain in-depth knowledge of customers' requirements because, from their customers' perspective, they offered no threat of misusing the information (Shipilov, 2008).

Being at the edge of the business network in a foreign market, internationalizing SMEs avoided direct competition from large firms. A single customer is too small to justify large firm investment in specialized products (Audretsch et al., 1999), and customers valued the speed, flexibility and creativity SMEs brought to solving customer-specific problems (Katila et al., 2012). More importantly, the competitive strategy of bridging structural holes allowed internationalizing SMEs to outcompete the other SMEs that remained as competitors. Other internationalizing SMEs lacked access to detailed customer industry information on the foreign market side of the hole, given the fragmentation and variation across countries and customer industries. Foreign market SMEs lacked the international telematics technology knowledge, despite having good network connections in the foreign business network. Rather than expending scarce resources competing directly for a single

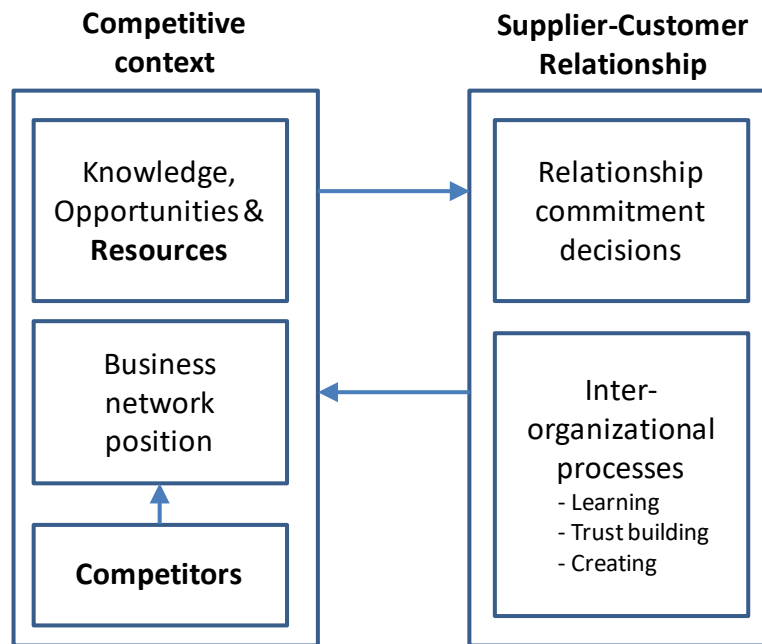
customer, multiple structural holes were available to bridge in the emerging and growth stages of an industry like FMS so rival SMEs moved on to other customers.

The three generic competitive strategies attributed to SMEs in the extant literature can be better understood as characteristics of the 'structural hole' competitive strategy. A niche is a *post hoc* categorization of the customer's need, while product differentiation categorizes the technological knowledge that SMEs bring to the relationship. Competing by leveraging networks to find opportunities and resources can be specified more precisely as competing by bridging structural holes.

The study's empirical findings suggest that the liability of outsidership identified in the Uppsala model (Johanson & Vahlne, 2009) may be less of a liability for internationalizing SMEs than may first appear because these firms use their technological knowledge and flexibility as competitive advantages, then convert their weak bargaining power and outsider position into a strength to bridge structural holes as their competitive strategy (Shipilov, 2008). These findings also prompt several extensions to the revised Uppsala model (Johanson & Vahlne, 2009) to develop it as an internationalizing SME network model of competing by integrating the business network foundations of competitive strategy described above with the model's business network underpinnings. These changes maintain the dialectic process of state and change decisions inside the firm but bring the Uppsala model's underlying multi-level business network construct to the surface to contextualize those decisions. "State" is relabeled as "Competitive context" because Network Position, New Knowledge and Opportunities lie outside the firm, at an industry or country-market level. "Resources" is included with Knowledge and Opportunities because the network position also influences a firm's ability to access new resources. "Competitors" influence Business Network Position because competing is a struggle for resources occurring through the business network in the competitive context. "Change" is relabeled as "Supplier-Customer Relationship" because this is where network-based commitment and inter-organization processes occur, rather than in a single firm. This proposed network model of competing is shown in Figure 4-4.

This paper contributes to research into SME internationalization by showing that even though targeting niches, differentiating products and leveraging networks may represent how internationalizing SMEs avoid large competitors, these are inadequate explanations of SME competitive strategy against SME competitors. Instead, the paper shows that SMEs compete against foreign rivals by using their position at the edge of a business network to leverage information asymmetries across structural holes (Burt, 2002; Peng et al., 2014), which is an effective competitive strategy over time against large firms and other SMEs. The study reinterprets the Uppsala business network internationalization process model (Johanson & Vahlne, 2009) as an internationalizing SME network model of competing; linking competitive strategy to business network position, knowledge and opportunities, relationship commitments and inter-organizational processes.

Figure 4-4: Internationalizing SME network model of competing



Source: Adapted from Johanson & Vahlne (2009), modified aspects in bold

## 4.7 Conclusions

This research asked, “How do internationalizing SMEs in a given population compete against both large and small rivals over time?” Internationalizing SMEs compete at the edge of a business network by bridging structural holes between international technology networks and foreign customer industry networks. By building a small number of committed business relationships with customers to co-develop new products, SMEs avoid direct competition with large firms and hold other SME competitors out of this network position as a consequence of information asymmetries on both sides of the hole. SMEs then expand into customers’ business networks in the foreign markets over time.

Managerial implications from this study are that competitive success depends on SMEs being customer-centric rather than technology-centric. While innovative technology is important, firms need to invest in close relationships with foreign customers as a bridge into foreign markets. SMEs require focus as they internationalize, regardless of foreign market size, because firms must learn about the market and industry needs and then use their first customers as network references to win the next customers. Developing deep customer relationships and building co-development opportunities requires SME senior managers to be constantly travelling to foreign markets, which implies selling direct rather than via third-party channels.

Our contribution is theorized from a contextually-appropriate case selection, which was relevant and focused (Poulis, et.al, 2013). Its generalizability is limited by its exploratory nature, single industry context and systematic combining case method. New Zealand's small economic size and geographic remoteness may have meant NZ FMS firms developed differently because they did not have to compete with a large number of MNEs in their domestic market, although more generally NZ is recognized as a suitable country for studying SME internationalization (Chetty & Campbell-Hunt, 2004), particularly among small and open economies (SMOPECs) (Gerschewski & Xiao, 2015). The conclusions are limited to business-to-business market contexts, such as in high technology.

Theorizing through abductive reasoning has generated presumptive and conjectural conclusions (Mantere & Ketokivi, 2013) that now require deductive testing. Future research could examine the network positions taken by populations of internationalizing SMEs in other industries and countries, and in business-to-consumer situations. Researchers could investigate whether SMEs that internationalize primarily through third-party sales channels gain less network position benefit than SMEs with direct relationships with customers.



## **Chapter 5. Niche targeting through competitive rivalry and social construction: Internationalizing SMEs in the Fleet Management Systems industry**

### **5.1 Chapter overview**

Targeting niches is a fundamental SME competitive strategy and the niche chosen has path-dependent implications for the development and survival of internationalizing SMEs. Extant SME internationalization literature assumes that SMEs internationalize by targeting similar niches in other countries and that niche selection is an *ex ante* strategy based on firm resources and capabilities. This chapter questions those assumptions.

This chapter addresses Research sub-question 2, “How do internationalizing SMEs in a given population select niches?” by investigating how internationalizing SMEs in NZ’s Fleet Management Systems sector initially selected which niches to compete in and how niches changed as firms internationalized into other countries. Firms entered and exited niches as a consequence of changes in their competitive context heavily influenced by firms’ early customers and sales channel and shareholder partners. Competitors limited access to factor resources, influencing SMEs to change niche. However, firms also developed new niches that did not previously exist by co-creating opportunities with customers and partners. The chapter contributes by distinguishing structural niches in existing markets from firm niches that are socially constructed by market participants and firms themselves. Niche selection can be understood primarily as a competitive response and in most cases is not a planned strategy but instead a commitment to stay in a niche after initial success.

### **5.2 Introduction**

To avoid competing directly with larger firms, internationalizing small and medium-sized enterprises (SMEs) target niches (Chetty & Campbell-Hunt, 2004; Gabrielsson et al., 2008); small gaps in the market consisting of a small number of customers with similar needs and which are free of competitors (Dalgic & Leeuw, 1994). SMEs are thought to internationalize by targeting similar niches in other countries (Cannone & Ughetto, 2014), where these global niches may be so narrow that a single country niche is insufficient for firm survival (Madsen & Servais, 1997). Niche selection is important as a fundamental SME competitive strategy to avoid competing directly with large firms (Audretsch et al., 1999) and because decisions early in the development of SMEs have path-dependent

effects on firm survival or failure (Arthur, 1994; Oviatt & McDougall, 1994). However, a literature review of studies into niche strategies among internationalizing SMEs found little recent research on how firms used this strategy, inadequate distinction between niche strategies and differentiation and concluded that niche strategies were poorly understood in theory and practice (Stachowski, 2012).

Researchers suggest that the niches that internationalizing SMEs enter is a considered choice by firm management based on firm resources and capabilities (e.g. Cannone & Ughetto, 2014; Crick, 2009; Gabrielsson et al., 2008; Laanti et al., 2007; Rialp et al., 2005b). Yet, to be an *ex ante* competitive strategy, internationalizing SMEs would need access to detailed, accurate information about current and future markets to identify the global opportunity, correctly judge its size and partition it accurately so that competitors would not be motivated to enter, as well as know enough about potential customers to ensure their products could sell for sufficient margin. Internationalizing SMEs would also need to know that global niches were empty of competitors in other countries, would remain small enough to deter competitor interest and, to be a sustainable competitive strategy, that potential competitors would be unable to replicate products in a timely manner. These assumptions necessary for *ex ante* targeting appear unrealistic in the fast-moving global marketplaces associated with emerging and growing industries where internationalizing SMEs are typically found (Fernhaber et al., 2007). These industries change rapidly so that the market niches that internationalizing SMEs initially enter may not remain viable over time.

These assumptions are also inconsistent with other research into internationalizing SMEs. For example, internationalizing SMEs often have limited resources for detailed market analysis (Gabrielsson & Gabrielsson, 2013; Kalinic & Forza, 2012) and limited experience in other countries (Nordman & Melén, 2008). Rapidly internationalizing SMEs typically learn about foreign market opportunities through networking (Hånell & Ghauri, 2016) and mimicking other firms (Sui et al., 2016), while gradually internationalizing SMEs learn through practical experience; in other words, both rapidly and gradually internationalizing SMEs primarily learn about markets after they have entered them (Schwens & Kabst, 2009). Internationalizing SMEs with pre-existing knowledge gained through management and founders are less likely to undertake active search for new opportunities (Casillas, Barbero, & Sapienza, 2015). In summary, extant research into internationalizing SME opportunity recognition suggests niche targeting is unlikely to be an *ex ante* competitive strategy and instead may be unplanned (Crick & Spence, 2005).

How then, do internationalizing SMEs select the niches in which they compete? Learning through mimicry and networking, as well as the development of SMEs within industries, highlight that the niche selection choices of internationalizing SMEs must be understood in relation to other firms in SMEs' business contexts such as customers, partners and competitors, rather than investigating firms in isolation. Accordingly, "how do internationalizing SMEs in a given population select niches?" is

the specific question addressed in this paper. Case studies of nine internationalizing SMEs from the Fleet Management Systems (FMS) industry segment from New Zealand (NZ) were used to understand the niches in which these firms competed through firm start-up, internationalization and maturity over 15 years as the FMS segment evolved, from the formation of the pioneering firms in the NZ sector in 2000 to industry consolidation in 2014.

Evolutionary and institutional processes occurring in their competitive context heavily influenced which niches internationalizing SMEs entered. External actors such as early customers won by the firm, sales channel and shareholder partners, and competitors limited access to environmental resources or provided access to new resources. This constrained the niche options available to firms, so niche “selection” was seldom planned and was often in response to other firms’ actions. Because customer and factor resources changed as the FMS industry evolved, and the resources available in foreign markets were not the same as those elsewhere, firms often changed niches when they internationalized rather than replicating their domestic niches. Rather than an *ex ante* competitive strategy, this paper concludes that niches are a *post hoc* market position discovered as a consequence of competing and that niches are better understood as constantly changing, socially-constructed positions rather than identifiable locations in a market structure.

The paper contributes to International Business by explaining how firms develop niches that did not previously exist by co-creating opportunities with early customers, sales channels and shareholders. Early customers provide access to resources of revenue, knowledge and legitimacy; firms learn about their early customers’ industries, and use this knowledge to optimize their products to sell more easily to other customers in that niche, which in turn reinforces their niche specialization. Competitor actions to gain customers and factor market resources constrain firm niche targeting options yet at the same time competitors act as models from which internationalizing SMEs can learn.

The paper first develops the theory on niches as resource conditions, market spaces and socially-constructed positions, and the processes associated with niche selection. After describing the method and the case context of the FMS industry, the niche selection patterns of nine firms are described. A cross-case analysis summarizes the influences on selection and the discussion expands on how external actors influence SME niche selection.

### **5.3 Theory development**

Broadly, niches can be understood as resource spaces external to a firm (Carroll, 1985). Evolutionary theories assume that these environmental resources are limited and that to survive, firms must compete with other firms to control these resources (Aldrich & Reuf, 2006). Key resources for businesses are

customers, which provide firms with money and other benefits in return for products and services. Inputs to ongoing firm development, such as staff, capital and knowledge are factor resources, along with raw materials (Markman et al., 2009). Niche selection represents a choice about which subset of environmental resources a firm should compete for. However, the term “niche” is applied in the literature in various ways, most commonly in reference to market or industry structure in SME internationalization literature, while an alternative view in some entrepreneurship literature is that both resources and markets are socially-constructed concepts. The following sections distinguish three conceptions of niches.

### 5.3.1 Niches as market structure

Two conceptions of niche – ecological and market - are primarily structural. The organizational ecology literature (e.g. Hannan & Freeman, 1977) distinguishes firms competing in broad, general markets from those in narrow, niche markets. An *ecological niche*, also known as an organizational field (DiMaggio & Powell, 1983), represents the resource conditions where an organizational form can persist (Hannan & Freeman, 1977). Generalist firms can survive in a wide range of environmental resource conditions, while specialist firms operate in narrow niches to focus on specific environmental resource conditions and may not survive outside this range of conditions (Carroll, 1985). In strategy and marketing, a *market niche* describes a subset of a market segment “consisting of an individual customer or a small group of customers with similar characteristics or needs” where a firm can operate without direct competitors (Dalgic & Leeuw, 1994, p.40). Market niche specialization can be categorized as vertical or horizontal, derived from the economic idea of vertical and horizontal product differentiation (Dos Santos Ferreira & Thisee, 1996). Vertical niches (also called application or industry niches) are defined according to customers’ industry requirements with products and services differentiated to suit particular applications (Dalgic & Leeuw, 1994). Horizontal niches are defined by different technologies that deliver a similar product or service functionality for all customers but in a differentiated way<sup>12</sup>. Although both organizational fields and market niches address environmental resources, with customers a key resource determining niche dimensions, organizational ecology assumes that multiple firms may compete in an organizational field whereas market niches are assumed to be free of large competitors (and ambiguous about SME competitors).

Evolutionary theories and much of the SME internationalization literature treat niches as already existing in established markets (e.g. Fernhaber et al., 2007; Hannan & Freeman, 1977; Mudambi & Zahra, 2007) and lying dormant until entrepreneurial firms discover and exploit the opportunities

---

<sup>12</sup> For example, Apple iPhones and Android-based phones are differentiated horizontally because although each product offers similar functionality, they use different hardware and software which are not interoperable.

therein (Sarason et al., 2006). Yet recent entrepreneurship research suggests that opportunity recognition is more complex than simply spotting market gaps (Davidsson, 2015); that opportunities may instead be co-created by entrepreneurs and their social context (Downing, 2005; Giddens, 1984; Sarason et al., 2006; Sarasvathy, 2001), implying that niches may emerge as a consequence of social processes that co-create (Sarasvathy, 2001) or revalue resources (Shane & Venkataraman, 2000). This conception of niches is addressed next.

### 5.3.2 Niches as socially-constructed positions

To identify market and industry boundaries and their firm's position within these, as well as define competitors of concern, managers develop simple mental models of their industry through competitive experience (Porac et al., 1989). Mental models are “deeply ingrained assumptions, generalizations, or images that influence how individuals or market actors understand the world and how they take action” (Storbacka & Nenonen, 2011, p.247). Mental models influence how managers develop simple decision rules or heuristics that affect what they learn (Holcomb et al., 2009), how population-level learning occurs in an industry (McKendrick, 2001) and the SME internationalization process itself (Cavusgil & Knight, 2015; Harms & Schiele, 2012). Accordingly, mental models are also likely influence how managers understand the niches their firms compete within, which means that from a firm's perspective, niches are not objectively-defined market spaces based on rational evaluation of resource content but are instead a socially-constructed product of experience with market participants, combined with habitual cognition (Gross, 2009).

At the firm level, even the evaluation of the resources that a niche contains may be seen as socially constructed. Entrepreneurs are able to profit by buying factor resources at a lower price and selling value-added goods at a higher price because individuals value resources differently (Shane & Venkataraman, 2000) as a result of using different mental models to make sense of complex information (Holcomb et al., 2009; Shane & Venkataraman, 2000). Further, resources are not necessarily as fixed or defined as they may first appear because entrepreneurs are able to create new resources through bricolage by combining elements thought by others to be worthless (Baker & Nelson, 2005). This suggests that resources are, in part, socially constructed because social structures are necessary to determine a resource's existence and value.

Although niches are often portrayed as opportunities existing independently and awaiting discovery (Sarason et al., 2006), a structuration perspective (Giddens, 1984) suggests entrepreneurs are both “enabled and constrained by social structures”, with the “entrepreneur and the opportunity so intertwined that one cannot exist without the other” (Sarason et al., 2006, p.287). Opportunities must be enacted by entrepreneurs based on their understanding and interpretation of their business

environment (Venkataraman, Sarasvathy, Dew, & Forster, 2012). New ventures to enact opportunities reflect the social structures in which they operate, yet in their creation and operation, new ventures alter the social structure (Venkataraman et al., 2012). This means that markets can be understood as socially-constructed conceptual spaces where networks of participants (suppliers, firms, customers, and authorities) integrate their resources to co-create value (Storbacka & Nenonen, 2011). If identifying a niche first requires a socially-constructed opportunity in a socially-constructed market, with the value of the niche’s resources also socially constructed, it follows that niches are socially-constructed concepts. This means that niche boundaries and the resources they contain are not as clearly delineated as is assumed in structural conceptions of niches (such as ecological and market niches), and may be constantly modified by market participants.

Table 5-1 summarizes these three different conceptions of niche. To distinguish static, structural interpretations of niche from socially-constructed niches defined from the perspective of the firm, this paper uses the term “firm niche”.

Table 5-1: Three conceptions of niche

<b>Niche category</b>	<b>Theoretical foundation</b>	<b>Niche size</b>	<b>Key references</b>
<b>Organizational field (Ecological niche)</b>	Evolutionary	Changes over time according to resources	(Carroll, 1985; DiMaggio & Powell, 1983; Hannan & Freeman, 1977)
<b>Market niche</b>	Marketing, economics	Fixed (static)	(Dalgic & Leeuw, 1994)
<b>Firm niche</b>	Social construction	Defined in relation to competitors	(Porac et al., 1989)

### 5.3.3 SME niche strategy

Regardless of how a niche is conceptualized by the firm, it nonetheless represents an external resource space potentially of value to multiple firms (Carroll, 1985), so niche selection is a key element of SME competitive strategy. Lacking resources, SMEs cannot afford to be generalists like large firms so they specialize by using niches to partition the market (Carroll, 1985). SMEs in general operate in niches: through differences in deployment of production factors and specialist goods that provide higher price-cost margins, small firms are a distinct group providing a different economic function from large firms (Audretsch et al., 1999). Niche targeting by internationalizing SMEs is the norm, with the focus and pace of internationalization “dictated by competitive imperatives to seize a leading position in niche or emerging markets” (Chetty & Campbell-Hunt, 2004, p.63) by pursuing narrow but

deep penetration of niches with often just a few key customers in each country (Crick, 2009; Hennart, 2014; Laanti et al., 2007; Rialp et al., 2005b) to avoid larger competitors (Aspelund & Moen, 2005; Gabrielsson et al., 2008). However, competitor avoidance arguments provide an incomplete explanation of competitive strategy because small firms compete most intensely with other small firms and organizational fields (ecological niches) may be populated by other SMEs (Hannan & Freeman, 1977). Even though market niches may initially be empty of large competitors, SME competitors can easily enter because they do not need to produce at scale (Suarez & Utterback, 1995). Further, niches are dynamic because SMEs have the flexibility to constantly maneuver against these rivals (Katila et al., 2012), meaning niche selection may not be a “one-time” decision. Reinforcing the dynamic nature of niches, industries evolve as competitors enter and exit (Hannan & Freeman, 1989) and as technology develops (Suarez et al., 2015; Suarez & Utterback, 1995), which changes the nature and value of the resources that niches contain. In summary, literature that describes SME competitive strategy as targeting niches to avoid large firms fails to explain how these firms compete with other SMEs, or how firms address changes in the environment that influence the resources within niches.

#### 5.3.4 Niche selection processes

A firm’s niche selection may be determined by evaluating the kinds of customers that the SME competes for and the products and services it offers (Dalgic & Leeuw, 1994). That is, niche selection represents the realized strategy of niches actually targeted (Mintzberg & Waters, 1985) and represents a firm niche as defined by the firm itself (see Table 5-1), rather than a market niche defined from an outsider’s perspective.

Niche selection processes occur in conditions of high uncertainty, particularly in the innovative, high-technology industries where internationalizing SMEs often operate (Aspelund & Moen, 2005; Chetty & Campbell-Hunt, 2003; Crick, 2009; Gabrielsson et al., 2008; Laanti et al., 2007). To evaluate potential niches, internationalizing SMEs apply simplified decision rules (Holcomb et al., 2009; Sarasvathy, Kumar, York, & Bhagavatula, 2014) that are developed by observing and learning from firms with similar characteristics to their own (Porac et al., 1989; Terlaak & Gong, 2008). By clustering salient characteristics such as organizational type, location and size, firms identify rivals of concern as well as define market and industry boundaries (Easton, 1988; Porac et al., 1989). Competitor proximity particularly influences mental models (Porac et al., 1989) and thus firm learning and action, meaning that competitors located in the same geographic area initially learn rapidly from each other (Greve, 2000; Mascarenhas, 1996; Poudier & St. John, 1996). Firms may mimic competitors by targeting similar niches to gain legitimacy (DiMaggio & Powell, 1983; Greve, 2000), to neutralize a rival’s initiative or because they assume the competitor has better knowledge (Lieberman & Asaba, 2006). Vicarious learning from competitors’ successes (Denrell, 2003) and

failures (Kim & Miner, 2007) allows firms to develop knowledge without having to carry the costs and risks of taking the action themselves (Terlaak & Gong, 2008). Learning from competitors is a mechanism motivating early SME internationalization; indeed, the influence of other firms in the same industry in the same domestic market (i.e. direct and potential competitors) on the choices that internationalizing SMEs make has been widely noted (Fernhaber & Li, 2010; Fernhaber et al., 2007; Greve, 2000; McDougall, 1989; Sui et al., 2016).

Accordingly, rather than *ex ante* strategizing, niche selection processes may be characterized as SMEs acting on co-created opportunities with other market participants (Sarason et al., 2006; Sarasvathy et al., 2014) to build resources and legitimacy (Aldrich & Fiol, 1994; DiMaggio & Powell, 1991) within a socially-constructed firm niche, understood from the firm's perspective as free from salient competitors (Holcomb et al., 2009; Porac & Rosa, 1996). Because customers and competitors change as industries evolve, the value of resources in niches changes, so niches are dynamic (Hannan & Freeman, 1977), meaning internationalizing SMEs cannot create stable niches that remain protected from competitors (Zucchella & Palamara, 2006). New opportunities may be co-created as well as discovered (Venkataraman et al., 2012), implying that niches are socially-constructed consequences of firm action. The next section examines the method used to study how internationalizing SMEs in a given population selected niches.

## 5.4 Method

This paper uses multiple case studies within a population of firms in the FMS industry segment in New Zealand. Case studies are suitable for “how” and “why” questions (Eisenhardt & Graebner, 2007), while industry studies provide the means to understand the competitive dynamics of firms within their environment while maintaining a perspective of all the competitors (McKendrick, 2001). An abductive approach of systematic combining was applied to explore, challenge and reconstruct the relationship between theory and the data, involving continual iteration between case, theory, research framework and the empirical world (Dubois & Gadde, 2002). Unlike the linear approaches of Yin (2009), the precise boundaries of the case and *a priori* specification of propositions are deferred, allowing emergent ideas to be examined in relation to evidence from other sources (Piekkari et al., 2010). Abduction allows the generation of novel conceptual insights (Langley et al., 2013) and is suited to exploratory research in international business (Piekkari et al., 2009) and industrial marketing (Piekkari et al., 2010).



The Fleet Management Systems (FMS) industry was selected as a research context because it is an international industry that has developed since the mid-1990s<sup>13</sup>, allowing time for individual firms to prosper or fail. FMS, also known as telematics technology, combines specialized hardware devices, data communications, GPS tracking and software to remotely manage the movements of trucks and other high-value vehicles. Real-time data about vehicle location and operating conditions (such as engine, weight, braking, acceleration, fuel consumption, temperature) is transmitted via mobile telecommunications or satellite networks to powerful centralized servers for analysis. Businesses can track the efficiency of an entire fleet in real time, permitting analysis of driver behavior, cold-chain monitoring, and detailed vehicle performance (diagnostics, maintenance), providing benefits such as improved safety, reduced fuel costs, and better asset utilization.

The FMS industry sector comprises hardware, software and services firms providing fleet management components and integration through business-to-business sales to customer organizations with vehicle fleets (in sectors such as utilities, public transport, shipping, third party logistics firms, oil and gas, forestry, services). FMS is a worldwide industry and FMS technology has global customer potential across organizations ranging in size from SMEs to multinationals. By using publically available Internet, GPS services and digital telecommunications carriers, FMS appears relatively unconstrained by institutional or regulatory factors that might cause large variations in each country-market. FMS is a forerunner industry of the current global technology trend towards the “Internet of Things” (IoT)<sup>14</sup>; networks of embedded sensors within everyday items enabling greater product automation capabilities, including monitoring, control, optimization, and even autonomy. Accordingly, FMS is a relevant and contemporary industry for investigating SME internationalization and niche selection.

New Zealand (NZ) was chosen as a country context because it had generated a large number of firms in FMS relative to NZ’s small domestic market size, yet was small enough to gather data on all the firms in the industry. A number of different types of internationalizing firms, including rapidly and gradually internationalizing SMEs and multinational enterprises (MNEs), could be identified at the start of the research, with several NZ-heritage SMEs successful at penetrating large international FMS markets (demonstrating that opportunities for NZ-based firms were available and achievable). NZ has been recognized as an ideal country for conducting research into SME internationalization because of its open markets (Chetty & Campbell-Hunt, 2004).

---

<sup>13</sup> Gartner Group, a technology analysis firm, first noted wireless fleet tracking technologies in 1997 and began tracking FMS as an emerging technology in 2003.

<sup>14</sup> Clem Driscoll (Industry analyst), Keynote address, Connected Fleets Conference, Atlanta, 2014.

Although about 25 firms had been active in the NZ FMS market, only about 13 of these were international in scope (ten local firms and three foreign MNEs with operations in NZ). The other firms either were small resellers of overseas technology or treated FMS as a minor segment within their domestic product range. Although a research objective was to gain an internal perspective from each of the major internationalized industry participants, two local firms were unwilling to participate. Nevertheless, data on *Lancaster* is still included within this study because extensive public information was available, and its rivals were able to provide detailed information corroborated across multiple interviewees. Insufficient information could be gathered on *Nimrod* so it has been left out of the case analysis but it is included in industry-level description. In summary, the nine case firms investigated represent almost a census of the ten internationalized NZ-heritage firms from the NZ FMS sector.

Semi-structured interviews were conducted in two phases approximately one year apart with respondents representing senior managers and ex-managers in FMS SMEs and MNEs active in NZ, including founding entrepreneurs, CEOs, general managers and sales directors. In face-to-face or Skype interviews lasting 60 to 90 minutes, managers described their firm’s history and strategy, their competitors’ strategies and how and why the firm’s niches had changed over time. Phase 2 interviews probed concepts of interest revealed in the analysis of Phase 1 interviews. In addition, the first author attended the Connected Fleets industry conference in the US in 2014 and interviewed industry analysts and potential US competitors. Industry consultants in NZ and government international trade organization staff were also interviewed. In addition to managers currently involved in the FMS industry in NZ, managers from two firms that had exited the industry were sought out and interviewed. Over 30 hours of interview recordings were transcribed and entered into NVIVO. Table 5-2 shows the distribution of the 33 interviews conducted.

Table 5-2: Interviews conducted over two phases

<b>Respondent category</b>	<b>Phase 1</b>	<b>Phase 2</b>
Senior managers of NZ-heritage firms	9	5
Local managers of MNE firms	2	0
Managers in firms no longer in FMS industry	3	0
Foreign competitors	6	0
Industry consultants; government export agency	8	0
<b>Total</b>	<b>28</b>	<b>5</b>

Public information on all firms was sought by searching the internet, Factiva (Dow Jones, 2015) and the NZ Companies Register (New Zealand Companies Office, 2015), generating over 250 documents to verify information gained in interviews or to provide additional insight. This coverage of data sources across the entire population reduced survivor bias by including “failed” firms and ensured a 360 degree perspective of all firms in the population by speaking to representatives of the firms themselves as well as to their competitors and independent observers to minimize individual respondent bias (Golden, 1992).

Discussion of firm niches was interlinked with discussion of other strategic and competitive action. To analyze niche selection, case reports on each firm were written from transcripts and secondary data to describe the firm’s history and pattern of overall changes. The broad segments that each firm targeted in 2008 and 2014 were mapped in relation to the competitors that case firms identified as salient to track industry-level changes (see Figures 5-1 & 5-2). The specific vertical markets that firms identified in 2014 were also listed. Firm-level diagrams of niche changes were developed for three cases – *Avro*, *Lancaster* and *Bulldog* - that showed the greatest variation in their niche selection patterns (see Figures 5-3 to 5-5). The next section provides an overview of the FMS industry in NZ and the nine case firms studied.

#### 5.4.1 Overview of the FMS industry in New Zealand

The nine case firms in this study, all NZ-heritage firms that internationalized as the FMS industry evolved over 15 years, are described in Table 5-3. Code names are used to de-identify the firms.

*Avro*, NZ’s pioneering FMS firm, was founded in 2001 as a division of a company with expertise in marine and car navigation products and *Eagle* formed around the same time. Another six companies entered the industry in the period 2004 to 2007. *Lancaster*, founded in 2000 but with a long gestation, launched in 2008 while *Comet* exited the industry in 2009. In 2014, with the exception of *Avro*, all firms would be classified as SMEs using the European definition of SMEs as having fewer than 250 employees and annual turnover of less than €50 M equivalent (European Commission, 2014). Prior to its acquisition by a large US multinational in 2012, *Avro* would also have been classified as an SME. The next section presents the research findings.

Table 5-3: Case firms (in order of year of establishment)

Company Code	Year Established	First International	Revenue 2014 \$ USD M	2014 ownership	Heritage	International Markets
<i>Lancaster</i>	2000	2010	7.4	Public	First product in 2007	NZ, USA, Australia
<i>Avro</i>	2001	2001	85.1	US MNE	Originally division of NZ company; since sold several times	NZ, USA, Australia, Europe, South America
<i>Eagle</i>	2001	2002	5.3	Private	Merger with Australian company in 2007	NZ, USA, Australia, South Africa
<i>Dakota</i>	2003	2008	7.7	Private	Startup	NZ, USA, Australia
<i>Gloster</i>	2004	2008	8.0	Private	Previous firm bankrupt	NZ, Australia
<i>Heron</i>	2004	2007	3.5	Private	Startup	NZ, India, Middle East
<i>Javelin</i>	2005	2011	1.5	Private	Startup	NZ, USA Australia
<i>Bulldog</i>	2005	2011	1.5	Private	Startup	NZ, Australia
<i>Comet</i>	2006	2010	2.7	Private	Exited FMS in 2009, subsequently internationalized	NZ, USA, Australia

Sources: Interviews, analyst reports, press articles, company websites

## 5.5 Findings

Structural patterns within the population are presented first. Then the niche selections of each of the case firms are described and the section concludes with a cross-case analysis.

### Industry evolution

The FMS industry segment in NZ appears to have gone through three phases of emergence, rapid growth and consolidation. Industry emergence (2000-2002) occurred when *Nimrod*, *Avro* and *Eagle* were formed, although during this period these firms did not compete with each other. Instead, all three immediately targeted international markets with horizontal technology offerings. Most companies entered the FMS industry during the rapid growth period of 2003 to 2008. *Meteor*, from the UK, was the first MNE to open an office in NZ around 2003. *Bulldog*, *Dakota*, *Gloster*, *Heron*

and *Javelin* were all entrepreneurial start-ups. *Comet* entered the FMS industry in 2006 after initially focusing elsewhere, while *Eagle* merged with an Australian company in 2007 to become a much more substantial player. Following a change of senior management and major shareholders, *Lancaster* became active in 2008 even though the company was first registered in 2000. Consolidation of the NZ FMS industry began in 2009 and continued through 2014. *Comet* exited the FMS industry in 2009 due to competitive pressure. *Meteor* collapsed globally in 2010 and its assets, including its NZ operations, were bought by MNE *Kestrel*. Although international expansion continued during this industry consolidation, no additional internationalizing firms entered the NZ industry until MNE *Fairey* established a local office in 2014.

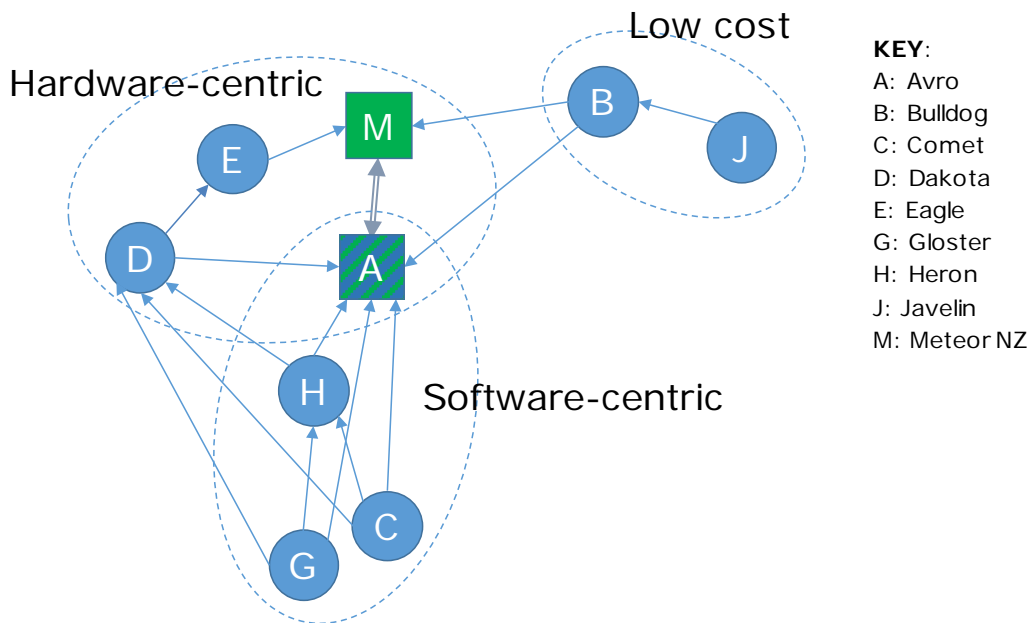
“Everybody who’s around now has started in the last 10 years. And we were all little backyard startups.” (Interview, *Bulldog* manager, 2014)

Figures 5-1 and 5-2 highlight the rivalry relationships identified by the firms in the industry within NZ. Given the importance of proximate competitors in influencing SME learning and action (Greve, 2000; Poudier & St. John, 1996), rivalry in the domestic market is likely to influence internationalization (Sui et al., 2016; Yu et al., 2015). Small circles identify NZ-owned firms while squares identify foreign-owned firms. Crosshatched squares show foreign ownership but NZ heritage. Arrows are drawn from firms to those competitors they identified as salient and double lines shown mutual recognition as competitors. Clusters are drawn to identify apparent market segments (that is, from the researcher’s perspective and analysis) based on each firm’s product and service offerings and the salient rivals and niches identified by firms.

Towards the close of the rapid growth period in 2008 (see Figure 5-1), horizontal segments were evident, based on the underlying hardware and software technology that firms offered. *Avro*, which had been acquired, crossed over hardware and software technology, while two firms emphasized price.

“(FMS) was never really a price sensitive product at that stage, it was more a niche product that you could actually get a lot of money for, but *Avro* decided to go mass market and the price dropped accordingly.” (Interview, ex-*Meteor* manager, 2014)

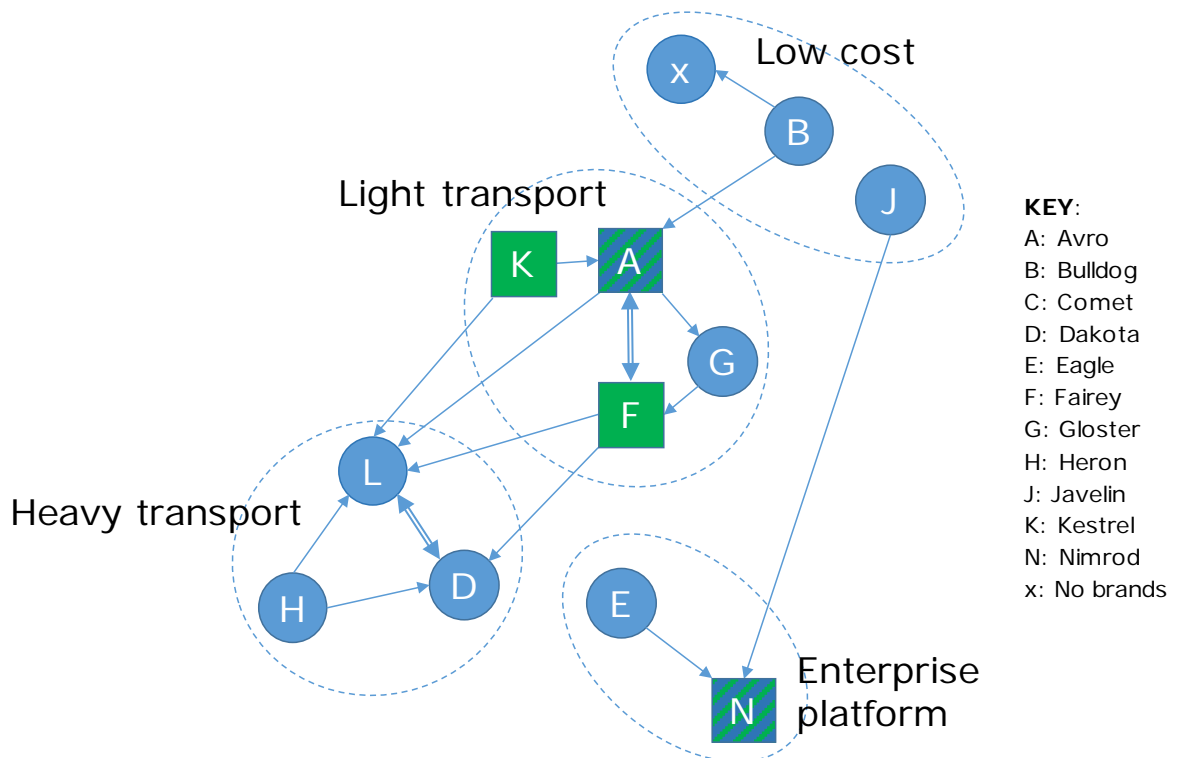
Figure 5-1: NZ rivalry segments 2008



Six years later in 2014, once the industry was consolidating, the rivalry relationships had changed almost completely and vertical segments were evident (see Figure 5-2). A heavy transport segment addressed specialized industrial applications while a light transport segment offered simpler solutions typically for small business customers (e.g. service firms, couriers) or where fleet management was not critical to the customer’s core business. The low cost segment remained but was challenged by a plethora of tiny no-name firms offering commodity hardware and low-cost web software. The enterprise platform segment addressed complex data integration applications for Fortune 1000-size customers.

“I see a lot of consolidation. One direction everything's going is around the connected vehicle space. The other direction is around mobile apps, and the likes of that. And then you always will have the niche vertical space, in certain sectors like cold chain, oil and gas, and all those guys in the enterprise space.” (Interview, *Heron* manager, 2015)

Figure 5-2: NZ rivalry segments 2014



These rivalry maps highlight that even in NZ’s small FMS industry sector (itself a highly specialized segment within the broader information technology industry) SMEs had further subdivided their markets to avoid competing with each other. As the industry evolved, the segments and rivalries changed but no competitor-free market segments were evident.

“What you are getting increasingly in this market are verticals where you have one or two companies who are the main service providers. They have the feature set that the industry wants in that particular space and the competitive advantage. They have done sufficient specialization on their product to be able to appeal in that market, to a degree that is very, very difficult for someone to emulate unless they pump a significant amount of development and resource into that area as well.” (Interview, ex-Avro manager 2014)

Table 5-4 shows the vertical niches that firms targeted in 2014 during the consolidation period. The shading highlights that half of the NZ-heritage firms (*Avro*, *Bulldog*, *Gloster*, *Heron* and *Nimrod*) targeted different niches in foreign markets to those in NZ. *Eagle* did not actively target the NZ market and *Javelin* had little success overseas, hence the lack of difference for these firms. Road freight (i.e. logistics companies that transport goods on trucks on behalf of their clients) was particularly crowded but case firms found even more specific niches within this vertical industry. For example, *Heron* developed a FMS system that transmitted over radio frequencies allowing vehicle

tracking in areas beyond digital telecommunications coverage while *Lancaster* developed a system for electronically calculating and verifying road user taxes. From a firm niche perspective, case firms considered themselves to have a differentiated offering that made their niches competitor-free.

Table 5-4: Vertical niches in 2014

Case firm	Road Freight	Refrigeration	Local Government	Forestry	Construction	Oil Gas Mining	SMEs, white van	Utilities	Public transport	Sub-prime finance	Use-based insurance	Vehicle security	OEM
<i>Avro</i>				1	1	1	1						
<i>Bulldog</i>							1					1	1
<i>Comet**</i>													
<i>Dakota</i>	1	1											
<i>Eagle</i>	1				1			1					
<i>Gloster</i>	2		1	1			2	1	1				
<i>Heron</i>	1	1				1							
<i>Javelin</i>										1	1	2	1
<i>Lancaster</i>	1												
<i>Nimrod</i>	1												1
<u>MNES:</u>													
<i>Meteor**</i>													
<i>Fairey</i>	1						1				1		
<i>Kestrel</i>	1						1						

Sources: firm interviews, consultants, competitors, websites, press articles

Key: 1= primary target; 2=secondary target; shaded=foreign market only; \*\*=exited market

The niche selection patterns of each of the nine case firms are summarized next, sequenced by their first year of active operations in the FMS market.



### 5.5.1 Avro

*Avro* launched in the United Kingdom (UK) in 2001 because its product relied on GPRS digital telecommunications, and the first commercial GPRS service was operating there. *Avro* also had a competitive motivation; it wanted to both challenge and learn from the FMS market leader, *Meteor*, in its UK home market. *Avro* next released its product in NZ in 2002, once GPRS services were launched there, in order to gain detailed customer feedback direct to their NZ-based R&D department. As GPRS services became available, by 2004 *Avro* had expanded into Australia, the US, Canada and several European markets. *Avro* initially occupied a horizontal technology niche of GPRS transmission of vehicle data to differentiate itself from competitors' switched, satellite and radio-based transmission products. Later *Avro* identified in hindsight what its vertical niches were:

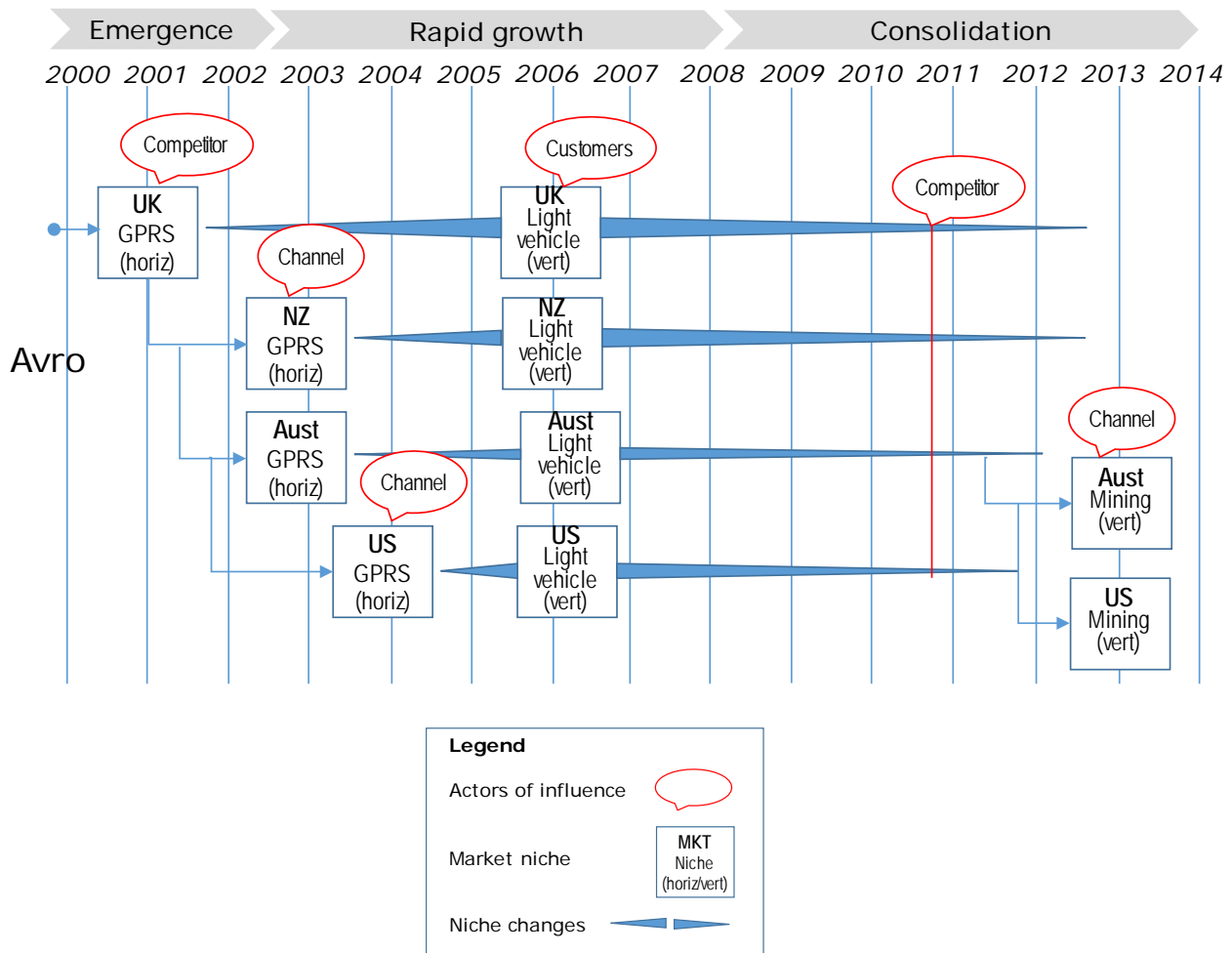
“...it's kind of like, “How many units have we got in this vertical?” Then we started crunching the numbers to see where we were having our successes.” (Interview, *Avro* manager, 2014)

By 2006, *Avro* recognized it was in the light vehicle vertical niche in multiple geographic markets based on customer success. This niche became increasingly more price competitive, and as a consequence *Avro* became more methodical in targeting narrower vertical niches and new countries for expansion. After being acquired and sold several times before becoming a subsidiary of a US conglomerate, in 2013 *Avro* targeted the mining niche where it could leverage links with other divisions.

“Initially it was transport and white vans. Around 2007, you started to see the beginnings of a lot more specialization and it's really snowballed. It's a function of market maturity.” (Interview, ex-*Avro* manager, 2014)

*Avro*'s niche selection pattern is shown for four countries over time in Figure 5-3 to show how competitors, customers, and channels and shareholders have influenced niche selection over the firm's development.

Figure 5-3: Avro's niche selection pattern



### 5.5.2 Eagle

*Eagle* formed in 2001 and initially targeted FMS service providers in telecommunication companies internationally as an OEM (original equipment manufacturer) supplier of specialist hardware. A merger between *Eagle* and an Australian FMS software firm in 2007 saw the firm grow substantially. The Australian firm already had two marquee customers in the concrete and supermarket verticals, which became the niches targeted for new international expansion. In addition, *Eagle* won two very large enterprise customers for its hardware in the US in third party logistics and telecommunications. *Eagle* eschewed the NZ domestic market both as too competitive and too small to justify the resources required, generating most of its revenue in Australia and the US. Following a major system redevelopment that changed the firm's technology from being hardware-oriented to enterprise software-oriented, *Eagle* pursued further international expansion as a FMS and telematics platform using a direct sales approach to target large enterprise customers by specific vertical markets.

“Our key competitor is following an almost an identical process of building a platform and then going by vertical... deep into those verticals. We don’t think there’s a position to play unless you go by vertical.” (Interview, *Eagle* manager, 2015)

### 5.5.3 Dakota

*Dakota*, a family business founded in 2003, initially developed telematics technology for the remote management of refrigeration units on railway freight cars for a single large customer and then applied this knowledge to heavy road transport. *Dakota* gained early feedback from potential UK customers through one of the founders based there, but no units were ever sold in the UK. When *Dakota* expanded to the US in 2008, it further narrowed its niche to heavy refrigerated trucking through an equity-based partnership with a MNE refrigeration specialist that gave *Dakota* access to unique software for remote control of refrigeration units in transit.

“When you look into the US or the UK, Europe you find there are lots of small, regional companies that are giving it a go and trying to get that critical mass. The majority of them will eventually fail or they find a real small niche.” (interview, ex-*Dakota* manager, 2015)

*Dakota* continued to invest in capabilities for the heavy transport niche in NZ market and developed an electronic road user charging (eRUC) application to compete with *Lancaster*, with the expectation that electronic road user charging would be a desired capability by governments globally in time. *Dakota* also had operations in Australia.

### 5.5.4 Gloster

Formed in 2004, *Gloster* first focused on FMS projects involving telemetry over radio, then in 2007 developed cellular transmission technology, winning early customers in local government and utilities. These specialist vertical applications continued to be the firm’s primary niches because they contained large, well-resourced enterprise customers, yet were discovered by accident:

“Trial and error, just working it out: we used to do everything for anyone, and then over time you kind of work out what’s successful and what does make money and try and focus more on those.” (Interview, *Gloster* manager, 2014)

The firm’s first Australian customer was an opportunity identified by a NZ partner in 2008. Subsequent Australian successes were primarily extensions of vertical applications developed for key customers in NZ.

### 5.5.5 Heron

*Heron* was formed in 2004 by two business associates with overseas connections. Its first product was sold exclusively via a partner with a radio transmission network to give *Heron* access to NZ's heavy transport and off-road fleets in forestry, quarrying and road construction. *Heron* chose this channel strategy to differentiate from *Avro*, the market leader at the time, which had developed close reseller arrangements with both NZ cellular mobile telecommunications companies. Customizing its product for individual customer requirements consumed *Heron's* resources for the first three years.

In 2007, *Heron* expanded to Australia, India and the Middle East. Negotiating a contract with a large mobile telecommunications company partner in India took two and a half years and had only limited success due to the rapidly reducing prices from Indian competitors. Subsequently, *Heron* targeted a new vertical niche of oil and gas producers in India who needed a feature-rich product and were willing to pay for quality. *Heron* had to develop a new niche in cold-chain logistics monitoring in the Middle East because the economic drivers that supported FMS in NZ such as high fuel and wage costs did not exist, meaning they could not replicate niches as they internationalized:

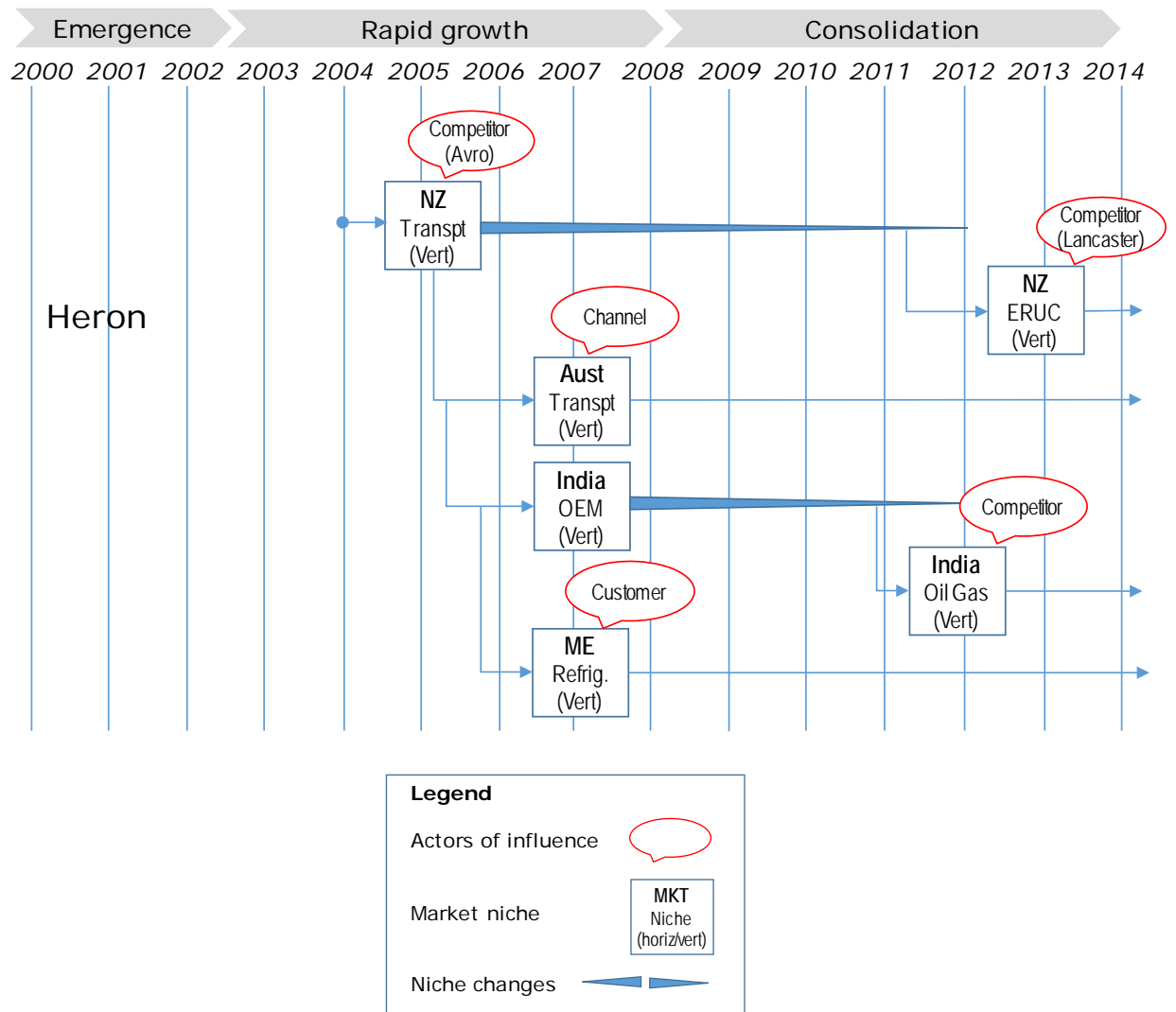
“We got sucked in considerably into those (NZ niches) in hindsight, but we weren't able to replicate that... New Zealand is the easiest place to get some quick wins, but what's dangerous is trying to replicate the quick win globally and scaling it.” (Interview, *Heron* manager, 2014)

In 2012, *Heron* focused on the electronic road user charging (eRUC) niche in NZ because it saw an opportunity as an alternative to the early niche leader, *Lancaster*, and to leverage into the Internet of Things automation trend. Revenue from overseas customers was used to fund product development for *Heron's* new NZ niche.

“At the end of the day the industry we are in has the expertise to be the platform of choice for IoT. So the buzzword is Internet of Things now. ... but then you've got to build vertical niche solutions which can stand by themselves and sustain themselves in terms of revenue and monetization.” (Interview, *Heron* manager, 2015)

*Heron's* niche selection pattern is shown over time in Figure 5-4 to show how competitors, channels and customers have influenced niche selection over the firm's development.

Figure 5-4: *Heron's niche selection pattern*



### 5.5.6 *Javelin*

After *Javelin's* founder built a simple tracking device in 2005, he searched for opportunities for the product. He found a niche in sub-prime vehicle finance through a sales partner.

“...which is a really bad way to do it because you’ve got some technology and then you try to build a business out of it. What happens is you flail a lot. You just kind of squeeze into one market and then if you’re lucky, you find something.” (Interview, *Javelin* manager, 2014)

Early attempts to expand into the US and Australia via distributors failed and the firm withdrew back to NZ and continued to develop its finance niche. *Javelin's* finance company partner provided the ongoing sales channel, allowing *Javelin* to focus on technology development. In 2013 *Javelin* developed four consumer-oriented OEM applications to be sold by large NZ or Australian firms under

these partners' brands, and with a goal of internationalizing via partners' resources and access, replicating the same approach used in sub-prime finance.

### 5.5.7 Bulldog

With its first product conceived as a consumer security-tracking device, *Bulldog* discovered its niche by accident in 2006 when its launch advertising received an overwhelming response from small businesses. Within a month, *Bulldog* had redesigned its product as a basic FMS suite and relaunched. However, the firm quickly became trapped as a low-price supplier due to increased competition and lack of resources to respond: a number of NZ firms started up in that period; commodity hardware manufactured overseas became widely available allowing other firms to quickly create similar products; and *Bulldog* lacked the technical resources to customize its offering. Following a restructure in 2011, *Bulldog* began selling via resellers in NZ instead of direct and its CEO moved to Australia to replicate operations there.

“The high end (competitors) are very specialized, we've got companies that specialize in mining, companies that specialize in buses. The market is so much bigger (in Australia); you can find one niche ... and then stick to that.” (Interview, *Bulldog* CEO, 2015)

After discovering Australia was just as competitive as NZ, and with all the potential reseller channels already signed up by competitors, in 2013 the CEO changed focus again to become an OEM supplier of a hardware and software platform that other firms could repackage and sell under their own brand.

### 5.5.8 Comet

Initially *Comet* was a project-driven IT firm jumping from one bespoke idea to another, but in 2006 an experienced entrepreneur acquired the firm. *Comet* then focused its development resources on FMS software it had successfully developed for a key customer and developed vertical niches in logistics and forestry as a consequence of winning early customers.

“When we released (our product) we realized actually that the market didn't really want it. That hype had actually been created by the hardware and software guys trying to carve out a niche.” (Interview, *Comet* manager, 2014)

In mid-2008, just before launching into Australia, *Comet* decided to exit from the FMS industry altogether because it considered FMS in NZ was too competitive, management could not see an open niche opportunity and the firm lacked the resources for effective internationalization into the equally

competitive Australian market. *Comet* reapplied its IP and skills into another industry and subsequently expanded to Australia and the US:

“We don’t really know where our competition's going to come from, but we know it will come... because it's a huge market and it's quite untapped at the moment. Every week someone else will pop up.” (Interview, *Comet* manager, 2014)

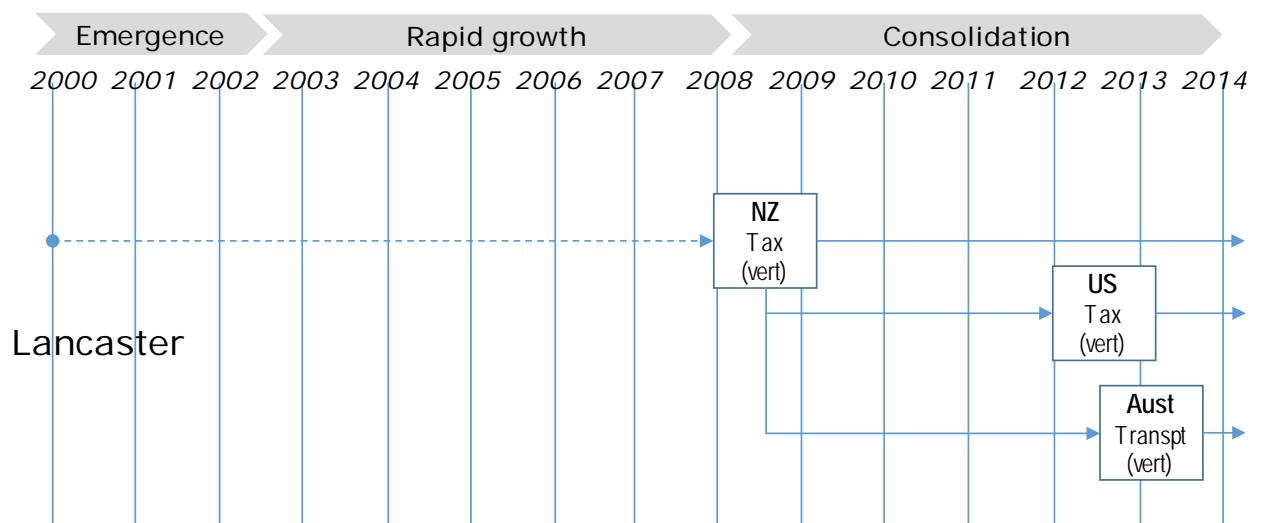
### 5.5.9 Lancaster

*Lancaster* was founded in 2000 to address a predicted requirement for electronic road user charging (eRUC) systems, but it was not until an ex-*Avro* executive with entrepreneurial expertise joined in 2007 that *Lancaster* made headway. This executive brought a disciplined and planned approach to product development and targeting, with the firm launching its first eRUC product in 2009 and growing rapidly in the heavy transport sector in NZ. In 2014, *Lancaster* launched the first commercial electronic road tax compliance system in Oregon, USA along with operations in Australia, also focused on heavy transport.

“The reason (*Lancaster*) have been successful is they didn’t try and be all things to all people.” (Interview, Consultant, 2014)

*Lancaster’s* niche selection pattern is shown over time in Figure 5-5 to show how the firm determined its own niche selection, but then built from its initial position in NZ.

Figure 5-5: *Lancaster’s* niche selection pattern



### 5.5.10 Cross case analysis

Four key themes can be identified in the niche selection of these nine internationalizing SMEs over time. First, all firms focused on niches in some form. In the early stages of the industry, prior to 2007, firms like *Avro* and *Heron* created horizontal niches based on hardware technology but as the industry matured, firms specialized into vertical niches. Second, most firms did not identify a single niche early in their development and then continue to pursue that target. Only *Lancaster* appears to have identified an opportunity then methodically built a product, succeeded in that target niche and internationalized in the same niche. Most firms kept changing their niche in response to competitor actions and opportunities identified by customers and later identified their targets:

“What has happened with us, and most telematics companies, is we've dabbled in everything. We think ‘Okay, we know we've done that, we've been there, solved that’. Then you pull back and say ‘let's fine tune only this one vertical.’” (Interview, *Heron* manager, 2014)

Third, most firms were active in multiple niches; either because they were unwilling to commit to just one or because the change process took time so for a period the firm needed to service multiple niches. Fourth, when firms internationalized, they did not necessarily target global customers using skills developed within their domestic niche but often were forced to enter new niches in foreign markets.

“Markets are different. You can't transpose one way of doing business and say, ‘OK, it works here, let's go to Australia - it will work there’, because it doesn't quite equate that way. People have different drivers for how they go about business.” (Interview, *Fairey* manager, 2014)

Although pioneer *Avro* replicated niches as it internationalized in the emerging and growth stages of the industry, as predicted by the extant SME internationalization literature (Cannone & Ughetto, 2014; Gabrielsson et al., 2008; Rialp et al., 2005b), SMEs that internationalized later, *relative to the FMS industry evolution*, were often forced to change niche.

Only two case firms, *Eagle* and *Lancaster*, independently identified an opportunity in advance then pursued it, as would be predicted by extant literature that suggests niche selection is a considered choice by firm management (e.g. Cannone & Ughetto, 2014; Crick, 2009; Gabrielsson et al., 2008; Laanti et al., 2007; Rialp et al., 2005b). Instead, three types of external actors determined the initial niches that most firms entered: the customers the firms gained early in their development, key partners as sales channels or shareholders, and competitors (see Table 5-5). By co-developing products, early customers determined the niches for *Bulldog*, *Comet*, *Dakota* and *Gloster*. *Javelin's* sales channel (subsequently a shareholder) determined its niche in subprime-financed vehicle tracking. Competitors influenced initial niche selection by *Avro* and *Heron*: *Avro* mimicked a competitor in the UK and entered that firm's markets to compete directly, while *Heron* later mimicked *Avro's* sales channel



strategies in NZ yet avoided direct competition with its SME rival through horizontal technology differentiation.

Table 5-5: Actors determining initial niches

<b>Initial niche determined by customers won</b>	<b>Initial niche determined by channels or shareholders</b>	<b>Initial niche determined by competitor position</b>	<b>Initial niche primarily determined by firm</b>
<p><i>Dakota</i> developed expertise in refrigeration based on initial customer in railways</p> <p><i>Gloster</i> developed bespoke applications and then sold these to similar customers</p> <p><i>Bulldog</i> adapted consumer product to FMS based on initial sales response after launch</p> <p><i>Comet</i> developed bespoke applications and then sold these to similar customers</p>	<p><i>Javelin</i> focused on car finance applications to support finance company partner</p>	<p>At launch <i>Avro</i> deliberately targeted main competitor <i>Meteor's</i> UK home market to challenge and learn</p> <p><i>Heron</i> developed radio-based system because <i>Avro</i> already dominated cellular transmission niche in NZ</p>	<p><i>Eagle</i> identified an opportunity to sell FMS hardware as an OEM in Europe</p> <p><i>Lancaster</i> was founded to pursue potential global applications of vehicle-based electronic road charging systems</p>

Subsequent changes in niche were also influenced by these three types of external actors (see Table 5-6) with firms making multiple niche changes. *Avro*, *Gloster* and *Heron* recognized after the fact which vertical markets had greater customer success then optimized their product to suit these customer requirements.

“As time goes on, we’ve found that where we are focusing now, we’re not playing in the same verticals, that everyone's got their own niche vertical.” (Interview, *Gloster* manager, 2014)

“Any feature that's in a competitor's product is generally customer-driven anyway. We'll have a look at it and say, ‘Hey it's a good feature.’ It wouldn't completely be a knee-jerk reaction (to copy it), but we'd tend to say, ‘Just because they’ve done it that way doesn't mean it's right’”. We'd have a look and say ‘How does that fit for our true segmentation and view of the market?’.” (Interview, *Avro* manager, 2014)

Table 5-6: Actors influencing changes in niche

Niche change determined by customers won	Niche change determined by channels or shareholders	Niche change determined by competitor position	Niche change primarily determined by firm
<p><i>Avro</i> analyzed areas of success by customer application to determine where to focus additional resources for expansion in other foreign markets</p> <p><i>Dakota</i> used experience developing robust hardware for railway cars to expand into construction niche</p> <p>Subsequent applications <i>Gloster</i> developed for initial customers allowed expansion into vertical niches in local government and utilities in NZ and Australia</p> <p><i>Gloster</i> expanded into public transport after winning one major project in Australia</p> <p><i>Heron</i> switched into cold-chain monitoring applications based on sales to Middle-East customers</p>	<p><i>Avro</i>'s initial international expansion was determined by GPRS cellular transmission availability in different countries</p> <p><i>Avro</i> entered mining and construction verticals globally because other parent company divisions provided customer access and references</p> <p>After <i>Eagle</i> merged with Australian software firm, it focused on Australian niches where new partner had already been successful</p> <p><i>Dakota</i> narrowed focus to truck refrigeration after accessing key software from a sales partner in the US</p>	<p><i>Avro</i> reduced its resources in the small fleet "white van" segment due to pricing pressures from foreign "no-brand" integrators</p> <p><i>Heron</i> exited small fleet "van" segment in India due to pricing pressures from Indian "no-brand" integrators</p> <p><i>Heron</i> entered eRUC segment in NZ to maintain market share against <i>Lancaster</i></p> <p><i>Comet</i> exited FMS industry due to perceived strength and positions of competitors in NZ and Australia</p> <p><i>Bulldog</i> exited small fleet "van" niche and focused on generic OEM platform niche because of strength of competitors in NZ and Australia</p> <p><i>Eagle</i> mimicked elements of key competitor <i>Nimrod</i>'s strategy to target large corporate customers globally</p> <p><i>Javelin</i> ceased development of own brand products and focused on generic OEM niche because of strength of competitors in NZ</p>	<p>Nil</p>

Customers were also critical in identifying new niche opportunities. For example, *Dakota*'s early experience developing robust hardware able to withstand the violent crashes, power supply voltage spikes and temperature extremes of railway freight cars led to niches in construction equipment (bulldozers and cranes) and refrigerated trucks. *Gloster* provided extra functionality in their systems

so that local government staff could use in-vehicle telematics to mark any public vandalism they encountered and dispatch clean-up crews directly to the location.

New shareholders with proprietary IP or relationships provided the necessary resources for *Avro* and *Dakota* to enter new niches in other countries. Competitors directly influenced changes for a number of firms. *Comet* determined that competitors had taken all the attractive niches and controlled the necessary resources for success, then exited the industry. *Heron* moved into oil and gas to avoid low cost competitors in India and invested in eRUC in NZ because *Lancaster* threatened its niche in heavy transport. *Bulldog*, with its pricing constrained by low-price competitors, lacked funds to develop differentiated products and was forced into an OEM strategy in Australia because competitors like *Avro* controlled all the potential sales channels, with *Javelin* being forced into a similar niche. While *Eagle* rebuilt its technology platform, it observed and mimicked the strategies of a competitor while avoiding the same vertical niches.

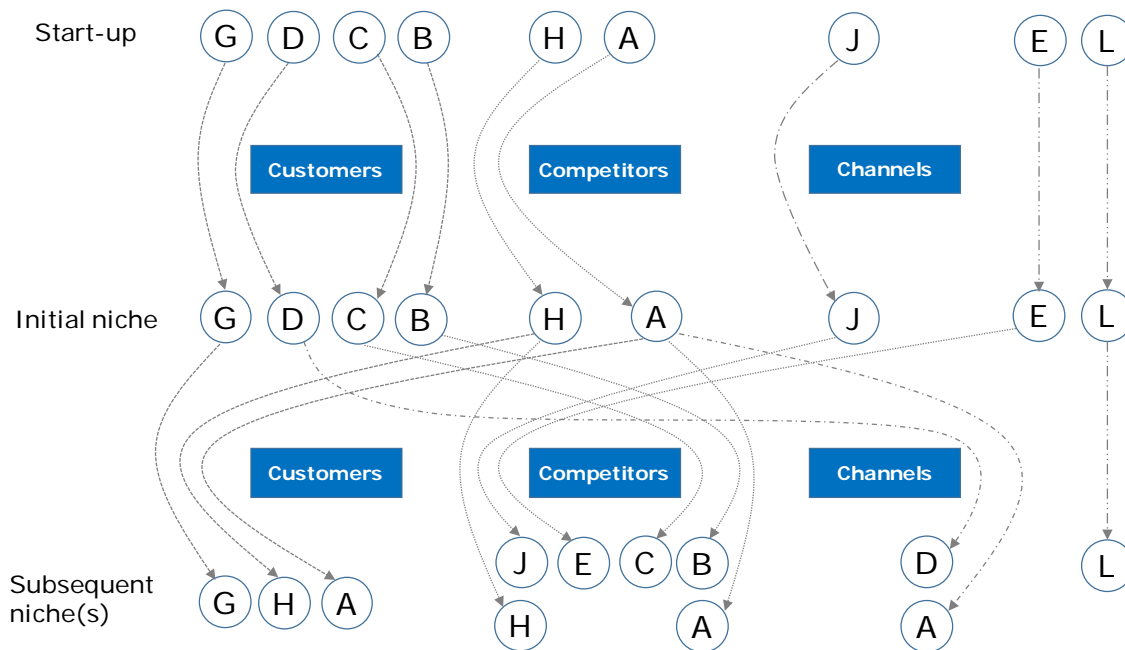
“We have chosen to go more on the platform side and then verticalize into specialist areas. But what we are finding in those verticals are niche players coming into those spaces on a quarterly basis.” (Interview, *Eagle* manager, 2014)

The only firm not to have its niche influenced by customers, channel partners or competitors was *Lancaster*, which continued to focus on the electronic road-user charging niche when it internationalized to the US. However, *Lancaster* had the shortest operational history of any of the case firms so external influences may emerge later.

Figure 5-6 shows these influences on niche selection graphically, with case firms represented by the first letter of their name and the complex influences and paths more apparent.

The niche selection patterns described show that international expansion and niche selection are tightly interrelated. Although the industry pioneer *Avro* internationalized by targeting similar niches in other countries, those firms that internationalized later, *relative to the industry evolution*, found that their domestic niches were already occupied in foreign markets or customer needs were different. Although some managers in NZ's FMS industry spoke as if they had independently selected the niches their firms would enter, the alternatives available to them had already been constrained by external actors. Other managers acknowledged that niche targets were recognized in hindsight or in response to customers, partners or competitors. The next section discusses these niche selection patterns and why external actors were so influential.

Figure 5-6: Influences on niche selection



## 5.6 Discussion

Niche selection by internationalizing SMEs is a fundamental element of their competitive strategy (Audretsch et al., 1999) with path-dependent effects on firm survival or failure (Arthur, 1994; Oviatt & McDougall, 1994). Extant SME internationalization literature does not examine niche selection closely but assumes that SMEs internationalize by targeting similar niches in other countries (Cannone & Ughetto, 2014) with niche selection an *ex ante* competitive strategy based on firm resources and capabilities (e.g. Cannone & Ughetto, 2014; Crick, 2009; Gabrielsson et al., 2008; Laanti et al., 2007; Rialp et al., 2005b). The findings of this study call those assumptions into question because the niche selection patterns of the firms in the FMS segment in NZ did not follow the approach predicted by extant theory. Actors external to the firm had already constrained the niche options available to most of the case firms; specifically, early customers, sales channel and shareholder partners, and competitors. Case firms continued to change niches in response to these external actors, with only one out of the nine case SMEs targeting a specific niche at start up then maintaining this throughout the firm's growth and internationalization.

Processes at two different levels were involved in niche selection. At the level of industry structure, internationalizing SMEs responded to external actors through competitive processes driven by

industry evolution, which influenced the niches in which they competed. Concurrently at the firm-level, social-construction processes influenced how internationalizing SMEs made sense of the niches they were in and how firms created new niches.

### 5.6.1 Industry evolution and niche selection

Industry evolution, and the consequential changes in market structure and niche resources it brings, explains how customers, partners and competitors influence which market niches that internationalizing SMEs compete in. Industry segments evolve as organizational fields (ecological niches), characterized by increasing resources (customers and factor resources) and legitimacy in the industry's growth stages (Hannan & Freeman, 1989).

When NZ FMS firms started up, fleet management was a new and relatively innovative concept so the first customers were early adopters willing to rely on their own intuition and vision to risk investing in new technology for their own competitive advantage (Moore, 1991). Early adopters encourage ongoing innovation (von Hippel, 1988), with FMS SMEs co-creating products with these early customers (Sarason et al., 2006). Only a small number of a new technology's potential customers will be early adopters (Moore, 1991) so each time a firm gains an early adopter, this limited resource is withdrawn from the environment and therefore from competitors because in an FMS sale, customers commit to particular hardware and software technology for several years – a relatively long time in the development of a start-up firm. Further, SMEs winning early adopter customers benefit from access to resources in the form of ongoing revenue and customer industry knowledge as well as legitimacy (Aldrich & Fiol, 1994; Hannan & Freeman, 1989). By learning about their customers' industries as part of new product co-development, SMEs can sell more easily to similar customers, thus creating a market niche specialization while gaining further legitimacy. Early adopter customers thus have a very strong influence on firm niche selection through the various resources they provide in the early stages of industry development.

Most of the firms in the NZ FMS segment won these early customers through opportunism or previous relationships, rather than through *ex ante* market niche targeting. New firms in a new industry may not have so many opportunities that they can afford to be especially selective, compounded by survival pressures to grow and maintain cash flow. Early customers are a double-edged sword, however; although providing access to new resources, early customers may also consume the SME's meager resources on bespoke product developments and bargain the price down to reflect their risk. This limits the SME's options to explore other opportunities and locks it into a particular path (Gabrielsson et al., 2008). For a number of case firms, winning key customers in

foreign markets and building from that beachhead appeared to be a mechanism both for internationalizing and for developing a market niche overseas (also see Chapter 4).

As an industry enters its growth phase, factor-market rivalry (Markman et al., 2009) explains how sales channels, shareholders and competitors influence the market niches that internationalizing SMEs compete in, through access to the factor resources that internationalizing SMEs require. Sales channels and shareholder partners helped FMS SMEs co-create opportunities in new niches by opening access to environmental resources (Hannan & Freeman, 1977). In contrast, competitors with control of resources constrained access, with latecomer firms forced to the edges of a niche where the resources were scarcer or lower quality (Carroll & Hannan, 1989). For example, only a limited number of partner organizations exist with the relevant knowledge and willingness to invest equity in a new technology in a new industry such as FMS. Similarly, only a limited number of sales channels (distributors and resellers) in any niche or geography have the capabilities to sell a technology like FMS.

“Avro setting up their channel in Australia has made it very hard for everyone else. Because if you’ve got the distribution organized ... it’s very hard for anyone to follow you at a dealer level... Those who got the early play did well. And that’s the kind of issue we’ve got in going into the US and other places. We can play at that enterprise level because it’s direct sales, but it’s really hard work.” (Interview, *Eagle* manager, 2015)

Once shareholder or sales channel partners are contracted to a competitor, those resources are withdrawn from the environment. Niche options for other firms are then constrained because these factor resources are no longer accessible. FMS SMEs that had difficulties in accessing critical factor resources of funding, technology and sales channels were forced to exit market niches and find new places to compete within the FMS industry. *Comet’s* managers determined that competitors controlled both niches and resources and decided to exit the industry entirely.

Market niches represent specific resource spaces external to a firm, so the competitive processes involved in providing access to or withdrawing resources from an organizational field (ecological niche) or market niche reflect those resources being consumed, and thereby influencing the survival of competitors in the niche (Carroll, 1985; Hannan & Freeman, 1989). This explains why the stage of industry evolution is such an important contextual influence on the success of individual internationalizing SMEs (Fernhaber et al., 2007). We next consider firm-level influences on niche selection.

### 5.6.2 Socially-constructed firm niches

While organizational fields and market niches are concepts at the industry level, firm niches are socially-understood, firm-level representations of where the firm competes. Firm niches are constructed via experience processed through the mental models that managers develop of markets, industries and salient competitors (Holcomb et al., 2009), as well as through individual firm interactions with other market participants. Firm niches represent how managers understand their position in the market to be free of competitors, even though from an observer's perspective of market structure at the industry level, the internationalizing SMEs may appear to compete with other firms in the same space. In the NZ FMS industry, this can be seen by comparing the high number of firms in the Road Transport vertical market in Table 5-4 and the case descriptions of how individual firms maneuvered against each other. Firms kept creating more specialized products and narrowing their focus until they created what they understood to be a firm niche with no competitors. As competitors responded, managers modified both their mental models and their representation of their firm niche and the competitive maneuvering continued.

Experiences with customers and competitors influenced the niches that firms understood themselves to be in. Firms learned from early customers, as well as vicariously and through mimicry of salient competitors (Fernhaber & Li, 2010; Porac & Rosa, 1996). For example, *Avro* deliberately targeted the then market leader *Meteor* in the UK at launch, while *Heron* subsequently learned from *Avro* in NZ. In both cases, a salient competitor's position directly influenced those SMEs to create horizontal technology niches that did not previously exist. Table 5-6 shows the influence of competitors was most evident in niche changes; because firms learn through competitive engagements, decisions to exit niches may be based on greater information (Terlaak & Gong, 2008) and be more deliberate than decisions to target new opportunities, which involve far greater uncertainty (Sarasvathy et al., 2014). Firms only understood which niche they were in after gaining competitive experience so at the firm level, the niche selection decision could be more accurately described as a commitment to stay, made retrospectively after initial success. The idea that internationalizing SMEs "select" niches to enter is a simplification of the outcome of competitive processes.

Socially-constructed firm niches are not recognized in advance by firms but instead are co-created through interaction with market participants and understood *post hoc*. The findings of this study suggest that few internationalizing SMEs can recognize structural market niches in advance either. When SMEs internationalize into foreign markets they also need to learn which niches they actually compete in through competitive experience.

The first contribution of this study is to show that a range of external actors - including early customers, shareholder and channel partners, and competitors - constrain the niche selections of internationalizing SMEs and these are more important influences on the niche that the firm competes

in than deliberate firm choice. By applying a theoretical lens that focuses on the resources in the environment that internationalizing SMEs need to survive and grow, and how these small, relatively powerless firms compete to gain access to these resources, the influence of external actors becomes evident and challenges the extant theoretical focus on firm-specific resources. The second contribution is to highlight the specific influence of competitors on the options available for SME niche selection through control of access to resources and as models for SMEs' learning. Because the resources available in individual niches change according to the stage of industry evolution, evolutionary timing affects internationalizing SMEs when they start up and again when they internationalize, relative to other SMEs in their industry. This forces a reconsideration of the emphasis in extant literature on the age of the SME when it first internationalizes and redirects attention to the time it internationalizes relative to industry evolution. A third contribution is to show how niches may more usefully be understood as a socially-constructed consequence of entrepreneurial co-creation with external actors, rather than existing resource pools awaiting discovery. Structural ecological and market niches at the industry level that are inferred by market observers must be distinguished from constantly changing, socially-constructed firm-level niches that are each firm's representation of where it competes. Fourth, niche selection at the firm level is primarily a competitive response and in most cases is not a planned strategy. Instead, niche selection appears to be a commitment to stay following competitive experience. These findings challenge extant research suggesting that internationalizing SMEs consciously target global market niches to avoid competitors.

## **5.7 Conclusions**

Examining all key firms within an industry sector as it evolves reveals patterns in niche selection not evident through the study of isolated successful firms or cross-sectional samples. The findings emphasize that actors in the environment, particularly firms' early customers, channel and shareholder partners, and competitors are the primary influencers of the niches in which internationalizing SMEs compete. This study is limited in its generalization by its qualitative method, the nature of the industry segment chosen and the choice of NZ as a country context but has practical implications for the strategy development and decision-making of internationalizing SMEs, their partners and their funders. Future research could investigate internationalizing SMEs in other industry segments in other countries to determine if these patterns are repeated.



## **Chapter 6. Competitor influences as a population of internationalizing SMEs evolves: The case of the Fleet Management Systems industry in New Zealand**

### **6.1 Chapter overview**

This chapter investigates competitor relationships within a population of internationalizing SMEs and MNEs in the Fleet Management Systems industry segment in New Zealand as it emerged, grew and consolidated between 2000 and 2014. It addresses Research sub-questions 3 and 4 of the thesis on the influences competitors have on the development of internationalizing SMEs and how different competitors have different influences. Other SMEs had most competitive influence on internationalizing SMEs through rivalry for factor resources and customers, while salient competitors acted as reference points for mimicry and firm learning. As they internationalized, SMEs that switched attention from domestic competitors to salient international SME competitors appeared to perform better than SMEs that remain focused on domestic competitors. Chapter 6 identifies moribund SMEs that are apparently stalled in their development as a result of competitor action during the growth stages of industry evolution. The chapter contributes to SME internationalization literature by challenging the emphasis in extant SME internationalization literature that internationalizing SMEs actively seek to avoid large competitors, and that these are the competitors of concern for firm survival. SME competitors had far greater influence on the population in the NZ FMS industry than large competitors. Second, the paper shows that the SME competitor population influences internationalizing SMEs by providing models for mimicry, extending institutional theories of mimicry used to explain how SMEs internationalize. Third, the paper explains why the stage of industry evolution is critical in understanding internationalizing SME success, because SMEs that internationalize later, *relative to the stage of industry evolution*, may find their growth constrained by other SMEs that control key factor resources.

### **6.2 Introduction**

Industry structure is one of a number of factors that influence how small- and medium-sized enterprises (SMEs) internationalize, particularly within knowledge-intensive industries in the growth stage of evolution (Andersson, 2004; Fernhaber & Li, 2010; Fernhaber et al., 2007). An industry is commonly understood as a population of competitors (Easton, 1988), with a *competitor* being an

organization that another organization vies with for the same pool of resources in a zero-sum game (derived from Barnett, 1997, p.129). Competitors influence large firm internationalization through mutual forbearance (Haveman & Nonnemaker, 2000), knowledge transfer (Zander & Kogut, 1995), the clustering of international expansion (Gimeno et al., 2005) and adaptive learning (Barnett & McKendrick, 2004). However, little consideration has been given to competitor influences on SME internationalization, which is problematic because SMEs, as relatively powerless organizations with dispersed resources, may be more influenced by their competitors and industry context than large firms (Astley & van de Ven, 1983). An understanding of competitor influences requires a contextual perspective of relationships between firms but in the resource-based view widely applied in the study of internationalizing SMEs (Freeman & Cavusgil, 2007), competitors are seldom considered because the research focus is on factors internal to the firm (Costa et al., 2013). This literature assumes that internationalizing SMEs either avoid large competitors (Aspelund & Moen, 2005; Gabrielsson et al., 2008) or that competitors are not an important influence because SMEs primarily export via distributors (Zucchella & Palamara, 2006).

These assumptions about industry and competition for internationalizing SMEs overlook two conclusions from research into competition; other SMEs are more likely to be the competitors of SMEs than large firms and competitors can be constructive as well as damaging influences. Firstly, SMEs compete differently to large firms by using speed, stealth and selective targeting of opportunities (Chen & Hambrick, 1995; Fan, 2010; Katila et al., 2012) and compete with each other in their own group (Mas-Ruiz & Ruiz-Moreno, 2011). By targeting niches, SMEs avoid large firm competitors (Audretsch et al., 1999) but other small firms remain in these niches as competitors (Barnett & McKendrick, 2004; Hannan & Freeman, 1977). Secondly, the firm actions motivated by competing may improve organizational performance (Barnett & Hansen, 1996), with firms that face competition early in their development showing increased resilience later (Burke & Hussels, 2013; Swaminathan, 1996). Competitors can trigger firms to learn (Barnett & Sorenson, 2002) through rivalry over customers (Barnett & Hansen, 1996) and factor resources (Markman et al., 2009). Firms gain legitimacy with resource providers (Barreto & Baden-Fuller, 2006) by mimicking (Greve, 2000) and responding to the observed outcomes of competitor actions (Kim & Miner, 2007). Further, the entry of multiple firms as competitors legitimizes emerging industries and new markets (Aldrich & Fiol, 1994; Hannan & Freeman, 1989) particularly when firms internationalize (Hannan et al., 1995). Although competitors may threaten the development of internationalizing SMEs, they also offer benefits.

This extant literature on industry development and firm learning suggests that competitors have the potential to influence internationalizing SMEs, but because competitors may be located in SMEs' domestic or foreign markets, and could be large or small firms, it is less clear which competitors have most influence. Accordingly, this paper addresses two research questions to explore the influence of

competitors on internationalizing SMEs; “What influence do competitors have on the development of internationalizing SMEs?” and “How do competitors of different size and location influence internationalizing SMEs?” To address these questions, a census case study of the population of internationalizing firms in the same industry segment in the same country was conducted to understand the interrelationships between firms in the industry population and to explore competitor influences as the segment evolved and firms internationalized.

Fleet Management Systems (FMS) was selected as the industry segment because it is a globally applicable, contemporary technology with few regulatory constraints to limit how firms compete internationally. Also known as telematics or mobile resource management, FMS combine specialized hardware devices installed in vehicles, cellular data communications, GPS tracking, and internet-based software to create integrated systems for the remote management of trucks and other high-value assets. The FMS industry segment has developed over two decades, allowing time for individual firms to prosper or fail. Further, New Zealand (NZ), the study location, has generated a large number of firms in FMS relative to its small domestic market size. The population studied is a mix of firm types including internationalizing firms that started up in NZ and multinational enterprises (MNEs) entering the NZ FMS market, and includes firms that were unsuccessful in internationalizing as well as small start-ups that grew and became globally successful over time.

Investigating a population of internationalizing firms in relation to one another, rather than firms in isolation, revealed that other SMEs had most competitive influence on internationalizing NZ SMEs and large foreign MNEs had only limited influence. NZ’s pioneering FMS firm mimicked the pioneering SME in the UK and subsequent NZ start-ups mimicked the NZ pioneer and each other. Intense rivalry in the small NZ domestic market encouraged firm learning and led to constant changes in competitive relationships. As firms internationalized, those SMEs that switched their focus from domestic competitors to salient international SME competitors continued to expand, while firms that remained focused on domestic competitors became stalled in their development and at risk of failure. This paper contributes to SME internationalization literature by showing that the emphasis given to MNEs as competitors in extant research has distracted from the more important influence of small competitors. It extends organizational literature to suggest that factor market rivalry and the need to build legitimacy encourage internationalizing SMEs to learn from SME competitors, rather than large competitors. The paper explains why the stage of industry evolution is critical in understanding internationalizing SME success (Fernhaber et al., 2007), because SMEs that internationalize later, *relative to the stage of industry evolution*, may find their growth constrained by other SMEs that control key factor resources (Markman et al., 2009).

The paper first examines industry evolution and the implications for competitor influences on SMEs. After describing the case method based on systematic combining (Dubois & Gadde, 2002), findings

are presented on FMS industry dynamics, rivalry networks within the population and performance patterns. The discussion develops four propositions about competitor influences on internationalizing SME performance, and the paper concludes with limitations and opportunities for future research.

### **6.3 Theoretical background**

Firms do not operate in isolation but instead compete as a consequence of the interdependence of firms (Upson & Ranft, 2010), meaning that a firm's success or failure may be influenced by other firms. Analysis of the success of internationalizing SMEs should therefore also consider the other firms with an influence on this success (such as customers, other resource providers, institutions and competitors). Evolutionary theories address these population-level interdependencies by assuming that the resources in an environment are limited and that to survive, firms must compete with other firms to control these resources (Aldrich & Reuf, 2006), with populations of firms competing in ecological resource niches (Hannan & Freeman, 1977) also known as organizational fields (DiMaggio & Powell, 1983). SMEs compete in narrow fields (Audretsch et al., 1999) for customers that provide resources of cash in return for products and services, and for factor resources such as raw materials, staff, capital and knowledge (Markman et al., 2009). While "niches" or "fields" define populations of firms competing for similar resources, "industries" represent populations of interdependent firms producing similar goods (Parolini, 1999), so these two terms have substantial overlap. How firms evolve in industry populations is reviewed next.

#### **6.3.1 Theories of industry evolution**

Competitor populations are dynamic because industries evolve; after an industry emerges, the number of firms in its population grows to a peak then once the industry matures, the number falls sharply after a shake-out of the less competitive firms (Klepper & Graddy, 1990). Hannan and Freeman (1989) explained this process as density dependence. When a new industry starts its potential is uncertain so pioneering firms have little legitimacy with potential resource providers such as customers, venture capitalists, sales channels and other key actors (Fisher et al., 2016; Stinchcombe, 1965). Legitimacy is "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially-constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p.574) and accrues more broadly to a field, industry or profession through the combined actions of the entities within it (DiMaggio & Powell, 1983). With initial success, firms gain some legitimacy, attracting additional resources, which in turn encourages new firms to enter, creating a compounding effect of greater legitimacy and greater resources. Eventually

the density of firms competing for limited resources forces out some of the weaker firms (Hannan & Freeman, 1989), leading to a reduction in the size of the population.

Competitor populations are also dynamic as a result of technological competition as industries evolve (Suarez et al., 2015; Suarez & Utterback, 1995). Because they do not need to produce at scale, small firms with only moderate capital investment but high labor skills and flexibility can easily enter specialist niches. Through active competition amongst alternative products, a dominant design is selected through customer preference and firms that pursued the “losing” design exit, leading to a rapid reduction in the number of firms as the industry emphasis changes from product innovation to mass production at lowest cost (Abernathy & Utterback, 1978). Andersson (2004) noted that in the earliest stages of growing industries, internationalizing firms rely on internal resources because the new markets change too quickly, but as the industry develops competitors influence firm strategy and that to gain knowledge, internationalizing firms need to be close to other important players in their markets.

Specifically in relation to internationalizing SMEs, Fernhaber et al. (2007) theorized that the competitive context, such as stage of industry evolution, industry concentration, industry knowledge intensity, internationalization patterns of the domestic industry and the global integration of the industry would all have a substantial influence. They argued that internationalizing SMEs would be found in knowledge-intensive industry segments in the growth stages of development, where there was extensive internationalization knowledge locally or extensive global integration, and with the stage of industry evolution having the most effect. Despite Fernhaber et al.’s (2007) call for researchers to pay attention to industry effects on SME internationalization, in their evaluation of the International Entrepreneurship domain Jones et al. (2011) found only 7 out of 92 journal articles on internationalization that addressed environmental influences in the broadest sense. Andersson et al. (2014) lamented this paucity of research into the influences of industries and competitors and suggested it was a consequence of the overemphasis on internal firm factors and behavioural explanations of entrepreneurial activity.

Both density dependence and dominant design theories imply that other SMEs will be internationalizing SMEs’ main competitors and only once an industry consolidates will large firms potentially become competitors. These theories also emphasize that broader population-level effects may be an important influence on the performance of internationalizing SMEs because these small firms lack the firm-specific resources and market power to influence industry development in the same way that large firms may be able to (Barnett & McKendrick, 2004; Hannan & Freeman, 1984). Further, the timing of internationalization by SMEs, relative to the state of industry evolution, will affect the contextual conditions in which these firms compete in foreign markets. Nonetheless, SMEs are unlikely to passively await evolutionary developments but instead respond through strategy and

structure (Barnett et al., 1994). How firms learn from competitors and determine how to respond to their competitive context is reviewed next.

### 6.3.2 Competitor influences on SME learning

The competitive context faced by internationalizing SMEs in emerging industries is characterized by evolving populations of competitor firms, changing technologies, rivalry for scarce resources and little legitimacy. When SMEs enter foreign markets they are outside the established business networks in that market (Johanson & Vahlne, 2009) and need to learn the socially-accepted patterns of how firms should operate in order to build their legitimacy (Ang, Benischke, & Doh, 2015; Porac & Thomas, 2002), also known as institutional logics (Thornton et al., 2012). To make sense of this complexity and uncertainty, firms pay attention to other firms in their industry (Ocasio, 2011), focusing on those with similar characteristics to their own (Porac et al., 1989; Terlaak & Gong, 2008) by clustering organizational similarities and differences (such as organizational type, location and size) to identify salient competitors as reference points (Fiegenbaum & Thomas, 1995; Porac et al., 1989). Thus, firms rely on competitors to understand industry and market boundaries, their own position in the industry and the strategic actions required for success (Easton, 1988; Porac & Rosa, 1996).

SMEs mimic salient competitors as a response to uncertainty and to build legitimacy (Barreto & Baden-Fuller, 2006; DiMaggio & Powell, 1983), with internationalization in part a mimetic response (Fernhaber & Li, 2010; Hilmersson & Johanson, 2014b; Zucchella et al., 2007). Mimicry is one of three types of firm learning from competitors' actions (Greve, 2000), along with adaptive, experiential learning in response to rivalry (Barnett & Hansen, 1996) and learning vicariously from the success and failure of competitor actions (Kim & Miner, 2007). Internationalizing SMEs have been shown to mimic domestic firms in the same general industry (Sui et al., 2016) and learn vicariously from the experience of others (Schwens & Kabst, 2009) but the mechanisms of how this occurs and the specific influence of competitors in the same population is unclear.

Not all firm learning improves the evolutionary strength of the population (Hodgson, 1993; Terlaak & Gong, 2008) because internationalizing SMEs risk learning from poor choices made by competitors, leading to maladaptive responses and long-lasting negative effects on individual firm performance (Oehme & Bort, 2015). In particular, proximity influences competitor salience (Porac et al., 1989), with competitors located in the same geographic area, such as those in industry clusters (Pouder & St. John, 1996), initially learning rapidly from each other (Greve, 2000; Mascarenhas, 1996). Over time, firms define their industry boundaries and salient competitors as being within their geography and overlook competitive signals from outside, leading to reductions in innovation and performance (Pouder & St. John, 1996). For example, a study of an industry population in Taiwan showed that

SMEs that focused on international competitors performed better than SMEs focused on domestic competitors (Yu et al., 2015).

To summarize, this paper addresses two broad, yet inadequately answered, questions about competitor influences on internationalizing SMEs using theories of industry evolution and firm learning:

“What influence do competitors have on the development of internationalizing SMEs?” and

“How do competitors of different size and location influence internationalizing SMEs?”

The next section outlines the method used to answer the questions.

## 6.4 Method

To explore competitor influences on internationalizing SMEs, a multiple-case approach was used to explore the changing competitive relationships between firms as a population evolved. Case studies provide the opportunity for researchers to learn about the interaction between a phenomenon and its context (Bryman & Bell, 2011; Guba & Lincoln, 1994). Although case studies are used extensively in internationalizing SME research, these often involve preselecting unrelated case firms on “success” criteria then comparing the internal attributes of these firms across multiple industries and markets to explain differential outcomes. In contrast, to understand how competitive relationships between firms changed over time this study investigated every internationalizing firm in the Fleet Management Systems (FMS) industry segment in NZ to maintain a perspective of all the competitors (McKendrick, 2001) and to avoid the need to preselect cases according to arbitrary success thresholds (Cesinger et al., 2012).

The study follows a systematic combining method to explore, challenge and reconstruct the relationship between theory and the data, involving continual reorientation between case, theory, research framework and the empirical world (Dubois & Gadde, 2002). Unlike the linear approaches to case studies advocated by Yin (2009), in systematic combining the precise boundaries of the case and *a priori* specification of propositions are deferred, allowing emergent ideas to be tested against evidence from other sources (Piekkari et al., 2010). Because the link between competitor influences and individual firm outcomes is not directly observable, the analysis applies abductive reasoning to infer causal explanations from theory and observation (Mantere & Ketokivi, 2013), within a critical realist ontology (Easton, 2010).

The FMS industry was selected as a research context because it was an international industry that had developed since the mid-1990s, allowing time for individual firms to prosper or fail, even though it

remains relatively young. FMS technology has global potential with business (industrial and commercial) customers ranging in size from SMEs to multinationals and appears relatively unconstrained by institutional or regulatory factors that might cause large variations in each country-market. In recent years, FMS has been a forerunner industry of the current global technology trend towards the “Internet of Things” (IoT)<sup>15</sup>: networks of embedded sensors within everyday items enabling greater product automation capabilities. Accordingly, FMS is a relevant and contemporary industry for studying SME internationalization.

New Zealand (NZ) was chosen as a geographic context because it has generated a large number of firms in FMS relative to its small domestic market size, yet the country is small enough to gather data on all the firms in the population. A mix of types of internationalizing firm, including both rapidly and gradually internationalizing SMEs and foreign MNEs, could be identified at the start of the research, with several NZ firms successful at penetrating international FMS markets (demonstrating that international opportunities for NZ-based firms were available and achievable). NZ has been recognized as an ideal country for conducting research into SME internationalization because of its open markets (Chetty & Campbell-Hunt, 2004). Given the two research questions are concerned with the influence of competitors on internationalizing SME development, how this performance dimension is evaluated in this paper is considered in the next section.

#### 6.4.1 Performance outcomes for SMEs

Internationalizing SME performance cannot be evaluated on objective financial measures in the same way as large firms (Gerschewski & Xiao, 2015) but instead can be evaluated using growth rates and survival rates (Sapienza et al., 2006; Zahra, 2005). The primary growth measure is revenue, with employee numbers and unit sales as alternatives. Survival is a fundamental dimension of business performance, with high failure rates often attributed to new SMEs in general (Geroski et al., 2010), and internationalizing SMEs in particular (Lyles et al., 2004). Given their limited slack resources, SMEs may be at greater risk of failure as a result of strategic errors than large firms (Andries & Debackere, 2007; Nummela et al., 2016).

Some researchers have evaluated SME survival as a binary outcome of either continued independence or failure (e.g. Gabrielsson et al., 2008; Mudambi & Zahra, 2007), but this inappropriately categorizes successful exits such as acquisition as failures (Coad, 2014). Instead, four outcomes can be recognized for internationalizing SMEs. *Independent survival* describes SMEs that remain independently owned into the longer term, variously defined as three to five years (Efrat & Shoham, 2012). SMEs that *are*

---

<sup>15</sup> Clem Driscoll (Industry analyst), Keynote address, Connected Fleets Conference, Atlanta 2014.



*acquired* survive if the business continues independent operations under new owners rather than being fully amalgamated (Coad, 2014). These firms remain in the competitor population, albeit often under another name. Acquisition may not represent failure if the entrepreneurs planned their exit to realize a return on investment (Cefis & Marsili, 2011). *Exit through bankruptcy* or managed shutdown means the firm does not survive and represents failure. A fourth path, barely recognized in the literature, is *exiting the industry sector* then continuing to operate. SMEs may be unsuccessful in a niche and move to a different niche that better fits their capabilities, technology and structure (Greve, 1996), which represents a partial failure even though the firm survives, meaning survival is not the same as success. These four outcomes are categorized in terms of success or failure, survival or death and effect on competitor population in Table 6-1:

**Table 6-1: Internationalizing SME outcomes**

<b>Outcome</b>	<b>Firm survival or death</b>	<b>Effect on competitor population</b>	<b>Success or failure</b>
<b>Independent survival</b>	Survival	Remains in population	Success
<b>Firm acquisition</b>	Depends on extent of amalgamation into new firm	Remains in population	Depends on motivation for sale
<b>Exit through bankruptcy or managed shutdown</b>	Death	Exits population	Failure
<b>Exit industry sector</b>	Survival	Exits population	Failure

In summary, to understand changes in the competitive population of internationalizing SMEs, a broader understanding of outcomes is needed than simply independent survival or failure, requiring in-depth knowledge of each firm in the population and its development, as well as understanding of the relationships between different firms in the population. The next section examines the characteristics of FMS globally.

#### 6.4.2 Global industry dynamics

Gartner Group, the global information technology industry analysis company, first noted that the transport industry was using integrated cellular, radio and satellite data transmission for fleet management in 1997<sup>16</sup> and began regularly tracking this as a new technology in 2003, which suggests that the beginning of the FMS industry was in the mid-1990s. FMS technology subsequently evolved over the next 15 to 20 years; initially with the industry pioneers developing proprietary hardware and

---

<sup>16</sup> Gartner Group, 30 January 1997 “Wireless management considerations before the wire is cut”, Bob Egan.

software systems, and then in the mid-2000s through commodity telematics hardware that could run multiple supplier applications. By 2009, start-up companies could easily create a simple vehicle-tracking application using commodity hardware combined with simple web-based software applications, allowing new low-end “no name” suppliers to proliferate internationally. Existing suppliers had to add extensive functionality to their goods to compete. Gartner classified FMS technology as “mainstream” (i.e. mature) in 2010<sup>17</sup>.

Although FMS appeared to be a global market with globally available technology unconstrained by institutional or regulatory factors, even after 15 years of industry evolution the FMS industry retained a fragmented, multi-domestic competitive structure rather than global competition (Porter, 1986), with different populations of competitors across North America, Europe and Asia<sup>18</sup>. In the US, no single firm held a dominant market share, with the largest firm, *Fleetmatics*, holding just a 6% share in 2014 and the top 10 firms combined only representing 43% of the estimated units in service<sup>19</sup>. This meant that international competitors for internationalizing firms in the NZ population were foreign-market specific.

#### 6.4.3 Defining the population

Industry boundaries are unclear to participants and to observers alike (Easton et al., 1993), requiring industry-oriented researchers to define boundaries relative to their research questions. This study sought to understand how competitors of different size and location influenced the development of internationalizing SMEs. Location is defined as whether the competitor had operations in NZ or was located overseas. Size is categorized as SMEs or large firms, based on the European definition of SMEs as having fewer than 250 employees and turnover of less than €50M (equivalent)<sup>20</sup>. The NZ population of FMS competitors is suited to this study because it is small enough to gain direct and detailed data on all the significant participants yet contains a range of different firm types, sizes, and success outcomes.

---

<sup>17</sup> Garner Group 2010, Hype cycle – operational technology - G00201233.

<sup>18</sup> CJ Driscoll & Associates 2014, Berg Insight 2014, Telematics Update 2014.

<sup>19</sup> CJ Driscoll & Associates 2014.

<sup>20</sup> European Commission. (2014). What is an SME? *Enterprise and Industry*. From [http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm).

Table 6-2: Overview of the internationalizing NZ-heritage firms in the FMS sector, 2000-2014

Company Code	Year Established	Heritage	First International	Revenue 2014 \$ USD M	Worldwide staff 2014	2014 ownership	Firm type 2014	Why (not) BG	International Target Markets
<i>Nimrod</i>	2000	NZ startup: international from foundation	2001	100	600	US Private	BG	Time to internationalize	US, Europe
<i>Lancaster</i>	2000	2000-2007 inactive; first product in 2008	2010	7.4	115	NZ Public	GI	(Time to internationalize)	NZ, USA, Australia
<i>Avro</i>	2001	Formed as division of NZ company; since sold several times	2001	85	300	US MNE	Subsidiary	(Not entrepreneurial start-up)	NZ, USA, Australia, Europe, South America
<i>Eagle</i>	2001	Merger of NZ and Australian company	2002	5.4	45	NZ Private	BG	NZ company international from early after start-up in 2001	USA, Australia, South Africa, NZ
<i>Dakota</i>	2003	Start-up	2008	7.7	50	NZ Private	GI	(Time to internationalize)	NZ, USA, Australia
<i>Gloster</i>	2004	Start up from previous bankrupt firm	2008	8.0	35	NZ Private	GI	(Under 25% scale)	NZ, Australia
<i>Heron</i>	2004	Start-up	2007	3.5	41	NZ Private	BG	3 year definition	NZ, Australia, India, Middle East
<i>Javelin</i>	2005	Start-up	2011	1.5	18	NZ Private	GI	(Time to internationalize)	NZ, USA Australia
<i>Bulldog</i>	2005	Start-up	2011	3.4	15	NZ Private	GI	(Time to internationalize)	NZ, Australia
<i>Comet</i>	2006	Restructure in 2006; exited FMS in 2009	2010	2.7	8	NZ Private	GI	(Time to internationalize)	NZ, Australia

Sources: Company websites, press articles, NZ company registry, TIN100 industry research 2014

Key: BG=Born global; GI= gradually internationalizing SME

Although about 25 firms had been active in the NZ FMS market since it emerged in 2000, only 13 of these were international in scope (including both local firms and foreign MNEs with operations in NZ). The remaining firms were either small resellers of overseas technology or treated FMS as a minor segment within their domestic product range and captured only minor market shares. A list of industry participants was initially compiled through desk research based on product definitions of the industry and extended through the initial interview phase to add those firms identified by respondents as being in the FMS industry and attempting to internationalize. Accordingly, the population of firms in the FMS sector under research was compiled from both an external perspective and the perspective of industry participants. It represents the ten NZ-heritage firms that had internationalized (as start-ups, this meant all were SMEs at some stage) as well as three MNE firms that had sales offices in NZ. Given the extensive analysis of this industry undertaken as part of this research, it is unlikely that any NZ-heritage firm has been overlooked. An industry analyst who had worked for two of the largest NZ heritage firms advised that the 13 firms covered in this case study represented over 90% of the total market sales in NZ in 2014 (Interview, ex-*Avro* manager, 2014). Table 6-2 describes the firm characteristics of the ten NZ-heritage case firms, sorted by year of establishment, while Table 6-3 describes the three MNEs case firms that make up the population under research. Code names are used to de-identify the firms.

Table 6-3: Overview of the key multinational firms in the NZ FMS sector, 2000-2014

Company Code	Year Established	Heritage	Country of origin	First NZ Office	Revenue 2014 \$ USD M	Worldwide staff 2014	2014 ownership	Firm type	Intl Target Markets
<b>Meteor</b>	1996	First FMS company in Europe. Global failure in 2010. Assets purchased by Kestrel	UK	2003	-	-	-	MNE	USA, Europe, Australia
<b>Kestrel</b>	1985	Security and telematics heritage	South Africa	2011	78	900	Public	MNE	South Africa, Europe, Australia
<b>Fairey</b>	2005	Developed from consumer electronics firm	Holland	2014	137	460	Public	MNE	Europe, Asia

Sources: Company websites, company annual reports, press articles, NZ company registry,

All NZ-heritage firms except *Avro* and *Nimrod* would still be classified as SMEs in 2014, with *Avro* operating as an independent subsidiary of a large US MNE conglomerate. *Avro* and *Nimrod* were internationally successful and by 2014 were ranked within the top 20 firms by revenue in the US FMS market, the world's largest<sup>21</sup>.

A recognized problem within extant SME internationalization research is distinguishing rapidly internationalizing SMEs from other internationalizing SMEs based on operational definitions that use various arbitrary thresholds of speed, scale and scope (Cesinger et al., 2012). For the purposes of contrast, three of the ten NZ firms (*Eagle*, *Heron* and *Nimrod*) are categorized in Table 6-2 as Born Globals (BGs) using Knight and Cavusgil's (2004) thresholds requiring internationalization within the first three years of firm inception and maintaining more than 25% of turnover from international sales. Six firms internationalized or attempted to internationalize but took longer than three years after establishment or failed to achieve or sustain the 25% threshold and these are classified in Table 6-2 as gradually internationalizing SMEs (GI). *Avro* was an SME that internationalized immediately but was formed as a division of an existing firm so would not be classified as Born Global (Fan & Phan, 2007). To summarize, the population of internationalized firms within the FMS segment in NZ represented a mix of NZ-heritage SMEs (both Born Globals and gradually internationalizing SMEs) and foreign MNEs with local sales offices.

#### 6.4.4 Data gathering

Semi-structured interviews were conducted with senior managers and ex-managers in NZ FMS firms and MNE firms active in NZ, such as entrepreneur founders, CEOs, general managers and sales director in two phases of data gathering. In face-to-face or Skype interviews lasting 60 to 90 minutes, respondents were asked about the history of their firm, their key competitive strategies, their competitors' strategies and the impact of competitors on their business. Industry consultants in both NZ and the US, government international trade organization staff and potential competitors in the US were also interviewed. Managers from two firms no longer in the industry were also sought out and interviewed. Table 6-4 shows the distribution of 33 interviews.

All respondent interviews were analyzed and compared in NVIVO by coding competitor references, key events, resources, customers, markets, geographies, competitive strategies and performance. The research target was to gain internal perspectives from each of the 13 internationalized firms in the NZ industry, but three firms were unwilling to be interviewed. Nevertheless, these firms are still included within this population study because extensive public information was available on one firm and an

---

<sup>21</sup> CJ Driscoll, personal conversation, 2014

interview with a founder who had since left provided information on another firm’s early years. Other participants were able to provide detailed information about all three firms as rivals, which was then corroborated across multiple interviewees.

Table 6-4: Primary data gathering

Category	Number
<b>SEMI-STRUCTURED INTERVIEWS:</b>	
Local managers of MNEs selling into NZ	2
Senior managers of NZ firms	14
Industry consultants; government export agency	5
Managers from firms no longer in FMS industry	3
<b>DISCUSSIONS:</b>	
US-based industry analysts	3
Managers from foreign competitors	6
<b>TOTAL:</b>	<b>33</b>

Public information on all firms was sought by searching the internet, Factiva (Dow Jones, 2015) and the NZ Companies Register (New Zealand Companies Office, 2015), generating over 250 documents that verified interview data or provided additional insight. This coverage of data sources across the entire population reduced survivor bias by including “failed” firms and ensured a 360 degree perspective of all firms in the population by speaking to representatives of the firms themselves as well as to their competitors and independent observers to minimize individual respondent bias (Golden, 1992). The next section examines how these firms developed as a population over 15 years.

## 6.5 Findings

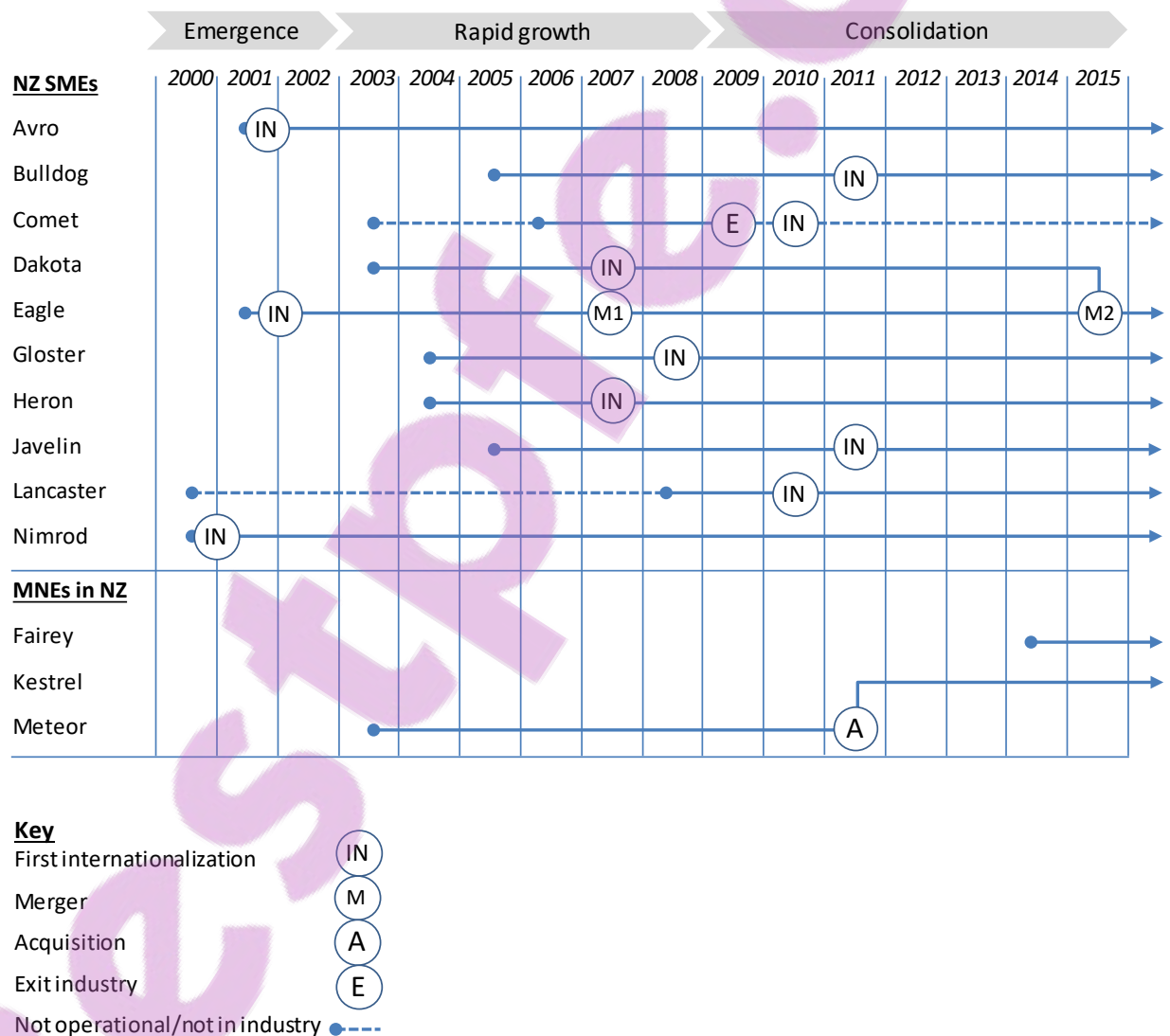
The FMS industry in NZ appears to have gone through three evolutionary phases of emergence, rapid growth and consolidation. Figure 6-1 shows the time lines of major events for the firms in the population.

### 6.5.1 Evolutionary phases

#### **Industry emergence (2000-2002):**

NZ's FMS industry started in 2000 when two employees of an electronics engineering firm in Christchurch started *Nimrod*. International from foundation through dual registration in the US and NZ, *Nimrod* spurned the domestic NZ market and immediately focused in the US. In 2001, an internationally-successful consumer electronics firm in Auckland created subsidiary *Avro* to apply its GPS expertise into FMS. Also in 2001, a small NZ hardware firm started-up that would later develop into *Eagle*.

**Figure 6-1: Internationalizing firms in NZ FMS industry**



### ***Rapid growth (2003-2008):***

Most companies entered the FMS industry during the period 2003 to 2008. *Meteor*, an MNE from the UK, opened an office in NZ around 2003. *Bulldog*, *Dakota*, *Gloster*, *Heron* and *Javelin* were all entrepreneurial start-ups in 2003 to 2006. *Comet* entered the FMS industry in 2006 after initially focusing elsewhere, while *Eagle* merged with an Australian company in 2007 to become a much more substantial player. Following a change of senior management and major shareholders, *Lancaster* became active in 2008 even though the company was first registered in 2000.

### ***Consolidation (2009-2014):***

*Comet* exited the FMS industry in 2009 as a result of domestic competitive pressure. Weakened by the global financial crisis of 2008, *Meteor* collapsed globally in 2010 and its assets, including its NZ operations, were bought by MNE *Kestrel* in 2011. Although international expansion continued during this consolidation, no additional internationalizing firms entered the NZ industry until MNE *Fairey* established a local office in 2014. Figure 6-1 extends the timeline to 2015 to show that *Dakota* merged with *Eagle* in 2015, further highlighting that the industry was consolidating.

The size of the NZ FMS industry population with ten internationalizing NZ-heritage firms contrasts with near-neighbor Australia which, despite a truck market more than five times the size of NZ<sup>22</sup>, generated only two Australian-heritage FMS firms that internationalized. Analysis of the competitive intensity within the NZ industry is examined next.

#### **6.5.2 Competitive intensity in the NZ market**

In the rapid growth phase of the industry, the new start-ups began competing intensely in the small domestic market. Many NZ FMS firms recognized that this small market was an advantage because they could develop advanced systems without MNE competitors entering and threatening them:

“There's not many international players that come into New Zealand and *Fairey* would be the first one for a long time. The last probably was *Meteor*”. (Interview, *Comet*, 2014)

Instead, intense market rivalry between local firms to win the limited number of fleet customers drove industry development:

---

<sup>22</sup> 580,000 trucks and heavy vehicles and 2.8 M light commercial vehicles in 2014 (Australia Bureau of Statistics).



“If you ended up with [Trucking Company 1] you didn’t get [Trucking Company 2]. If you had [Trucking Company 2] you wouldn’t get [Trucking Company 3]. So people would grab a marquee customer and then scrap for everybody else.” (Interview, *Comet*, 2014)

“I remember going into [large NZ company] just as we were about to do a deal with [large Canadian company] to talk to the procurement manager about a telematics system. And, you know, he’s flexing his muscles and telling me how big they are and basically hammering the living daylights out of us. And I said, “How many units will this deal be?” It was a quarter of the size of the Canada deal. I never said anything but I walked out and thought, “I don’t want to do business in New Zealand. The volumes are too small and the customers too hard.” So the flipside of that, if you can compete and survive in New Zealand you can probably make money somewhere else. And that’s part of why I think the NZ telematics industry has been successful.” (Interview, *Eagle*, 2015)

Further highlighting the intensity of competition in NZ, FMS technology prices declined rapidly during the growth phase of the industry as more customers bought FMS, and some firms’ relatively slow revenue growth often disguised large volume increases. *Comet* noted that when it entered the FMS market in 2006 it could charge \$ 100 per month per vehicle for subscriptions but by the time it exited three years later prices had dropped to \$ 25 due to competitive pressure (Interview, *Comet*, 2014). Similarly, *Avro*’s average revenue per user dropped from \$ 110 in 2006 to \$ 22 by 2013 (Interview, ex-manager *Avro*, 2014). By 2014, some NZ FMS firms were giving away hardware in order to win ongoing software and service subscription contracts (typically three years) (Interview, *Bulldog*, 2015).

Generating additional value to minimize this price-driven competition kept firms constantly on the search for new niches and opportunities. Rather than identify a single target market or competitive strategy at start-up then maintain this focus, NZ firms kept constantly adapting in response to competitor actions as the population evolved. This required NZ FMS firms to observe and learn from competitors’ strategies:

“*Meteor* were, by far, the people we had in our sights to try and get to that number one market share position... we held them up there on a bit of a pedestal. Even though we’re fiercely competitive, we knew there was a global market because *Meteor* blazed the way. Out of the gate, *Meteor* certainly was the benchmark.... They shaped a lot of our views as to our ability to expand globally and expand quickly.” (Interview, *Avro*, 2014)

“In the very early days we looked quite closely at *Avro* to copy as many of their features as we could to try and get customers away from them.” (Interview, *Bulldog*, 2014)

“In India I tried to emulate exactly what *Avro* had done (in NZ) with telcos.” (Interview, *Heron*, 2014)

“*Nimrod* is the one that got me off my ass when they got \$ 96 million last year from [Venture Capital firm], that tipped me off my seat.” (Interview, *Eagle*, 2014)

Internationalizing SMEs tended to mimic other NZ firms by first internationalizing to Australia or the US. However, mimicry was not always beneficial:

“Obviously the nearest port of call was Australia for every New Zealand company, but I must say it's a very, very difficult market for Kiwi companies. I don't know any NZ company who's actually made a success of Australia.” (Interview, *Heron*, 2014)

“Everyone was building features based on what the competitors were doing, not necessarily what the market wanted. And we fell into that trap. Everyone did.” (Interview, *Comet*, 2014)

In summary, the NZ FMS industry was driven by intense rivalry for domestic customers as well as competitor mimicry as firms developed and internationalized.

Few managers were as explicit about their international competitors as they were about their domestic competitors and when they spoke about foreign competitors, they typically identified foreign SMEs. Large MNEs were mentioned as potential threats but never as immediate competitors:

“We sit on the fringe of the automation business and feed our data into these kind of platforms... It's too hard (for firms like Google and Oracle to come into FMS) because all they know about is servers in the data center and software. They don't know about hardware, and field support. You'll find a dime a dozen engineers who know about software, but you will find very few who know about hardware *and* software.” (Interview, *Heron*, 2015)

Some respondents could not even name their competitors in the international markets they had entered, indicating their competitive information was gained primarily through rivalry within the NZ market. Tellingly, most respondents could provide accurate details about salient NZ competitors' strategies (as verified by those competitors) yet despite *Nimrod* being one of the largest and most successful firms in FMS globally, respondents had very little knowledge of its NZ heritage or facilities because *Nimrod* did not compete in the NZ market. In other words, knowledge of salient SME rivals was gained through proximate market activity and large firms were seldom viewed as direct competitors.

There was no evidence of personal contact between firms as a major conduit for competitive information, even though ex-employees moved between FMS firms and the CEO for *Lancaster* was previously an *Avro* senior manager. A meeting coordinated by the NZ government trade department in

2013 to gauge interest in a joint international marketing alliance was cited as the first time most of the industry's senior managers had been in the same room together. In general, accurate competitive information was gained through intense rivalry in the local marketplace and not through personal contact. The next section examines how this rivalry evolved.

### 6.5.3 Changes in rivalry networks

To analyze which competitors were considered salient and how these competitive relationships changed over time, a diagramming technique used by Porac and Rosa (1996) was adapted to display international rivalry networks. The population of firms located in NZ is drawn on an inner ring with overseas-based competitors in an outer ring. Small circles identify NZ-owned firms while squares identify foreign-owned firms. Crosshatched squares show foreign ownership but NZ heritage. Based on respondent interviews and press articles, rivalry networks were mapped by drawing arrows from case firms to those competitors they identified as salient (see Figures 6-2 to 6-4).

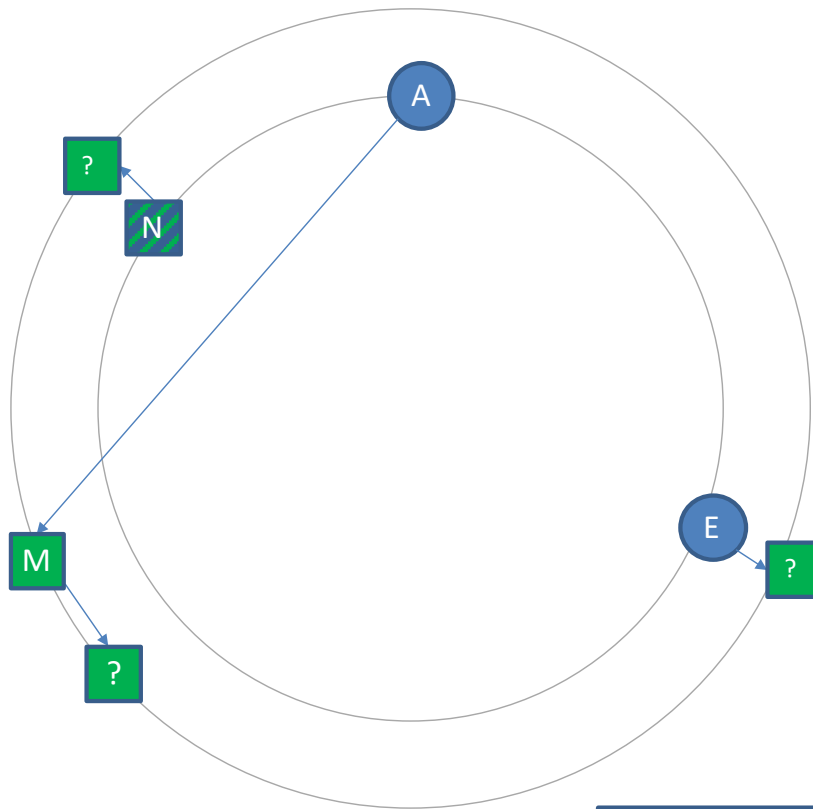
#### ***Industry emergence (2000-2003):***

Soon after the industry was founded in NZ, *Avro* immediately internationalized to target what was then the global industry leader *Meteor* in its home UK market, both to challenge and to learn from its SME rival. *Eagle* immediately began selling its hardware to telematics software companies and service providers in Europe and *Nimrod* immediately began targeting US sales. In other words, the first three firms in the NZ industry were Born Globals, did not initially target domestic sales and there were no rivalry relationships between them. *Avro* was the first to sell into the NZ market in 2002 (see Figure 6-2).

Figure 6-2: Rivalry network 2002

**Case Key**

- A Avro
- E Eagle
- M Meteor
- N Nimrod



Key	
Inner ring:	Competitors located in NZ
Outer ring:	Competitors located overseas
	Foreign-owned firms
	NZ-owned firms
	Foreign-owned, NZ heritage firms
	Rivalry
	Reciprocal rivalry

Sources: Interviews with industry participants, press reports

### ***Rapid growth (2004-2009):***

By 2008, the population had grown and the industry was more complex, as shown in Figure 6-3.

*Meteor* had opened a NZ office and *Avro* had been sold. Six further NZ-owned firms had entered the population and some had begun internationalizing (shown by arrows targeting overseas competitors in the outer circle). The three original firms of *Avro*, *Nimrod* and *Eagle* continued to focus on international competitors:

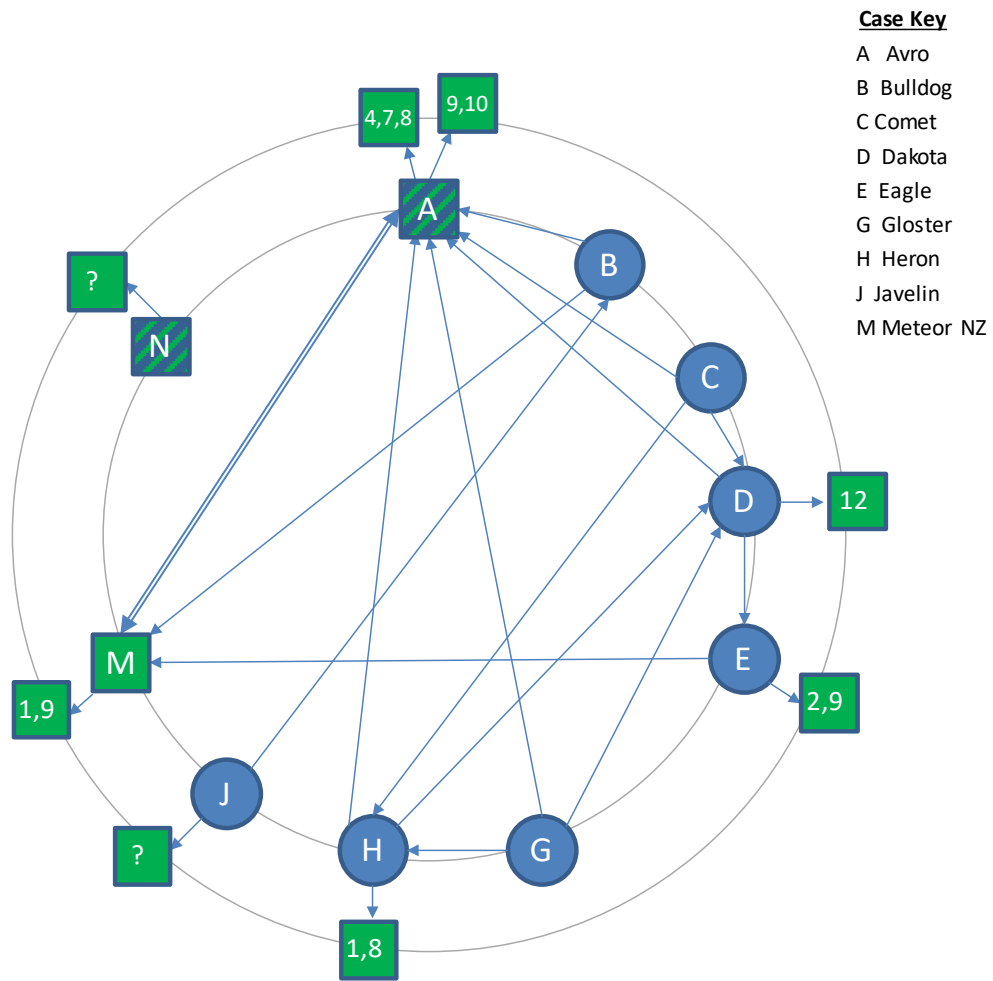
“The hardest thing for (NZ FMS SMEs) is getting a decent customer base within the market they’re going into, but also finding a way to sell into that market as well. Because the market, if it’s congested here, if they’re going to say Australia, or the US, or the UK, and Europe, then it will also be congested there as well because of the population size and opportunity. Plus the same players that are over here, are over there as well.” (Interview, *Fairey*, 2014)

Competitive salience was usually not reciprocal - firms generally did not consider the firms targeting them as salient competitors. For example, *Gloster* identified three firms as salient but no one recognized *Gloster* as salient. *Avro* and *Meteor* were the only firms that recognized each other as salient. However, five NZ firms considered *Avro* salient, with these companies noting that they deliberately positioned themselves relative to *Avro*:

“We were always one for stirring the hornets’ nest (with *Avro*) as far as trying to make a bit of noise. I think back then we gave the illusion that we were a lot bigger than what we actually were. We put on radio advertising, and had multiple complaints from *Avro* to the advertising standards authority. So we've always tried to be a bit cheeky, and a bit naughty with it, and create a little bit of trouble.” (Interview, *Bulldog*, 2014)

In 2008, all the firms in this rivalry network were SMEs, that is with less than 250 staff, with the exception of five international competitors (in bold in the key): ***Digicore***, ***Trimble***, ***Fairey***, ***Omnitracs*** and ***Meteor***. That means that SMEs *Avro*, *Eagle* and *Heron* (and probably *Nimrod*) were the only firms focusing on large international firms as salient competitors.

Figure 6-3: Rivalry network 2008








**Case Key**

- A Avro
- B Bulldog
- C Comet
- D Dakota
- E Eagle
- G Gloster
- H Heron
- J Javelin
- M Meteor NZ

OTHER COMPETITOR KEY		
	<u>Competitor name (origin)</u>	<u>Foreign market</u>
1	<b>Digicore</b> (SA)	Europe, Australia
2	<b>Trimble</b> (US)	US
4	<b>Fairey</b> (Holland)	Europe, Australia
7	<b>Omnitracs</b> (US)	US
8	<b>Meteor</b> (UK)	Europe, Australia
9	MT Data (Aust.)	Australia
10	Securatrack (Aust.)	Australia
12	Other	US
?	Unknown	

**Key**

- Inner ring: Competitors located in NZ
- Outer ring: Competitors located overseas
-  Foreign-owned firms
-  NZ-owned firms
-  Foreign-owned, NZ heritage firms
-  Rivalry
-  Reciprocal rivalry

Sources: Interviews with industry participants and industry consultants, press reports

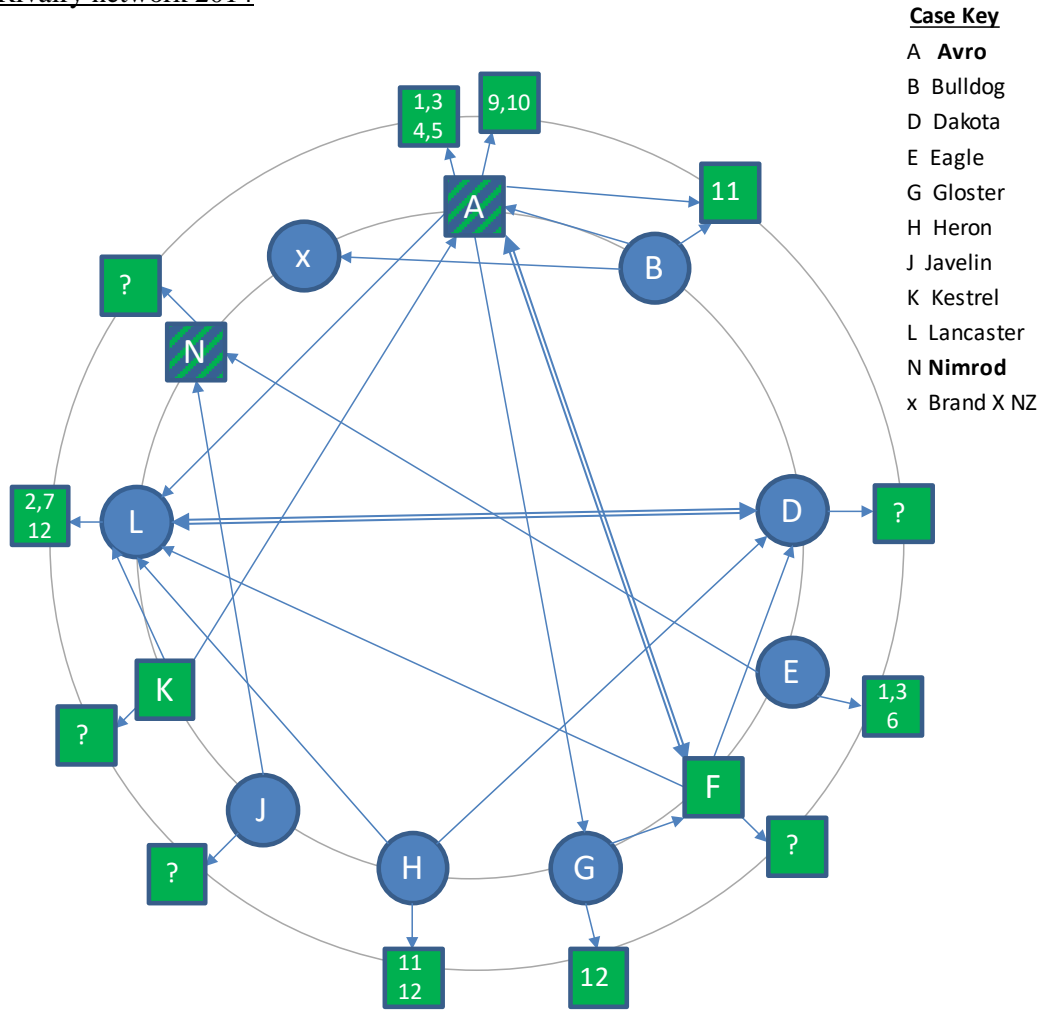
### ***Consolidation (2010-2014):***

Six years later in 2014, the rivalry relationships had changed almost entirely (see Figure 6-4) with only one salient competitor relationship remaining the same (*Bulldog* to *Avro*). *Comet* had exited the industry and *Lancaster* was active in the NZ market. *Nimrod* was fully US-owned and multiple low cost, “no-brand” competitors had proliferated (shown as an “x” in the figure). *Kestrel* had taken over *Meteor* and *Fairey* had entered the NZ market. *Eagle* and *Nimrod* remained focused outside the NZ market. Two reciprocal rivalries were acknowledged between *Lancaster* and *Dakota* and between *Avro* and *Fairey*. NZ-owned firms were more conscious of international competitors than in the earlier period, yet only *Bulldog* felt that the new low-cost no-name competitors were salient. The firm most recognized as salient in the NZ market (by five firms) was *Lancaster*, although *Avro* and *Dakota* were each targeted by three rivals. *Avro* and *Nimrod* had grown to the extent they were no longer SMEs.

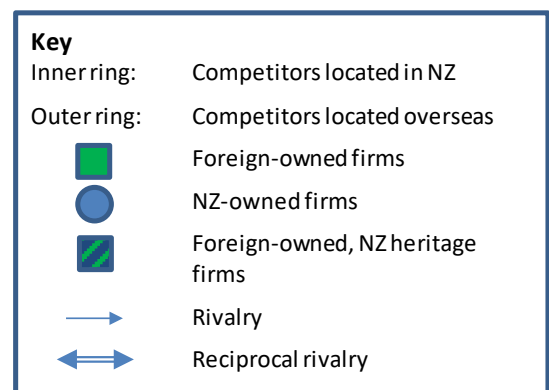
“The margins will come down, the connections will go up. This will make it hard for new people to come into the industry, so I don’t think we’ll see any new people from here on in. It would be so hard to start up now. It’s definitely a different market to what it was two years ago... two years ago we were selling devices for around a \$1,000 each and now we’re sort of doing deals at a \$100 or \$200. You know that’s just chalk and cheese.” (Interview, *Bulldog*, 2015)

“You have one or two players who are very, very good, who hold the majority of the market share and are the serious players in that industry. You have three or four players who are also-rans who have enough specialized features that they can play in that space. Then you have a bunch of small fry, who are scum-sucking bottom feeders to put it nicely, who basically have cheaper prices and who get in at the low end with the part of the market who are only interested in the price.” (Interview, ex-*Avro* manager, 2015)

Figure 6-4: Rivalry network 2014



OTHER COMPETITOR KEY		
	Competitor name (origin)	Foreign market
1	Digicore (SA)	Europe, Australia
2	Trimble (US)	US
4	Fairey (Holland)	Europe, Australia
5	Mix Telematics (SA)	Europe, Australia
6	Isotrak (UK)	Europe
7	Omnitracs (US)	US
9	MT Data (Aust.)	Australia
10	Securatrack (Aust.)	Australia
11	Low cost brand X	All
12	Other	US, Europe
?	Unknown	



Sources: Interviews with industry participants and industry consultants, press reports



In summary, as the industry evolved, few firms showed reciprocal rivalry; most firms focused on salient competitors that were themselves focused on different competitors. Rivalry relationships changed substantially; only one salient competitor relationship recognized in 2008 remained by 2014. Pioneers *Avro*, *Eagle* and *Nimrod* remained focused internationally from the start, with *Avro* and *Nimrod* becoming overseas owned. Firms constantly maneuvered in relation to their salient competitors - changing niches, targets and strategies - and did not select a niche or strategy and pursue that same target over many years (see Chapters 4 and 5). The influence of this rivalry on firm performance is examined next.

#### 6.5.4 Performance

The performance of the internationalizing SMEs is first evaluated against the four survival outcomes (see Table 6-1) of independent survival, acquisition, exit through failure and exit to another industry. Then case firm growth is evaluated.

##### ***Survival:***

Although a substantial decline in the number of firms in the population might be expected as the industry in NZ consolidated, as predicted by density dependence theory (Hannan & Freeman, 1989), all NZ-heritage FMS firms survived and none exited through bankruptcy. To verify this, all respondents were prompted during interviews to name competitors that had failed or left the FMS industry. MNE *Meteor* was named as a failure, while *Comet* was noted as exiting the industry but still surviving. Given case firms' extensive information about NZ's competitive environment, this suggests that no significant internationalizing FMS firm was overlooked in this study. The outcomes for each NZ firm in the population are shown in Table 6-5, ranked from largest 2014 revenue to smallest. All firms except *Avro* and *Comet* survived in the FMS industry as independent companies, while *Avro* was acquired as a division of a US conglomerate and *Comet* exited the FMS industry (but still survived independently).

##### ***Growth:***

Gaining accurate and comparable performance data for the firms in the population was very difficult, and impossible to verify. All but *Lancaster* were privately owned and none was willing to provide detailed financial and sales data. Nonetheless, by piecing together data from press articles, industry surveys and comments by participants in research interviews, the researcher was able to get a sense of

comparative “order of magnitude” size and general growth rates (with slow growth less than 10% per year on average and fast growth more than 20% per year) as shown in Table 6-5.

By 2014, *Avro* and *Nimrod* were ten times the revenue of other NZ companies. Both these firms were US-owned and managed but retained substantial research and development facilities in NZ. *Bulldog*, *Comet*, *Heron* and *Javelin* remained tiny, despite being in business for a decade. *Lancaster* grew rapidly after it launched in 2007 and then listed in 2014 to raise further capital to fund its international expansion. *Gloster* had rapid growth in the years following first internationalization.

Table 6-5: Selected performance of internationalizing firms from NZ in the FMS sector

Case firm	Year established	Worldwide revenue 2014 USD	Worldwide staff 2014	Approx. growth - past 5 years	Est. share of international revenue (%) 2014	Outcome 2014
<i>Nimrod</i>	2000	100	600	Fast	100	Independent survival
<i>Avro</i>	2001	85	350	Slow	95	Acquired - survival as division of conglomerate
<i>Gloster</i>	2004	8.0	35	Fast	15	Independent survival
<i>Dakota</i>	2003	7.7	50	Medium	60	Independent survival
<i>Lancaster</i>	2000	7.4	115	Fast	25	Independent survival
<i>Eagle</i>	2001	5.4	45	Slow	90	Independent survival
<i>Heron</i>	2004	3.5	41	Slow	50	Independent survival
<i>Comet</i>	2006	2.7	8	Slow	80	Exited industry sector
<i>Bulldog</i>	2005	1.5	12	Slow	20	Independent survival
<i>Javelin</i>	2005	1.5	18	Slow	5	Independent survival

Sources: Company websites, press articles, NZ company registry, TIN100 industry research 2014

To highlight that not all firms in the population were on an equivalent performance trajectory, firms were classified as either moribund or expanding in 2014. These are qualitative categories relative to the other firms in the population, based on size, growth and other firm characteristics identified during the study. This is not to conclude that moribund firms would fail, but it was not clear in 2014 how these firms would address continuing changes in the industry. Moribund firms were typically smaller firms such as *Bulldog*, *Javelin* and *Heron* with low revenue, little growth and low international penetration. Although they continued to receive revenue from existing customer subscriptions, these firms did not appear to have assets that would make them acquisition targets nor the internal resources to fund new initiatives. *Avro* was large but with low growth and did not appear to have invested in

new technology - instead it had leveraged existing technology in partnership with other divisions in its parent company. *Comet* exited the FMS industry in 2009 but did not appear to have been more successful in its new sector:

“A lot of tech companies work on growth: go pick up a couple of million dollars, get some customers. Go get another ten million dollars, get some customers. But that can only happen for so long until everything tumbles down and you never made enough money.” (Interview, *Javelin*, 2015)

“We're not a startup but neither are we a big company. We missed the best time to raise money. It's when you are in your early years if you want to raise venture capital and scale rapidly. And so to raise money now and go after scaling is a difficult proposition.” (Interview, *Heron*, 2015)

In contrast, expanding firms *Lancaster*, *Eagle* and *Dakota* were notable for developing technology that made them future acquisition targets and had the financial backing to pursue new initiatives. Rapid internationalization (see firm type: BG or GI) had little relationship with which firms became moribund and which firms expanded as the industry evolved. However, a comparison of rivalry networks in 2008 and 2014 and firm status in 2014 shows a relationship between the location of firm's salient competitors as domestic or international and whether the firm was moribund or expanding. Table 6-6 highlights the pattern.

Table 6-6: Firm growth compared with competitor focus

Case firm	Firm Type 2014	Status 2014	Competitor focus 2008	Competitor focus 2014
<i>Avro</i>	Subsidiary	Moribund	<b>International</b>	<b>International</b>
<i>Bulldog</i>	GI	Moribund	Domestic	Domestic
<i>Comet</i>	GI	Moribund	Domestic	-
<i>Heron</i>	BG	Moribund	<b>International</b>	Domestic
<i>Javelin</i>	GI	Moribund	Domestic	Domestic
<i>Dakota</i>	GI	<b>Expanding</b>	Domestic	<b>International</b>
<i>Eagle</i>	BG	<b>Expanding</b>	<b>International</b>	<b>International</b>
<i>Gloster</i>	GI	<b>Expanding</b>	Domestic	<b>International</b>
<i>Lancaster</i>	GI	<b>Expanding</b>	-	<b>International</b>
<i>Nimrod</i>	BG	<b>Expanding</b>	<b>International</b>	<b>International</b>

Expanding internationalizing SMEs tended to direct their focus to salient international competitors as the industry evolved while moribund internationalizing SMEs tended to remain focused on domestic

competitors. While firm performance is determined by many factors, this competitor focus may reflect underlying processes of competitor influence in how and what firms learned, and thus how firms consequently performed. Theoretical explanations for these relationships between competitors and performance are developed in the next section.

## **6.6 Discussion**

This case study research investigated two questions; “How do competitors of different size and location influence internationalizing SMEs?” and “What influence do competitors have on the development of internationalizing SMEs?” The findings are now discussed in light of organizational theory, leading to propositions to guide further research.

### **6.6.1 Competitors of different size and location**

Of course, few large firms existed in the FMS industry segment when it first emerged, so the three pioneering SMEs from NZ faced SME competitors overseas when they internationalized. As the FMS industry grew the new SMEs entering the NZ population primarily focused on other NZ SMEs as their key competitors (including the pioneering NZ SMEs). The international MNEs that opened offices in NZ during the growth and consolidation stages of the industry did not have an important influence on the population development, as seen in Figures 6-3 and 6-4 where few firms considered them as salient. When the NZ-heritage SMEs internationalized, their competitors were primarily foreign SMEs and there was no suggestion that case firms deliberately avoided large firms as suggested in the SME internationalization literature (e.g. Aspelund & Moen, 2005; Gabrielsson et al., 2008; Knight & Cavusgil, 1996). Figures 6-2 to 6-4 highlight how extensively the population and the relationships between firms in NZ changed yet these changes were amongst SMEs, suggesting that SMEs maneuver for position against other SMEs. These findings are consistent with both density dependence (Hannan & Freeman, 1989) and dominant design theories (Suarez & Utterback, 1995), which imply that other SMEs will be the main competitors of SMEs in the growth stages of an industry, and only once the industry consolidates will large firms become competitors. Accordingly, the first proposition is:

Proposition 6-1: The primary competitors of internationalizing SMEs are other SMEs during the emergence and growth stages of industry evolution.

While this proposition potentially only reinforces that population evolution patterns for SMEs in general also apply to internationalizing SMEs, it nonetheless challenges the emphasis in extant SME internationalization literature given to large firm competitors and has implications for other aspects of

SME internationalization, including the nature of the influence of competitors on internationalizing SME survival, as discussed next.

### 6.6.2 Competitor influences on internationalizing SME survival

Although this study did not set out to evaluate survival quantitatively, the most unexpected outcome was that all the internationalizing NZ FMS firms in the industry population survived, albeit *Comet* exited to another industry. This provides qualitative support to findings that internationalization improves the survival rates of new ventures (Puig et al., 2014). Further, NZ FMS firms developed within an intensely competitive domestic market where firms needed to constantly respond to competitor actions. Firms that start up and develop in competitive contexts are more likely to survive (Burke & Hussels, 2013; Swaminathan, 1996). Barnett and Hansen (1996) showed that firms with recent competitive experience were more likely to survive than firms with no or old experience – in other words, competition with one firm makes a firm stronger against other firms. Accordingly, the evidence from this study suggests that SMEs that experience intense competition domestically may be more resilient when they internationalize, as shown by the international success of *Avro*, *Dakota*, *Eagle* and *Gloster*. However, this effect is not universal; *Nimrod* was the most successful of the NZ-heritage firms but did not compete in NZ.

This finding of high survival may partially be due to using a case study method, with in-depth understanding of the history of the individual firms within the population. Specifically, five of the ten NZ-heritage SMEs changed their operating names at least once during the development of the industry, resulting in eleven names for these five firms over 15 years. Coad (2014) noted that because a change of legal name does not reflect the viability of the enterprise, analyzing business failure rates by using national statistics databases and industry directories based on enterprise name may be inaccurate (e.g. Mudambi & Zahra, 2007; Sleuwaegen & Onkelinx, 2014; Sui & Baum, 2014). Viable firms may have been sold and renamed by acquirers, plus independent SMEs which went through shareholder restructuring and legal name changes in early start-up would also be double-counted as failures and as new entries into that industry. Thus, a quantitative study of survival based on changes in firm listings in industry databases would likely have concluded that there was greater than a 35% failure rate<sup>23</sup> among the population of FMS firms in NZ. If this pattern of firm name changes among growing SMEs is typical in other industries, it suggests that the low rates of SME survival reported in extant SME literature (e.g. Geroski et al., 2010; Mudambi & Zahra, 2007; Short, McKelvie, Ketchen,

---

<sup>23</sup> 6 extra names that disappeared classified as failures ÷ (10 firms + 6 extra names).

& Chandler, 2009) may, in part, be an artefact of the analysis of industry lists. The next section examines competitor influences on growth.

### 6.6.3 Competitor influences on internationalizing SME growth

Also unexpected in this study was the number of moribund SMEs in the consolidation phase of the industry; moribund firms generally lacked the financial resources to expand beyond their initial international beachheads or distinctive technology that might make the firm an acquisition target. Through ongoing subscription revenue and high customer switching costs, moribund firms survived on cash flow from existing customers. While firm life continued, entrepreneurial hope remained, with moribund SME managers pursuing new initiatives within resource constraints. Accordingly, “moribund” should be understood as stalled, rather than dying, as a consequence of competitor actions:

“None of these small companies will survive long term. They can’t compete at a hardware level, they can’t compete at an innovation level, they can’t compete at a go-to-market level, they can’t compete at a customer-service level. So they can look after a handful of customers better than a multinational could. So if they pick up five customers and say ‘I’m going to make my living out of supporting you and I will do whatever it takes to keep you as a customer’, then maybe they’ve got 10 years, or 15. But they haven’t got 20 or 30.” (Interview, *Eagle*, 2015)

Moribund firms appeared to have lost the competition for dominant design (Suarez & Utterback, 1995), with their technological offerings superseded by commodity products, yet the firms had not closed down or exited the industry as predicted by density dependence explanations of industry evolution. The high number of moribund SMEs in the FMS population also highlights that survival is not the same as success. Section 6.4.1 theorized multiple outcomes of success yet independent survival may represent stagnation (as failure) as well as growth (as success).

Density dependence patterns emphasize two mechanisms underlying industry evolution; firms in the population competing for resources in the environment and firms building legitimacy (Hannan & Freeman, 1989), with the timing of internationalization relative to the progression of industry evolution affecting the availability of competitive resources remaining (Carroll & Hannan, 1989). In the NZ FMS population, this implies that more successful competitors controlled critical factor resources (Markman et al., 2009) such as sales channels and shareholder partners that other FMS firms needed to create new opportunities. For example, only a limited number of partner organizations exist with the relevant knowledge and willingness to invest equity in a new technology in a new industry like FMS. Similarly, only a limited number of distributors and resellers in any market niche or

geography have the capabilities to sell a technology like FMS. Once those partners enter contractual arrangements with competitors, the resource is withdrawn from the environment and the options for other firms are constrained. Internationalizing potentially makes more factor resources accessible but does not change the underlying competitive processes of firms needing access to key resources in the environment. Once an industry has reached the end of its growth stage, the factor resources in a foreign market may already be controlled by foreign SMEs so it may be too late to internationalize successfully. In the FMS industry, it appears that four SMEs (*Bulldog*, *Comet*, *Heron* and *Javelin*) that internationalized later, relative to the industry evolution, became moribund. *Comet* recognized it could not access the factor resources it needed before it attempted to internationalize to Australia and exited FMS entirely. In time, other moribund FMS SMEs unable to access the critical factor resources of funding, technology and sales channels will also be forced to exit. Previous research may have overlooked moribund SMEs within populations because case studies investigated obviously successful internationalizing SMEs.

Proposition 6-2: Competitor control of critical factor resources constrains the development of internationalizing SMEs once the industry begins to consolidate.

The other mechanism involved in industry evolution is building legitimacy (Hannan & Freeman, 1989). One approach to building legitimacy is mimicking other firms (Barreto & Baden-Fuller, 2006; DiMaggio & Powell, 1983). In emerging industries, the future trajectories of technologies, markets and resource requirements are uncertain so mimicry may also be a competitive response to match competitor actions (DiMaggio & Powell, 1983; Hannan & Freeman, 1977). Norms of accepted practice are not yet defined in emerging industries so firms seek legitimacy by mimicking similar firms that customers and factor resource providers would view as successful (Aldrich & Fiol, 1994). The generally asymmetric nature of the competitive relationships between FMS firms in NZ as the industry evolved suggests they are driven by mimicry, rather than direct rivalry for customers. When the industry emerged, *Avro* mimicked *Meteor* to the extent of entering *Meteor's* UK home market at start-up. *Avro* then became the salient competitor for many NZ firms in the industry's growth phase, with *Bulldog*, *Comet*, *Gloster*, and *Heron* all acknowledging that they copied or adapted aspects of *Avro's* channel strategies, choice of international markets and technology development patterns. Mimicry was not absolute; these firms still sought to differentiate themselves from *Avro* in other ways, such as niche specialization (see Chapter 5).

While mimicry is a means of building legitimacy, it may also be a response to uncertainty, where internationalizing SMEs believe salient competitors have better information and so imitate them to gain similar value (DiMaggio & Powell, 1983; Terlaak & King, 2007). This is consistent with firms identifying salient competitors with similar characteristics of firm size, product differentiation and technology as their own (Porac et al., 1989; Tang & Thomas, 1992), giving SMEs greater certainty

that what they learned would be applicable to their own situation and resources (Bitektine, 2011; Terlaak & Gong, 2008). For example, although *Nimrod* became the most successful of the firms in the population, it did not sell in NZ so the other firms in the population did not encounter *Nimrod* in their competitive activities. Accordingly, managers never learned enough about it to mimic it because it was outside the group of competitors they considered as salient (Barreto & Baden-Fuller, 2006).

Between 2008 and 2014, the pattern of rivalry and salient competitors changed almost entirely as case firms re-conceptualized their market and industry boundaries to focus internationally, even though no major changes in the makeup of the population occurred during that period. Relatively larger firms and internationally-focused firms tended to become the salient competitors, even though these firms would still be classified as SMEs. *Avro*'s position as the dominant salient competitor may have been taken by *Lancaster* because *Avro* was bought out by its international management in 2007 and sold again in 2012 to a large US MNE. After these acquisitions, internationalizing SMEs in NZ reported that they no longer saw *Avro* as a NZ firm, meaning the firm lost its position as a salient competitor with similar characteristics, so was no longer mimicked. Similarly, the MNEs that entered NZ were not influential as salient competitors because they were not perceived by the internationalizing SMEs as comparable.

Proposition 6-3: Internationalizing SMEs mimic salient larger SME competitors with similar characteristics to build legitimacy and overcome uncertainty.

Mimicry patterns and the selection of the dominant salient competitor likely have path dependent influences on the evolution of the industry population. The NZ FMS industry may have developed differently if SMEs had mimicked *Eagle* or *Nimrod* during the growth stage of the industry evolution, because both these firms targeted large enterprise-level customers rather than smaller customers like *Avro*. Instead, *Avro*'s high profile in NZ through its parent company and its initial success may have encouraged a larger number of firms to enter the FMS industry, explaining why the NZ FMS industry had so many start-ups in such a small domestic market. Similar competitor influences have been identified in other industries, with domestic market density encouraging SME internationalization (Sui et al., 2016) and SMEs relying on internationalized peers for information and learning (Schwens & Kabst, 2009).

Overall, the development of the population of NZ FMS firms was influenced by the intense rivalry in NZ, constant changes in competitive relationships with salient competitors as well as internationalization. Intense rivalry encourages adaptive learning between firms, driving firm development overall (Barnett & Hansen, 1996), so internationalizing SMEs that changed salient competitors may have learned new lessons (Greve, 2000, 2011; Kim & Miner, 2007). The experience of internationalizing and addressing new competitors in foreign markets will have provided additional lessons, with Table 6-6 showing a relationship between the location of firm's salient competitors as



domestic or international and whether the firm was moribund or expanding. SMEs that switched their focus to salient international competitors as they internationalized appear to have performed better; potentially because they learned how to access the necessary factor resources against these international competitors or because they gained greater legitimacy in international markets by mimicking international competitors. NZ's FMS industry demonstrated the evolutionary consequence of clusters suggested by Poudel and St. John (1996); by focusing for too long on proximate domestic competitors, some NZ firms may have failed to learn from other competitors in their international markets and lost any initial advantage. From an evolutionary perspective, operating in NZ was a double-edged sword; firms initially benefited from learning through intense competitive interaction within a small market not dominated by foreign firms, but which also limited the exposure of NZ firms to outside innovations and eventually stifled the advantage. This leads to the final proposition:

Proposition 6-4: SMEs that change their focus to salient international competitors can gain access to resources and build legitimacy in foreign markets.

#### 6.6.4 Contributions

This paper makes a number of contributions to theory. First, it challenges the emphasis in extant SME internationalization literature that internationalizing SMEs actively seek to avoid large competitors, and that these are the competitors of concern for firm survival (e.g. Aspelund & Moen, 2005; Gabrielsson et al., 2008; Knight & Cavusgil, 1996). SMEs competitors had far greater influence on the population in the NZ FMS industry. Second, the paper shows that the SME competitor population influences internationalizing SMEs by providing models for mimicry, extending institutional theories of mimicry (Barreto & Baden-Fuller, 2006) used to explain how SMEs internationalize (Fernhaber & Li, 2010; Hilmersson & Johanson, 2014b; Zucchella et al., 2007). Third, the paper explains why the stage of industry evolution is critical in understanding internationalizing SME success (Fernhaber et al., 2007), because SMEs that internationalize later, *relative to the stage of industry evolution*, may find their growth constrained by other SMEs that control key factor resources (Markman et al., 2009). This paper concludes with the research limitations and opportunities for future research.

### 6.7 Limitations and future research

This study is limited in its generalization by its qualitative method, the nature of the industry segment chosen and the choice of one focal market as a geographic context. Additional studies of internationalizing SME populations in different industrial and geographic contexts are needed to determine how generalizable the findings are. The six-year gap between the 2008 and 2014 rivalry

networks may obscure other dynamics within the population, particularly given that all the relationships changed during this time, so analysis of an industry population in greater temporal detail would clarify how quickly relationships change. The findings of this population case study should encourage researchers to revisit previous conclusions that internationalizing SMEs have a high risk of failure and that internationalizing SMEs avoid competitors. The four propositions indicate future research directions for extending understanding of competitor influences on SME internationalization. In particular, understanding the strength of the effect of switching focus to salient international competitors would aid practitioners.

## **6.8 Conclusions**

Through studying a population of internationalizing SMEs and their competitive relationships domestically and in foreign markets as an industry sector developed over 15 years, it is evident that other SMEs were the primary influence on the development of internationalizing SMEs, at least in the emergence and growth stages of that industry. This suggests that the evolutionary patterns of competition identified for SMEs in general (Hannan & Freeman, 1989) also apply to internationalizing SMEs. Further, these competitors substantially influenced the population's development through rivalry for factor resources in addition to rivalry for customers. By acting as reference points for mimicry and other forms of learning as internationalizing SMEs sought to build legitimacy, salient competitors influenced the development of internationalizing SMEs. Successful internationalizing SMEs switched attention from domestic SME competitors to salient international SME competitors as they internationalized in order to access resources and build legitimacy in foreign markets as the industry sector evolved.

## **Chapter 7. A process perspective of competitor influence on the success of internationalizing SMEs: Social construction in an international context**

### **7.1 Chapter overview**

To conceptualize how competitors influence the success of internationalizing SMEs, Chapter 7 develops a dual-level process model that synthesizes structural and social-constructivist perspectives of competing. Firms compete within a relationship triad of focal SME, customer and competitor. Competing for resources and legitimacy are the two main mechanisms occurring in the structural context, while within the SME, competing also drives firm learning and revisions in the mental models that managers use to make sense of their world. When internationalizing SMEs enter new foreign markets they confront institutional logics that differ from their domestic market and, despite constraining SME action, these contradictions in logics also potentially lead firms to recognize new opportunities. The paper contributes to IB theory by integrating institutional logics and manager mental models, as well as applying institutional logics to explain SME competition and internationalization within a single framework.

### **7.2 Introduction**

Competition is a concept used to explain firm actions and subsequent success within marketing (e.g. Hunt, 2013), economics (e.g. Schumpeter, 1934) and corporate strategy (e.g. Barnett & McKendrick, 2004; Baum & Korn, 1999). Although large firm size represents the most important advantage for competitive success (Barnett & McKendrick, 2004; Hannan & Freeman, 1989) competition's influence on small- and medium-sized enterprises (SMEs), particularly those competing in business-to-business markets, is less well understood (Medlin & Ellegaard, 2015). This is problematic for two reasons; firstly, SMEs are important economic actors which drive industry development (OECD, 2012; Suarez & Utterback, 1995) and employment growth (Haltiwanger et al., 2012) in industrial markets, and secondly, SMEs compete differently from large firms (Audretsch et al., 1999; Mas-Ruiz & Ruiz-Moreno, 2011) by using speed, stealth and selected targeting of opportunities (Chen & Hambrick, 1995; Fan, 2010; Katila et al., 2012), meaning that research into large firm competition may not generalize to SMEs.

The lack of clarity in how SMEs compete stems partly from the term “competition” being applied widely and loosely, so that its intended meaning varies according to the business context and the theoretical perspective of the researcher (Medlin & Ellegaard, 2015). To address the apparent dichotomy between structural perspectives that treat competing as a consequence of markets, industries and business networks (e.g. Ford & Håkansson, 2013; Porter, 1980), and social-constructivist perspectives that treat competing as a process of manager sense-making (e.g. Porac et al., 1989), Medlin and Ellegaard (2015) developed a process framework of firm-level competition based on goal-oriented behavior within business networks and concluded that competitive processes provoked changes in business networks (also see Chapter 4).

This paper seeks to extend Medlin & Ellegaard’s work by developing a competitive process model that integrates the contextual influences left out of their model. Just as Weick (1969) distinguished “organizations” from “organizing” to emphasize that if researchers wanted to understand change processes they needed to stop giving ontological priority to the static “organization” (Tsoukas & Chia, 2002) we address “competing” to understand sequences of actions as processes rather than giving priority to “competition” as an environmental state. Like Medlin and Ellegaard (2015), in this conceptual paper we identify “competing” as a process occurring within a triad of business relationships (Easton, 1988; Ford & Håkansson, 2013) situated within a broader business network (Håkansson & Snehota, 1995). However, we differ from Medlin and Ellegaard (2015) in our integration of structure, which we consider to be the bundle of contextual factors that exert some influence on the competitive process. “Context” is defined as “explanatory factors associated with a higher level of analysis than those expressly under investigation” (Whetten, 2009, p.31). Applying institutional theory, we embed competing within industries evolving as a consequence of social processes to build legitimacy (Hannan & Freeman, 1977; Oliver, 1997; Suchman, 1995) and within diverse international contexts characterized by multiple, socially-constructed institutional logics (Thornton et al., 2012).

In their empirical work, Medlin & Ellegaard (2015) investigated internationalizing SMEs in the wine industry and this paper similarly addresses the competitive context of SMEs that sell into foreign industrial markets (i.e. business-to-business). Because internationalizing SMEs compete successfully in difficult competitive contexts (Nummela et al., 2016), they are a useful subject for developing a process perspective of competing (Medlin & Ellegaard, 2015) because key processes are revealed more starkly than in more benign competitive contexts. When SMEs internationalize their competitive context changes substantially. Not only are these small firms often new and lacking resources (Zahra, 2005), SMEs enter foreign markets as outsiders lacking experience, business relationships and reputation (Johanson & Vahlne, 2009). To gain both customers (March, 1991) and factor resources (Markman et al., 2009), SMEs must compete with different rivals from those encountered in domestic markets. With limited slack resources, strategic errors can lead to SME

failure (Andries & Debackere, 2007; Nummela et al., 2016), making survival rather than profitability the key measure of SME internationalization success (Mudambi & Zahra, 2007). Despite their resource constraints, successful internationalizing SMEs are a feature in many economies around the world (Chetty & Campbell-Hunt, 2004; Olejnik & Swoboda, 2012) and appear to be a growing proportion of internationalizing firms (Cavusgil & Knight, 2015).

In this conceptual paper we develop a model that addresses how processes at the contextual level of industry and foreign market influence competing at the firm level of internationalizing SMEs and rival firms, as well as how competing and competitors influence critical firm-level processes. In building the model we consider social mechanisms that underlie these processes, where mechanisms are a “general sequence or set of social events or processes analyzed at a lower order of complexity or aggregation by which—in certain circumstances—some cause X tends to bring about some effect Y in the realm of human social relations” (Gross, 2009, p.364). Mechanisms are often the building blocks of higher level processes yet may not be directly observable and may not be reducible to the specific actions of the individuals who enact them (Gross, 2009).

Our intended contribution is a process model that synthesizes structural perspectives of competing with social-constructivist perspectives in a single explanatory framework. Accessing resources and building legitimacy are the two main mechanisms occurring in the structural context, while learning within the firm and reframing manager mental models are the two main mechanisms at the firm level. We also contribute by applying institutional logics (Thornton et al., 2012) and manager mental models (Maitland & Sammartino, 2015; Porac et al., 1989) to theorize about how SMEs compete as they internationalize. Our paper first outlines structural and social-constructivist perspectives of competing to show how these have a common basis for a process model of competing. We then outline the model’s assumptions and review theory about contextual and firm-level mechanisms that influence competing. We link these mechanisms to the context of internationalizing SMEs competing in foreign business-to-business markets and develop propositions about how these mechanisms influence the success of internationalizing SMEs. We then show how contextual and firm-level mechanisms can be synthesized into a process model that explains how competitors influence internationalizing SMEs and conclude with limitations and opportunities for future research.

### **7.3 Perspectives of competing**

Although multiple perspectives of competition and competing have been presented in the literature (e.g. Barnett & McKendrick, 2004; Chen & Miller, 2012; Porter, 1980; Schumpeter, 1934), the structural and social-constructivist perspectives highlighted by Medlin and Ellegaard (2015) represent the two main alternative themes. Taking an external view, structural perspectives treat competing as a

*constraint* on firms that is a consequence of broader structures (such as markets, technology and business networks), whereas from the viewpoint of individual managers inside firms, social-constructivist perspectives treat competing as a *contest created* by managers (Barnett & McKendrick, 2004). Although these competitive perspectives are at different levels and rely on different theories to explain how firms compete, we argue that they are consistent with each other when competing is understood as a process. These two alternative perspectives and their similarities are considered next.

### 7.3.1 Structural perspectives

Structural perspectives of competition focus on industry-level structure, such as Porter's (1980) "five forces" framework of suppliers, buyers, substitutes, new entrants and competitive rivalry. Competitive dynamics, another structural perspective, focuses on the competitive actions of two firms (Chen & Miller, 2012) to analyze a firm's awareness of competitors and its motivation and capability to respond (Chen, 1996). Evolutionary organizational theories identify competing as driven by the structure of firms in a population (i.e. an industry or market) competing over limited resources such as customers, where the fittest firms are "selected" and become successful because they are better suited to their competitive context while the weakest firms are eliminated (Hannan & Freeman, 1977, 1989). Over time, industries evolve as a consequence of this selection (Abernathy & Utterback, 1978; Suarez & Utterback, 1995). Structural perspectives treat competing as an activity that involves one firm vying, either directly or indirectly, with another for the same pool of resources in a zero-sum relationship (Barnett, 1997) in a dynamic process of engagement over time involving a series of moves and responses (Chen & Hambrick, 1995). Following Barnett (1997), "competitors" are the other firms seeking the same resources, while at an industry or contextual level, "competition" represents the aggregation of multiple, ongoing competitive moves and responses among rival firms. Although structural perspectives treat competing as an activity that occurs over time (Barnett, 1997; Chen & Hambrick, 1995), this approach often appears static because it emphasizes the entities involved, rather than the processes between them.

### 7.3.2 Social-constructivist perspectives

Social-constructivist perspectives emphasize that structures such as markets, technology and business networks are under constant modification through social processes. Market configurations are co-created by market participants such as firms, customers and competitors through social construction (Storbacka & Nenonen, 2011), meaning that competing evolves as firms define their opportunities, goals, responses and roles in relation to other firms in that space. Managers infer their own firm's

markets from customer and competitor cues in sales transactions (Porac & Rosa, 1996). To identify competitors of concern, managers develop simple mental models of their industry that cluster organizational similarities and differences into salient characteristics, such as organizational type, location and size (Porac et al., 1989). Mental models have been defined as “deeply ingrained assumptions, generalizations, or images that influence how individuals or market actors understand the world and how they take action” (Storbacka & Nenonen, 2011, p.247). Taking a social-constructivist perspective, Mead’s (1961, p.8) general definition of competing as “the act of seeking or endeavoring to gain what another is endeavoring to gain at the same time” similarly emphasizes future-oriented goals and activity (Medlin & Ellegaard, 2015). Competing represents the activities directed toward achieving the goal, with social processes influencing whether a firm challenges a competitor pursuing the same goal, ignores the competitor or remains unaware of competitors (Mead, 1961). Competitive rivalry is caused by a firm modifying its goal to beating its competitor (Mead, 1961), so the nature of firm goals explains the range of competitive behaviors (Easton & Araujo, 1994) ranging from conflict at one extreme through intermediate stages of competition, coexistence and co-operation to collusion at the other extreme (Easton, 1988). Thus, taking a social-constructivist perspective, competing in business-to-business markets is a social process that develops through dynamic networks of market participants interacting and through individual sense-making within a socially-constructed context.

Although structural and social-constructivist perspectives of competing have differences as described above, Table 7-1 highlights common factors, which become important in building a competitive process model. Both perspectives imply that a competitive model must have three core characteristics: it must be process-oriented to allow for dynamic action and response between organizations over time, involve at least two organizations (implying that competing occurs beyond the firm itself), and these competing organizations are focused on accessing resources external to the organization.

In order to provide a process model of competing that takes into account the influence of the competitive context on the process, we integrate the common characteristics of the structural and social-constructivist perspectives. The next section outlines the assumptions and boundary conditions of the competitive model we develop.

Table 7-1: Comparison of structural and social-constructivist perspectives of competing

	<b>Structural perspective</b>	<b>Social-constructivist perspective</b>	<b>Comparison</b>
<b>Process</b>	Process of industry evolution (Hannan & Freeman, 1989; Klepper & Graddy, 1990; Suarez & Utterback, 1995)	Process of social construction (Porac et al., 1989)	Similarity: time-based processes
<b>Actors involved</b>	2 or more rival firms (Chen, 1996)	2 or more market participants (Mead, 1961)	Similarity: 2 focal organizations
<b>Process location</b>	Competitor dyads (Barnett, 2008; Barnett & Hansen, 1996)	Business relationships (Easton & Araujo, 1994)	Similarity: firm-to-firm relationships
<b>Goals</b>	Gaining external resources (Hannan & Freeman, 1977)	Gaining external item or position of value (Mead, 1961)	Similarity: external resource orientation
<b>Level</b>	Industry/firm (Porter, 1980)	Firm/manager (Easton, 1988; Easton et al., 1993)	Difference: level of analysis

## 7.4 Model assumptions

SMEs, often defined as having fewer than 250 employees and a turnover less than €50 M (European Commission, 2014), are a feature of all economies. Although typically lacking resources and experience, many SMEs are motivated to internationalize to gain competitive benefits (McDougall, 1989; Zahra, 2005) yet how these internationalizing SMEs compete remains unclear (Medlin & Ellegaard, 2015; Zahra, 2005), despite extensive research into SME internationalization over the last two decades (Coviello, 2015; Keupp & Gassmann, 2009). While some internationalizing SMEs target consumer (final end user) customers, most target industrial and commercial customers (B2B) (Aspelund & Moen, 2012) where the internationalizing SME's product or service is a component of a broader product or service<sup>24</sup> offered by the customer (Gabrielsson & Kirpalani, 2004).

Our model theorizes how SMEs compete for both customers and factor resources. Factor resources needed by internationalizing SMEs may be further capital to fund expansion, knowledgeable staff, technology expertise through partnerships and sales channels. Factor resources may be scarce, cannot be created by the SME internally and competitors may rely on the same factor resources (Markman et al., 2009). For example, only one or two sales channel partners with the necessary technological and

---

<sup>24</sup> In the remainder of this paper we will refer to products but these could equally be services in a B2B market



customer relationship expertise may be available in a foreign market. In addition, internationalizing SMEs typically operate in industries that have not yet matured and consolidated, as characterized by high competitive intensity among participant firms as the industry evolves (Fernhaber et al., 2007; Knight & Cavusgil, 1996; McDougall, 1989). Accordingly, the model's competitive context assumes that internationalizing SMEs operate in emergent and growth industries and compete with other firms, both large and small, in domestic and foreign B2B markets. To ensure our model remains parsimonious we further assume that entrepreneurial managers lead the internationalizing SMEs, organizational structures are simple, and SMEs have growth objectives. Our assumptions are unlikely to reflect large firms or multinational enterprises (MNEs), which may have complex organizational structures, substantial inertia, internal conflict, and managers with conflicting incentives.

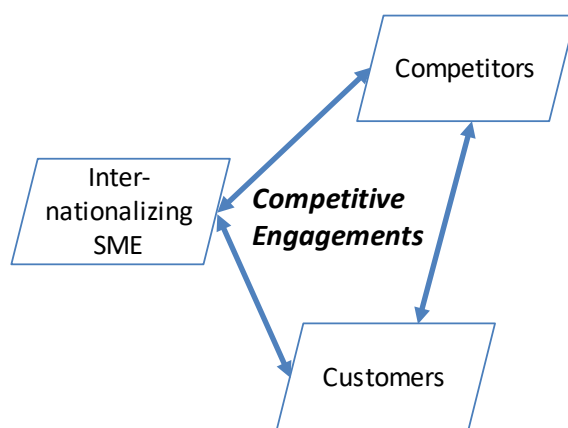
To include the three core characteristics of the competitive model; namely process-orientation, multiple actors and a focus on accessing external resources as identified in the previous section, while also including contextual factors at a higher level of analysis than the phenomena under investigation (Whetten, 2009), the model crosses two levels of analysis. Crossing levels is characteristic of business network research in industrial marketing (Håkansson & Snehota, 1995; Henneberg, Naudé, & Mouzas, 2010), as well as of constructivist process theories (Geels, 2010), such as structuration (Giddens, 1984), multi-level perspective (Geels, 2010, 2011), and path dependence (Sydow, Schreyogg, & Koch, 2009). Our model builds from the point where competing occurs: namely in competitive engagements between focal SME and competitor over the resources that can be accessed (such as cash, market knowledge, network connections) as a consequence of selling to a customer.

## **7.5 Competitive engagements within a firm-competitor-customer triad**

Driving the process of competing is the marketing requirement for firms to engage with customers to complete sales transactions (Hunt, 2013). Sirmon et al. (2008) describe these transactions as competitive engagements, where firms apply their competitive advantages to win customers, and are the means for firms to access resources in the environment and build legitimacy with potential customers and resource suppliers (Aldrich & Reuf, 2006). Successful firms win customers in multiple competitive engagements, leading to firm success and survival (Hunt, 2013). As shown in Figure 7-1, the relationships between organizations in almost every competitive engagement can be represented as a triad of focal SME, customer and competitor (Easton, 1988; Ford & Håkansson, 2013), even though the focal SME may be unaware of competitors (Chen, 1996; Easton, 1988; Ford & Håkansson, 2013) within their broader business network of relationships (Håkansson & Snehota, 1995; Medlin & Ellegaard, 2015). This triad could equally represent focal SME and competitor vying for a supplier of factor resources. Dyadic firm-customer relationships may be influenced by customer-competitor links

(Ford & Håkansson, 2013) which at a minimum affect customer expectations of product functionality, pricing, quality and service levels, while at the extreme a competitor may win the competitive engagement, depriving the focal SME of the resources and benefits that sale would bring. Unless the SME has a monopoly, or is truly the first company to offer an entirely new product category, the customer has competing or substitute alternatives available (Porter, 1980). Even if an SME is so innovative that it creates a new market, other firms respond more aggressively to new market opportunities than established market opportunities (Chen, Katila, McDonald, & Eisenhardt, 2010) so any first-mover monopoly is temporary (Franco, Sarkar, Agarwal, & Echambadi, 2009).

Figure 7-1: Conceptualizing competing as competitive engagements



Competitive engagements in domestic markets are conducted within familiar institutional contexts, where SMEs understand the social structure, expected behavior and unwritten rules to the extent that firms may take these for granted. The next section explains how institutional and evolutionary processes operating in the competitive context influence competitive engagements.

## **7.6 Institutional structures and evolutionary pressures in the competitive context**

Competing simultaneously influences, and is influenced by, its context (Barnett & Hansen, 1996; Giddens, 1984; Hannan & Freeman, 1977). In understanding this competitive context for internationalizing firms, institutional theory complements industry-based (structural) perspectives of competing and the resource-based view (Peng, Sun, Pinkham, & Chen, 2009). Institutions are social

constructions that provide stability and meaning to social life and include regulative elements that address laws and regulations, normative elements that address values and morally-governed action, and cultural-cognitive elements that are the shared conceptions and “taken-for-grantedness” that frame how actors create meaning (Scott, 2008). This socially-constructed institutional structure is not static, however, and is constantly being modified. Giddens (1984) identified “structuration” as the duality of social structures simultaneously being reproduced by knowledgeable actors aware of their situation, with those actors only able to act as a consequence of the structures being in place yet with the actors able to change the structures through their actions.

### 7.6.1 Institutional logics

Institutional researchers recognize social structures as having their own institutional logics that provide an apparently rational framework of interconnected ideas that represent the context of business activity (Friedland & Alford, 1991; Smets et al., 2015). Specifically, institutional logics are “the socially-constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality” (Thornton & Ocasio, 2008, p.101). Seven broad logics have been identified - family, community, religion, state, market, profession and corporate – each with its own sources of legitimacy, authority, identity, norms and controls (Thornton et al., 2012) and which cut across the regulative, normative and socio-cultural pillars identified by Scott (2008). Firms are thus embedded in multiple, broad societal logics (Friedland & Alford, 1991), as well as more specific logics that may operate in the firm’s industry (Lounsbury & Boxenbaum, 2013) and in the professional logics of its employees (Smets et al., 2015). Firm practices are shaped by institutional logics (Greenwood, Díaz, Li, & Lorente, 2010) yet multiple logics create tensions that affect firm performance when the logics are contradictory (Pahnke et al., 2015a; Seo & Creed, 2002; Värlander et al., 2016). Industry institutional logics provide a shared understanding that influences how firms compete with each other over time (Lounsbury & Boxenbaum, 2013) to access the resources in the environment that each firm needs to survive (Aldrich & Reuf, 2006).

### 7.6.2 Industry evolution

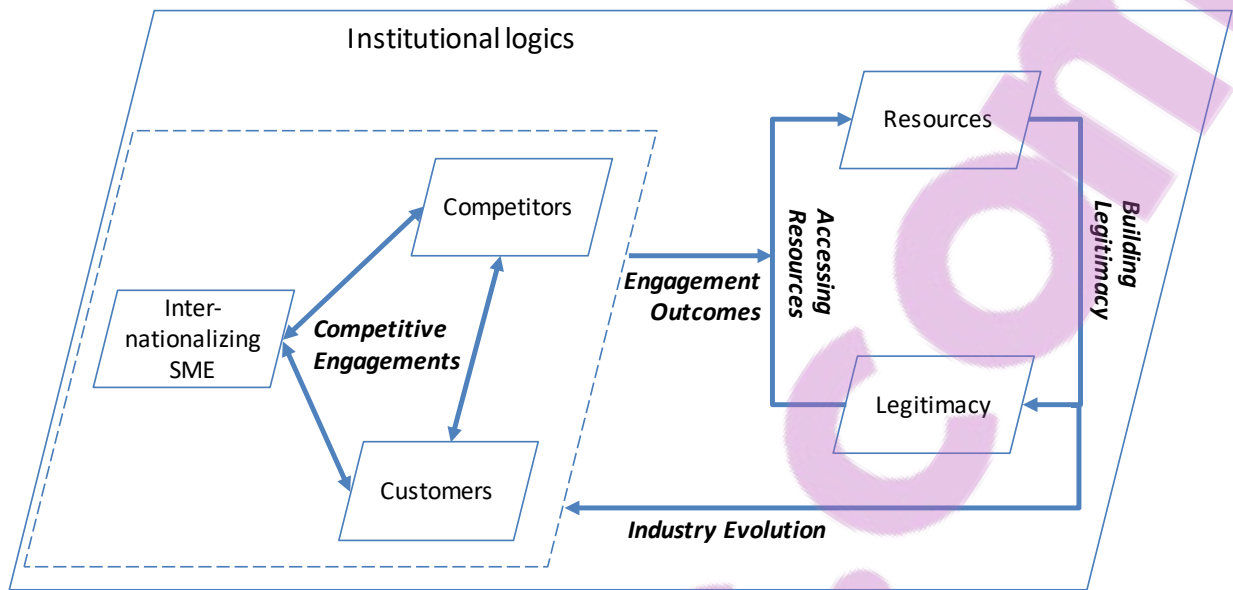
Competing occurs between firms in an industry, where an industry is a population of interdependent companies producing similar goods (Parolini, 1999). SMEs lack the firm-specific resources necessary to be product generalists like large firms and so specialize - dividing markets into niches to target different customer needs (Hannan & Freeman, 1977). While niches isolate SMEs from competing

directly with large firms (Audretsch et al., 1999), other SMEs may compete in the same niche (Carroll, 1985).

Competing for access to resources (Hannan & Freeman, 1989) is interlinked with building legitimacy (Aldrich & Fiol, 1994; Fisher et al., 2016). A fundamental concept within institutional theory (DiMaggio & Powell, 1983), organizational legitimacy is “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially-constructed system of norms, values, beliefs, and definitions” (Suchman, 1995, p.574); in other words, legitimacy comes from following an industry’s institutional logic. Legitimacy also accrues more broadly to a field, industry or profession through the combined actions of the entities within it (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Pioneering firms have little legitimacy when a new industry emerges because the opportunity is uncertain; potential resource providers such as customers, equity and finance providers, partners and sales channels and other key actors are unlikely to endorse the new firms (Aldrich & Fiol, 1994; Stinchcombe, 1965), potentially because the industry’s institutional logic may not be well developed, meaning actors have no point of reference for judging legitimacy (Bitektine, 2011). With initial success, firms gain some legitimacy, attracting additional resources, which in turn encourages other firms to enter, creating a compounding effect of greater legitimacy and greater resources. Eventually the density of firms competing for resources forces out some of the weaker firms (Aldrich & Reuf, 2006; Hannan & Freeman, 1989). Legitimacy may build passively as a consequence of continued success or be actively pursued and manipulated by firms through intentional strategies (Suchman, 1995). Driven by the institutional logic within their industry, SMEs need to conform to accepted industry practice by aligning firm structure, procedures and practices (Bruton, Ahlstrom, & Li, 2010).

Figure 7-2 situates competitive engagements within the triad of internationalizing SME, customer and competitor (from Figure 7-1) as embedded in its competitive context of institutional logics, with outcomes from competitive engagements determining how internationalizing SMEs and their competitors access resources and build legitimacy. Accessing resources and building legitimacy are co-dependent mechanisms because greater legitimacy makes accessing both customer and factor-market resources easier, and because stakeholders assume that firms that are successful at accessing resources have legitimacy (Aldrich & Fiol, 1994; Fisher et al., 2016). As individual firms access resources and build legitimacy, the resources and legitimacy remaining in the environment change (Hannan & Freeman, 1977). Thus, the two key mechanisms in the competitive context are firms competing to access resources and to build legitimacy, which affects the industry evolution as well as the industry institutional logics.

Figure 7-2: Competitive engagements embedded in industry context



Because internationalizing SMEs typically operate in emerging and growth industries and differentiate from competitors on quality and design (Fernhaber et al., 2007; Knight & Cavusgil, 1996), the stage of industry evolution influences how internationalizing SMEs compete. Needing only moderate capital investment because they do not need to operate at scale, SMEs are able to enter specialist niches as industries emerge (Abernathy & Utterback, 1978). With their high labor skills and flexibility, SMEs initially compete with each other over product design (Abernathy & Utterback, 1978; Suarez & Utterback, 1995). Early entrants introduce many new product variants, learn rapidly through competitive engagements and eventually a dominant industry design emerges through customer selection from the alternatives. At this stage the industry dynamics change, with large firms consolidating SMEs through acquisition and producing the dominant design at volume, changing the industry drivers from innovation to marginal production cost, and resulting in a rapid reduction in the number of firms in the industry (Suarez & Utterback, 1995).

These evolutionary processes are consistent with institutional theories that explain the interaction between competitive context and firm-level action (e.g. Barnett et al., 1994; DiMaggio & Powell, 1991), and are appropriate for analyzing how relatively small and powerless organizations such as internationalizing SMEs compete (Astley & van de Ven, 1983), with managers shaping their firm's strategy and structure in response to evolutionary pressures (Barnett et al., 1994). The two mechanisms of accessing resources and building legitimacy drive the process of industry evolution (Hannan & Freeman, 1977) as a consequence of multiple firm-level competitive engagements aggregated over time. However, both the value of the resources accessed and legitimacy built are

consequences of socially-constructed industry logics, also developed over time through multiple competitive engagements. In contrast to the structural perspective of competing, which implies that the industry and markets in which SMEs compete, are relatively fixed, Figure 7-2 highlights that social construction is evident in the competitive context, founded on institutional logics that change as a result of firms competing and industries consequently evolving. This process represents structuration between institutions and actors (Giddens, 1984); SMEs need structures in their competitive context to be able to compete and survive, yet create the competitive context and its structures through their actions. Competitors thus influence internationalizing SMEs by co-constructing the context in which they compete with each other. In turn, the competitive context affects firm-level social construction through competitive engagements, as addressed in more detail next.

## **7.7 Firm processes influenced by competitive engagements**

Social-constructivist perspectives of competing (e.g. Medlin & Ellegaard, 2015; Porac et al., 1989) emphasize that managers learn about their competitive context through social processes, and this influences the subsequent decisions that managers make. Competing is a trigger for firms to learn new capabilities, thereby intensifying competition and triggering an adaptive response in competitors (Barnett & Sorenson, 2002). Three types of firm learning are influenced by competitive engagements: mimetic, vicarious and experiential (Greve, 1999).

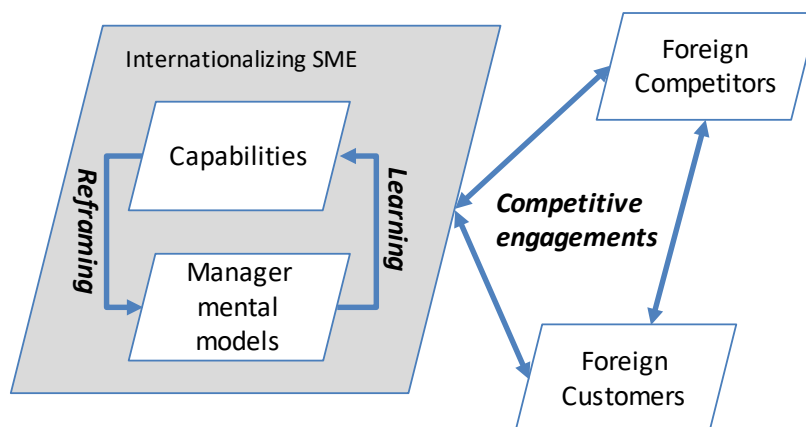
Imitative or mimetic learning is an isomorphic process where one firm copies another (Fernhaber & Li, 2010; Lieberman & Asaba, 2006). In particular, firms mimic the actions of competitors in close geographic proximity (Henisz & Delios, 2001; Poudier & St. John, 1996) and with similar salient characteristics (Greve, 1999), particularly in relation to entering new markets, mergers, alliances and geographic expansion (Gimeno et al., 2005). Three motivations for mimicry have been proposed: as a consequence of decision-making under uncertainty, where the firm believes it better to copy a competitors' actions with the assumption that the competitor has better knowledge (Lieberman & Asaba, 2006); to match rivals to maintain relative positions and neutralize the rival's initiative (Lieberman & Asaba, 2006); or institutional, where small firms mimic large firms due to social pressures and the need for legitimacy (DiMaggio & Powell, 1983; Greve, 2000). Firms from the same domestic market in the same product segment are more likely to mimic each other's international expansion patterns in the emerging stages of an industry than later, when global patterns emerge (Fernhaber & Li, 2010; McKendrick, 2001; Sui et al., 2016).

Vicarious learning occurs when firms observe and analyze the activities of other organizations, with new firms learning from the success, failure and near-failure of salient competitors (Kim & Miner, 2007). Unlike imitative learning, vicarious learning may lead firms to take alternative actions. Vicarious learning does not carry the cost of exploration and the consequences of failure, so can complement a firm's experiential learning (Terlaak & Gong, 2008).

Experiential learning, or learning by doing, is influenced by the social relationships that managers develop (Michailova & Wilson, 2008), as well as through the mental models that managers have already developed to simplify their decision-making in complex environments (Holcomb et al., 2009). Firm learning contributes to building new capabilities, thus improving the firm's competitive strength (Barnett, 2008). In our model, we assume that internationalizing SMEs are led by entrepreneurial managers with supportive staff. We make this assumption because small or new firms may not have a dominant corporate institutional logic (Bettis & Prahalad, 1995; Pahnke et al., 2015a; Thornton et al., 2012) beyond that espoused by key managers. Thus, these managers are likely to have a direct and substantial influence on firm actions, and their experiential learning influences their decisions.

What managers focus their attention on is related to the competitive context that managers understand themselves to be in, which influences which decisions they think they need to make (Ocasio, 1997). Contextually, managers pay attention to, and thus learn from, firms in their industry with similar characteristics to their own in order to identify salient competitors (Porac et al., 1989; Terlaak & Gong, 2008). As shown in Figure 7-3, two firm-level social mechanisms drive how SMEs compete; learning and reframing. Manager mental models are constantly created and revised (reframed) as managers engage with other people through social processes driven by their firms' need to compete (to gain resources and legitimacy for their firm's survival). Reframing is influenced by firm-level processes driven by mimetic (Barreto & Baden-Fuller, 2006), experiential (Gray et al., 2015) and vicarious learning (Denrell, 2003) to build capabilities, as well as by institutional logics in the competitive context (Lounsbury & Boxenbaum, 2013). This represents a second structuration process (Giddens, 1984); managers need competitors to sense the position of their own firms in their competitive context, allowing managers to act through competitive engagements, with the outcomes of competing changing firm capabilities and manager mental models through learning, in addition to changing the competitive context.

Figure 7-3: Firm-level mechanisms



In summary, competitors influence firm learning through competitive engagements (Medlin & Ellegaard, 2015). Because managers' mental models determine which salient competitors to focus attention on (Porac & Rosa, 1996), learning through competitive engagements influences managers to reframe their mental models of industry, markets, competitors and customers. Further, what managers learn influences firm capabilities and thus firm actions in subsequent competitive engagements. In the next section, we integrate the influence of both contextual and firm-level mechanisms driven by competitive engagements to explain our model of how competitors influence the success of internationalizing SMEs.

## 7.8 Competing internationally

As highlighted in the previous sections, SMEs are embedded in social-construction processes in their competitive context as well as at the firm level. When SMEs sell into foreign markets their competitive context changes, with implications for all the mechanisms. We first look at changes in institutional logics.

### 7.8.1 Contextual changes for internationalizing SMEs

Institutional logics are central to understanding how SMEs compete internationally because logics vary by foreign market in content and importance (Greenwood et al., 2010), and the actions of internationalizing firms are a response to the institutional conditions they encounter (Ang et al., 2015). For example, "The logic of Chinese business strategy" (Haley & Haley, 2006a, 2006b) explicates how

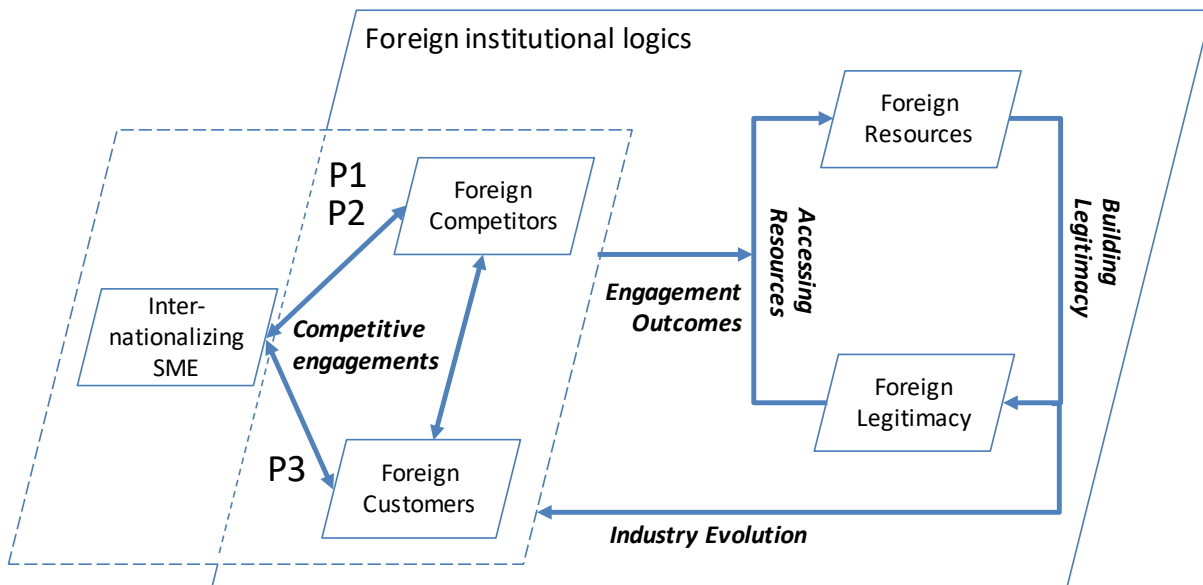


historic and cultural characteristics led to specific logics that underlie the practices of Chinese managers. Similarly, networks of Overseas Chinese (Haley et al., 2009) and Overseas Indians (Haley & Haley, 1998) bring their own logics to complement the local business practices of countries within South East Asia, emphasizing that institutional logics are not homogeneous within countries. Market and state logics may also be unfamiliar to firms from overseas: for example, in China the government provides massive state subsidies to support selected industries, and in some instances direct governance, yet concurrently encourages entrepreneurship (Haley & Haley, 2013). Logics influence firm operations across borders: Värlander et al. (2016) identified that a case firm's subsidiaries in The United States, China and India had applied different logics to implement a new company policy, with the firm's Chinese employees enacting a market logic based on planned economies rather than Western market logic (Thornton et al., 2012).

By selling in multiple foreign markets, internationalizing SMEs encounter multiple and potentially conflicting logics (Seo & Creed, 2002). To access resources in competitive engagements in foreign markets, internationalizing SMEs need to build legitimacy, which requires conforming to multiple foreign institutional logics. However, because internationalizing SMEs are initially outsiders, they need to first recognize and understand differences between foreign market logics and familiar domestic market logics. Further, an industry in a foreign market may be at a slightly different stage of evolution and be comprised of different and potentially unfamiliar competitors. Thus, substantial contextual shifts occur that influence competitive engagements between internationalizing SMEs and their foreign competitors, as shown in Figure 7-4, with the internationalizing SME outside the foreign market institutional logics.

Building from the contextual mechanisms of accessing resources and building legitimacy explained in Section 7.6, three propositions are offered to guide the empirical development of the internationalizing SME competitive process model.

Figure 7-4: Competitive engagements embedded in foreign context



### 7.8.2 Accessing resources

Gaining access to increased resources is a primary motivation for SME internationalization (Fan & Phan, 2007). Internationalizing SMEs are a feature of emerging industries (Fernhaber et al., 2007), where production economies favor small, flexible and innovative firms rather than large firms (Abernathy & Utterback, 1978). Internationalizing SMEs target market niches as a competitive strategy to avoid large firm competitors (Chetty & Campbell-Hunt, 2004; Zucchella & Palamara, 2006) but must compete for limited resources in that niche with other similarly-sized firms (Carroll, 1985; Hannan & Freeman, 1977). Thus:

Proposition 7-1: During the emergence and growth stages of industry evolution, the main competitors of internationalizing SMEs are other SMEs.

In addition to the potential financial benefit if won, each competitive engagement in a foreign market provides knowledge about foreign institutional logics as well as knowledge about competitors, market pricing and customer applications that internationalizing SMEs can use to improve their products in the competitive struggle to create the dominant design (Suarez & Utterback, 1995). Thus, accessing resources is closely linked to building legitimacy.

### 7.8.3 Building legitimacy

Internationalizing SMEs need to build legitimacy to conform to the expectations of audiences of customers, suppliers and partners (Suchman, 1995) to win competitive engagements in foreign markets. As outsiders, internationalizing SMEs lack the social knowledge to accurately interpret foreign institutional logics (Ang et al., 2015) or understand how legitimacy is conferred (Bitektine, 2011). Foreign competitors provide models for SMEs to mimic (Ang et al., 2015; DiMaggio & Powell, 1983), without needing to necessarily understand the underlying logics. When internationalizing SMEs lack any international experience (prior to foreign market entry) or in the early stages of industry evolution where there may be few foreign competitors to mimic (Andersson, 2004), internationalizing SMEs may instead mimic domestic market competitors with experience in the foreign market (McKendrick, 2001; Sui et al., 2016):

Proposition 7-2: To build legitimacy quickly in a new country, internationalizing SMEs will conform to foreign industry expectations by mimicking competitors.

Internationalizing SMEs may find that the factor resources needed in a new market have already been taken by competitors (Markman et al., 2009). For example, only a limited number of distributors and agents with the skills and capabilities to sell a specialized product will be available in a foreign market and once these sales channels have been contracted by competitors this critical factor resource is unavailable to other firms. As a result, internationalizing SMEs may not be able to mimic foreign competitors entirely to gain legitimacy. To balance firm needs for accessing resources and building legitimacy, internationalizing SMEs may have to change their target customers from those in their domestic markets:

Proposition 7-3: Internationalizing SMEs may modify their customer targets as they enter a new foreign market.

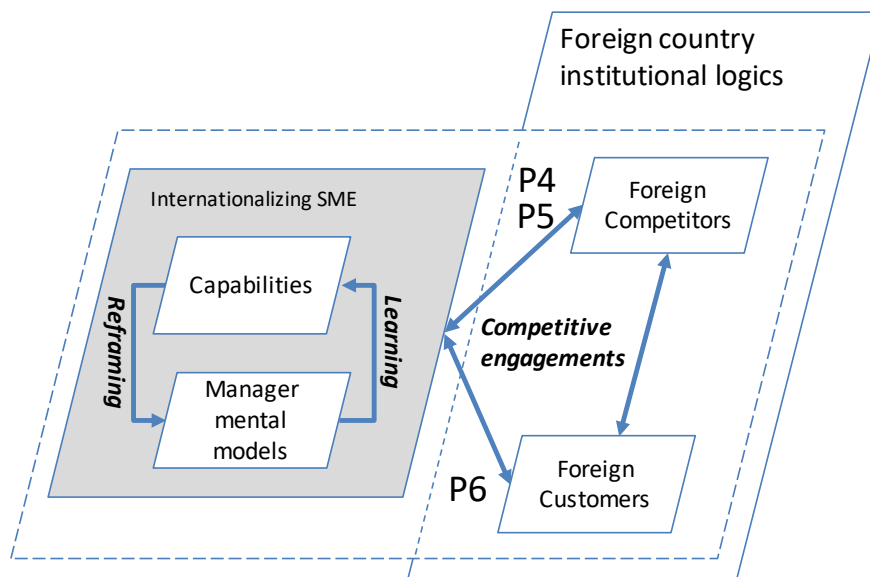
The model shows how the two mechanisms that occur in the competitive context influence competing between internationalizing SMEs and foreign competitors. SME competitors are the primary influence on internationalizing SMEs by acting as models for internationalizing SMEs to mimic and by controlling factor resources that internationalizing SMEs need. We now complete the model's dual-level perspective by considering how firm-level mechanisms within internationalizing SMEs are influenced by competitive engagements in foreign markets.

#### 7.8.4 Changes in firm-level mechanisms for internationalizing SMEs

Firm learning, based on the accumulated direct experience of the firm, is central to how firms internationalize into new competitive contexts in foreign markets (Johanson & Vahlne, 1977, 2009), which triggers a process of learning and adaptation for SMEs (Lu & Beamish, 2001).

Internationalizing SMEs need to compete with foreign SMEs (Proposition 7-1) for access to resources. To mimic competitors in order to build legitimacy (Proposition 7-2), internationalizing SMEs need to learn about salient competitors but determining which competitors are salient depends on the customers which internationalizing SMEs target in the new market (Proposition 7-3). Competitive engagements are embedded in multiple institutional logics in the foreign market but, as outsiders, managers in internationalizing SMEs may lack a full understanding of these logics, and what they learn is influenced by their mental models (Porac et al., 1989). Building from Section 7.7 on firm-level processes, we now consider these in a foreign context, as shown in Figure 7-5.

Figure 7-5: Contextual influences on firm-level processes



#### 7.8.5 Learning

Internationalizing SMEs learn from customers and competitors through competitive engagements, with each engagement influencing what is learned and potentially resulting in some change in firm capabilities (Holcomb et al., 2009). Learning may not be conscious but be revealed by the firm modifying some of its routines (e.g. changing prices, modifying a product, hiring or firing staff) in

response to competitors (Barnett & Hansen, 1996). Engagements may also reinforce existing learning, or encourage mimicry (Henisz & Delios, 2001) and vicarious learning (Kim & Miner, 2007).

#### 7.8.6 Reframing

Because internationalizing exposes the SME to different institutional logics from those familiar in the domestic market, managers need to reframe their mental models, particularly in relation to market and industry boundaries, customer targets and salient competitors (Porac & Rosa, 1996), with mental models having a substantial influence on the way firms internationalize (Child & Hsieh, 2014; Maitland & Sammartino, 2015) (see Propositions 7-1, 7-2 and 7-3). Internationalizing SMEs with key managers that continue to focus their attention on domestic competitors and customers may not be able to access foreign resources, build foreign legitimacy, learn the foreign institutional logics and therefore may not be successful at internationalizing. Internationalizing SME success is defined here in evolutionary terms as survival rather than profitability (Mudambi & Zahra, 2007), through the firm's continuing ability to access resources and build legitimacy in the longer term:

Proposition 7-4: Internationalizing SMEs that reframe their mental models to learn from salient international competitors internationalize more successfully than if they focus on domestic competitors.

As already noted in Proposition 7-1, other SMEs are likely to be the primary competitors of internationalizing SMEs in an emerging industry. However, managers may mistake large firm size as a salient characteristic (Denrell, 2003; Porac & Rosa, 1996), and misdirect their attention to large firms that appear to threaten the SME's survival. As a result, internationalizing SMEs learn the "wrong" lessons, lack the firm resources and capabilities to mimic these large competitors and accordingly pursue strategies that lead to failure (Denrell, 2003):

Proposition 7-5: Internationalizing SMEs that reframe their mental models to learn from salient SME competitors internationalize more successfully than SMEs that reframe on large competitors.

Some SMEs may internationalize *because* managers already have different mental models of industry and competitors through prior experience (Hilmerston & Johanson, 2014b). Recognized contradictions or tensions between mental models and institutional logics (Seo & Creed, 2002) in foreign markets may trigger entrepreneurs to identify new opportunities as they internationalize (Sarason et al., 2006). A social-constructivist view of entrepreneurship implies that opportunities do not exist in advance in the structure, just waiting to be identified, but must be developed over time by entrepreneurs who co-create value within social systems, with the entrepreneur both "enabled and

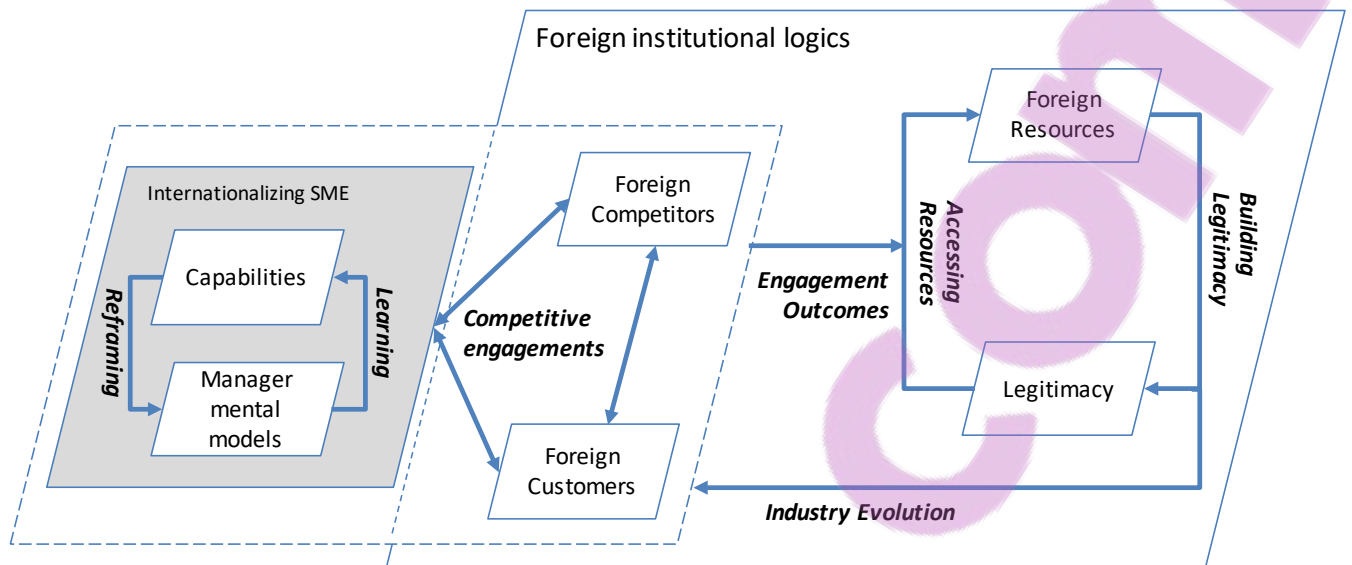
constrained by social structures”, and the entrepreneur and the opportunity so intertwined that one cannot exist without the other (Sarason et al., 2006, p.287). Entrepreneurs mobilize opportunities through leveraging the support of others with resources (Dorado, 2005) or by recognizing discrepancies in factor resource valuation to generate incremental value (Baker & Nelson, 2005; Jennings, Greenwood, Lounsbury, & Suddaby, 2013; Sonenshein, 2014). Mental models are influential in both how entrepreneurs identify opportunities and how they act on these opportunities (Holcomb et al., 2009; Shane & Venkataraman, 2000).

Although internationalizing SMEs are initially outside the foreign institutional logics when they enter new countries, this provides an opportunity to recognize opportunities that foreign market firms still embedded in that logic cannot “see” because they are so familiar with the logic they take it for granted (Seo & Creed, 2002). Combined with firm processes of learning and reframing, this could explain the learning advantages of newness shown by SMEs that internationalize within a few years of firm foundation (Autio et al., 2000). For example, Hilmersson and Johanson (2014b) found that SMEs that internationalized rapidly were able to transform their experiences in new competitive contexts into useful knowledge. In other words, the learning and reframing that occurs during internationalizing may give SMEs an advantage over foreign market firms in recognizing opportunities. Thus:

Proposition 7-6 Contradictions between mental models and institutional logics recognized by managers within internationalizing SMEs lead to identification of new international opportunities.

Outcomes of competitive engagements influence SME success and failure, which in turn drives industry evolution. Over the course of multiple engagements, some internationalizing SMEs prosper and new firms may mimic them, while other internationalizing SMEs fail, are sold or change industries (Coad, 2014). Other firms learn vicariously from these outcomes as well (Terlaak & Gong, 2008), with individual firm success and failure changing the number of firms competing, resources available and industry legitimacy (Hannan & Freeman, 1989). Individual firm outcomes therefore also change foreign institutional logics, albeit slowly and cumulatively. Figure 7-6 combines contextual and firm-level processes into the full internationalizing SME competitive process model. The next section summarizes how competitors influence the success of internationalizing SMEs.

Figure 7-6: Internationalizing SME competitive process model



## 7.9 Conclusions: Synthesis of contextual and firm level processes driven by competitive engagements

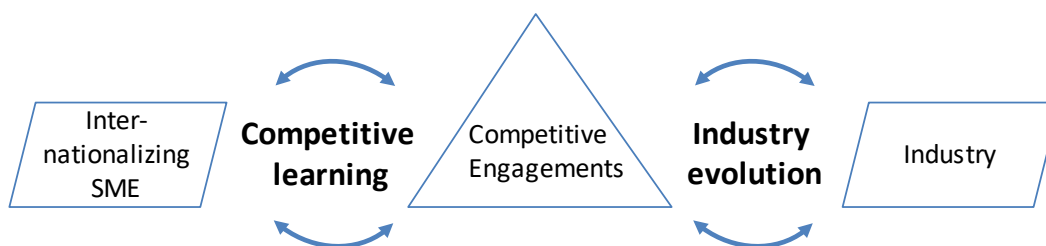
Internationalizing SMEs compete with other SMEs for customers and factor resources (Proposition 7-1) and in order to build legitimacy in a foreign market, internationalizing SMEs mimic their competitors (Proposition 7-2). Given that factor resources in a foreign market may already be controlled by competitors, and because internationalizing SMEs may not be able to entirely mimic competitors as outsiders to foreign institutional logics, internationalizing SMEs may need to modify their customer targets as they enter new markets (Proposition 7-3). Competing also influences firm processes of learning and reframing, with SMEs that reframe on salient international competitors (Proposition 7-4), especially foreign SME competitors (Proposition 7-5), internationalizing more successfully. Despite internationalizing SMEs being outsiders to foreign institutional logics, and those logics constraining firm actions, contradictions between familiar and foreign logics that confront internationalizing SMEs lead to the identification of new opportunities (Proposition 7-6), potentially giving an advantage to internationalizing SMEs over foreign market firms.

Two processes are apparent in the internationalizing SME competitive process model. The first competitive process of industry evolution occurs in the competitive context, driven by two mechanisms of firms seeking access to resources and building legitimacy. These mechanisms operate through competitive engagements between the internationalizing SMEs and their competitors and change the competitive context for individual firms. The second process of competitive learning

occurs in the firm, driven by two social mechanisms of firm learning and reframing manager mental models. These mechanisms also operate through competitive engagements and change the firm over time. Both processes are socially constructed, reflecting structuration between the actors in the competitive engagements and more broadly in the competitive context and institutions (Giddens, 1984), represented as institutional logics (Thornton et al., 2012).. These processes act on the entities involved, so that within the firm, manager mental models of markets, industries and salient competitors (Porac & Rosa, 1996), knowledge, routines and capabilities (Holcomb et al., 2009; Porac et al., 1989) as well as opportunities (Shane & Venkataraman, 2000) are socially constructed, and while some resources are substantive objects (e.g. raw materials, buildings, machines), their value is socially determined (Sarason et al., 2006; Shane & Venkataraman, 2000). Contextual factors are also socially constructed, such as firms, industries and markets (Storbacka & Nenonen, 2011), legitimacy (Suchman, 1995), institutions (Scott, 2008) and knowledge (DiMaggio & Powell, 1991).

Competing thus occurs within a triad of relationships as part of a business network (Ford & Håkansson, 2013; Håkansson & Snehota, 1995; Medlin & Ellegaard, 2015), and comprises two processes determined by contextual and firm-level mechanisms. Accordingly, the structural and social-constructivist perspectives of competing (Medlin & Ellegaard, 2015) are not inconsistent with each other; the former addresses social processes in the competitive context while the latter addresses social processes inside the firm, with the two processes linked through competitive engagements within business networks. The two processes are illustrated in Figure 7-7:

Figure 7-7: Simplified combination of two processes in competing



We contribute to IB research by explaining how competitors directly and indirectly influence the success of internationalizing SMEs. Applying evolutionary and institutional theories to address the competitive context, the internationalizing SME competitive process model shown in Figure 7-6 contributes to theory by integrating institutional logics and manager mental models within a single framework, as well as applying institutional logics to theorize about internationalizing SME



competition. Using this model, we theorize the necessary competitive actions required for internationalizing SMEs to be successful in foreign markets (also see Chapter 4), highlighting the reason for mimicry and adaptation of target niches as firm internationalize (also see Chapter 5), and explaining why internationalizing SMEs need to refocus on salient foreign SME competitors (also see Chapter 6). We further show that contradictions in logics that become apparent as SMEs internationalize are the means for recognizing new opportunities. In this way, our model addresses the two components of context-sensitive theory identified by Whetten (2009, p.30) in relation to international firms: “contextualizing theories (theories in context) and theorizing about context (theories of context)”. We now consider limitations of the model and opportunities for further research.

## **7.10 Limitations and future research**

The model is limited to competitive contexts involving internationalizing SMEs in B2B markets and will not generalize to large firms that have complex organizational structures, internal conflict, managers with conflicting incentives and substantial inertia. Despite generally consistent underlying assumptions within the process components, since processes are considered at a high level of abstraction, some underlying inconsistencies may remain when considering each mechanism individually. Another limitation is that the model does not predict outcomes, although this is a common characteristic of evolutionary models that address how changes occur rather than specific consequences (Hannan & Freeman, 1977; Hodgson, 1993).

The proposed model provides a framework for further investigation of competitor influences on internationalizing SMEs. The interaction of institutional logics and manager reframing has potential for progressing research into how SMEs compete while ensuring that competitive context is addressed as a key variable (Fernhaber et al., 2007). Future research could test the interaction of the processes in the model in more detail in empirical studies of firms, industries and markets. The model assumes that internationalizing SMEs engage customers and competitors through direct sales, but greater attention could be given to the role of sales channels, and in particular, how they mediate learning and reframing processes. While our boundary assumptions limit the model’s context to internationalizing SMEs, with some changes the model may be applicable in more general SME contexts, such as understanding the influence of foreign competitors on SMEs in domestic markets, domestic SME product-line extensions involving entry into new domestic industries and SME expansion in very large country-markets such as the United States, India or China where there may be variations in institutional logics across the country.

## **Chapter 8. Conclusions**

### **8.1 Chapter overview**

The purpose of this chapter is to summarize the key findings and contributions of this thesis in explaining how competitors influence the success of internationalizing SMEs. Overall, the thesis contributes to research in international business by showing how evolutionary conditions and institutional logics in the competitive context of industry and foreign market influence firm-level mechanisms of learning, mimicry and reframing manager mental models. The internationalizing SME competitive process model illustrates the interaction of these mechanisms. The chapter concludes with managerial implications, research limitations and opportunities for future research.

### **8.2 Introduction**

Competing internationally changes the competitive context for firms and potentially changes a firm's competitors relative to its domestic market context. Presented as a series of four journal-oriented academic papers (Chapters 4 to 7), preceded by theoretical framework and method chapters, this thesis aims to explain how competitors influence the success of internationalizing SMEs. This question is important because, as central actors in most countries' economies (OECD, 2013), SME internationalization is partly motivated by competition (McDougall, 1989), yet little research has addressed the influence of competitors on internationalizing SME development and survival.

Competitive engagements, where internationalizing SMEs compete with rivals for customers, are embedded in industry and foreign market contexts. As the set of explanatory factors exerting some influence on a phenomenon and "associated with a higher level of analysis than those expressly under investigation" (Whetten, 2009, p.31), context is central to this thesis in understanding competitors within the environment encountered by internationalizing SMEs in foreign markets, as well as market and industry conditions affecting firm-level competitive engagements. Structural explanations locate competing in an industry or market context as an activity among rival firms to access resources to the exclusion of other firms (Barnett, 1997). Firm-level explanations of "competing" emphasize socially-constructed mechanisms (Medlin & Ellegaard, 2015) thus emphasizing social context. To go beyond structural conceptions of competition as remote from firms and instead address "competing" as a process that includes socially-constructed mechanisms unable to be directly observed (Bryman & Bell, 2011), a critical realist approach (Sayer, 1992) was used to integrate both causal explanation and contextualization.

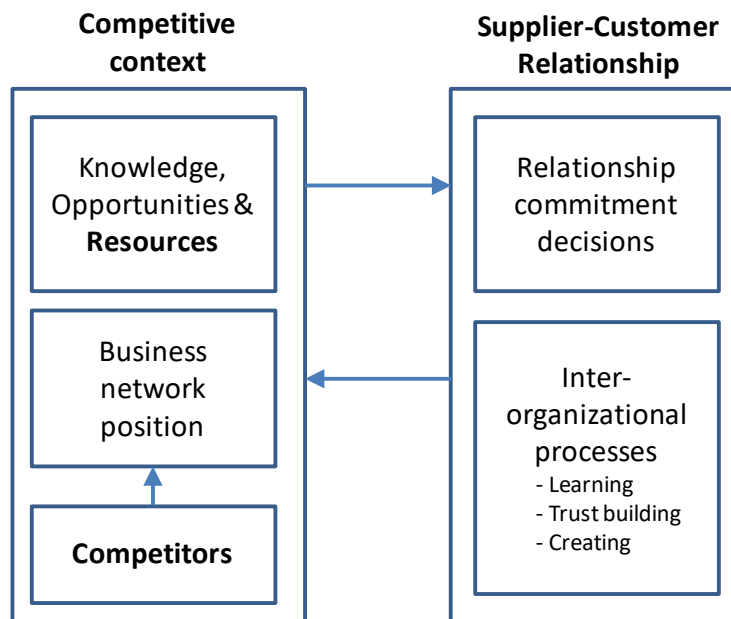
## 8.3 Research contributions

Four journal-oriented papers (Chapters 4 to 7) addressed research sub-questions developed in Chapter 2's Theoretical Framework, with the findings of one paper partially informing the next. The following section summarizes these findings and contributions, and relates these findings to the critical realist model outlined in the Method (Chapter 3) and ultimately to the overarching question which guided the thesis research.

### 8.3.1 Chapter contributions

Before the influence of competitors could be addressed, the thesis needed to first address a question that was unclear within the extant literature: "How do internationalizing SMEs compete?" In seeking to answer this Research sub-question 1, Chapter 4 contributes to research into SME internationalization by first distinguishing three concepts bound up within "competing": competitive advantages as the firm's potential resources and capabilities which lie dormant until a firm can apply them, competitive engagements as the points where SMEs encounter rivals seeking the same customers and resources (Easton, 1988; Sirmon et al., 2008), and competitive strategy describing *how* SMEs bring their competitive advantages to bear in competitive engagements (Grimm et al., 2006). Accordingly, Chapter 4 locates a central argument of this thesis; namely that a contextualized understanding of internationalizing SMEs competing within a population of interrelated firms is needed, rather than prematurely narrowing attention to firm-specific resources and capabilities. An examination of three generic explanations of internationalizing SME competitive strategy in the extant literature shows these do not fully explain how SMEs deploy their competitive advantages in competitive engagements with large and small competitors over time. Chapter 4 explains why a small number of highly-committed business relationships, combined with a position on the periphery of a business network, matter more for internationalizing SME competitive success than being in the center of a network with many network relationships (c.f. Johanson & Vahlne, 2009; Vahlne & Johanson, 2013). The SMEs in the FMS industry used their outsider position to develop opportunities with customers by leveraging information asymmetries across structural holes (Burt, 2002; Peng et al., 2014). Chapter 4 also contributes to IB theory by reinterpreting the Uppsala business network internationalization process model (Johanson & Vahlne, 2009) by linking competitive strategy with business network position, adding the context of competition for resources and making explicit its multi-level coverage of firms and competitive context. This reinterpreted model is shown in Figure 8-1:

Figure 8-1: Internationalizing SME network competition model



Source: Adapted from Johanson and Vahlne (2009); modified aspects in bold

With a focus on the strategic options available to internationalizing SMEs, particularly the niches that internationalizing SMEs target (Audretsch et al., 1999; Chetty & Campbell-Hunt, 2004; Gabriellson et al., 2008), Chapter 5 investigates Research sub-question 2: “How do internationalizing SMEs in a given population select niches?” This chapter concludes that, rather than being an *ex ante* competitive strategy, niches are a *post hoc* market position realized as a consequence of competing and that niches are better understood as constantly changing, socially-constructed positions, rather than identifiable, fixed locations in a market structure. Chapter 5 makes a number of contributions. First, it shows that a range of external actors - especially early customers, shareholder and channel partners, and competitors - constrain the niche selections of internationalizing SMEs, and that these actors are likely to be more important influences on the niche in which the firm competes than firm choice. A second contribution is to highlight how competitors influence the niche options available to SMEs by controlling access to resources. As an industry evolves, the prior success of competitors in winning resources changes the resources remaining in individual niches, so the timing of SME internationalization relative to the stage of industry evolution affects which niches are available and what resources those niches contain. This brings factor market rivalry (Markman et al., 2009, 2011) directly into the theoretical explanation of how internationalizing SMEs compete and extends Fernhaber et al. (2007) in showing why the stage of industry evolution is important in understanding

SME internationalization. A third contribution integrates entrepreneurial theorizing on socially-constructed opportunity identification (Davidsson, 2015; Sarason et al., 2006) with a social-constructivist perspective of competing (Medlin & Ellegaard, 2015) to suggest how firm niches may be a socially-constructed realization of entrepreneurial co-creation with external actors, rather than existing resource pools awaiting discovery. This means that more stable (structural) ecological and market niches inferred by market observers need to be distinguished from socially-constructed firm niches that may be constantly changing. Competitors influence internationalizing SMEs within these social-construction processes by acting as models for mimicry or vicarious learning. Fourth, niche selection is primarily a competitive response by internationalizing SMEs and in most cases is not a planned strategy. Firms in the study only understood their niche after gaining competitive experience through competitive engagements. Therefore, for individual firms, the niche selection decision could be more accurately described as a commitment to stay, made retrospectively after initial success. The findings reported in Chapter 5 suggest that the extant research describing internationalizing SMEs as following niche strategies to avoid large competitors and consciously targeting global niches (e.g. Cannone & Ughetto, 2014; Chetty & Campbell-Hunt, 2004; Gabrielsson et al., 2008; Kalinic & Forza, 2012) needs to be extended, paying greater attention to competitive context.

Chapter 6 investigates how the internationalizing SMEs in a population maneuver against competitors as their industry evolves. Whereas Chapters 4 and 5 primarily address competing from the perspective of an individual firm, Chapter 6 investigates changes in the population of firms in the NZ FMS industry to respond to Research sub-questions 3 and 4: “What influence do competitors have on the development of internationalizing SMEs?” and “How do competitors of different size and location influence internationalizing SMEs?” The chapter finds that when the NZ-heritage FMS SMEs internationalized, their primary competitors were foreign SMEs and there was no suggestion that case firms deliberately avoided large firms as suggested in the SME internationalization literature (e.g. Aspelund & Moen, 2005; Gabrielsson et al., 2008; Knight & Cavusgil, 1996); instead, internationalizing SMEs maneuvered to differentiate themselves from other SMEs. These findings are consistent with both density dependence (Hannan & Freeman, 1989) and dominant design theories (Suarez & Utterback, 1995), which imply that other SMEs will be the primary competitors of internationalizing SMEs in the emergent and growth stages of an industry, and only once the industry consolidates will large firms become competitors. Thus, the emphasis given to large firms as competitors in extant IB research into internationalizing SMEs may have distracted from the more important influence of small competitors.

Chapter 6 also contributes by identifying moribund SMEs, which were SMEs apparently stalled in their development as a result of competitor action during the growth stages of industry evolution. Competitors controlled access to critical factor resources such as co-development partners, sales channels and customers willing to be involved in product co-development. Once the industry began to

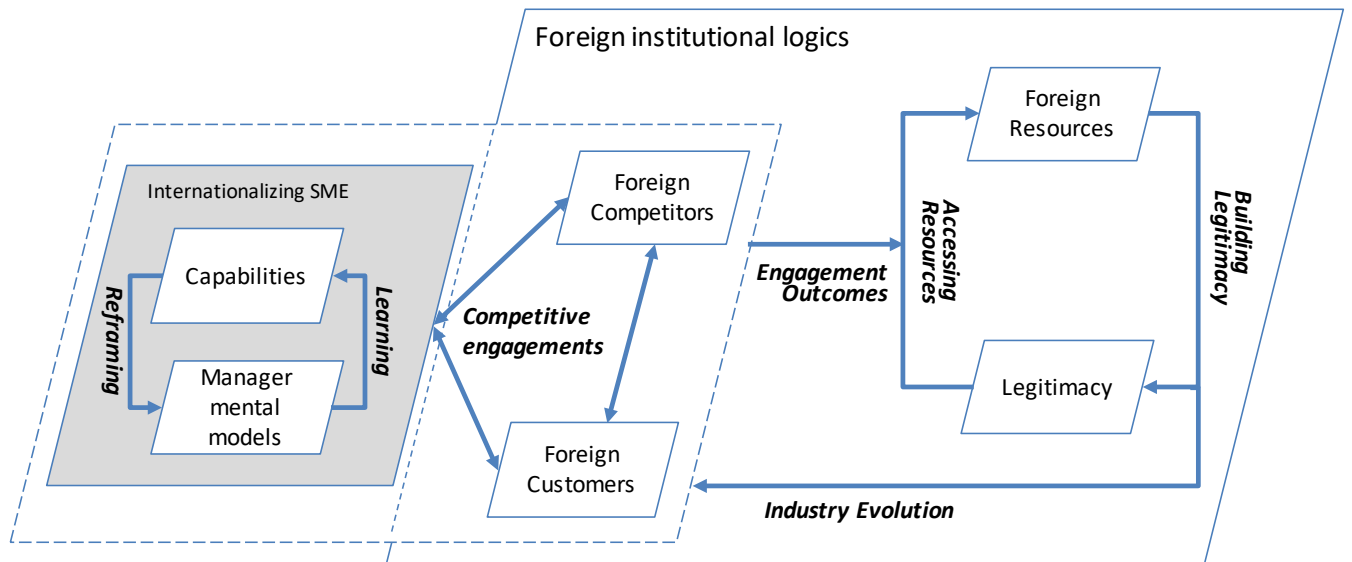
consolidate, the development of some internationalizing SMEs was constrained and these firms became moribund. This outcome highlights an additional problem with the “independent survival or failure” dichotomy that some researchers have applied in evaluating the success of internationalizing SMEs (e.g. Efrat & Shoham, 2012; Gabrielsson et al., 2008; Mudambi & Zahra, 2007; Puig et al., 2014) because moribund SMEs survived but they certainly were not a success (see Section 2.5.1).

Internationalizing SMEs used mimicry of salient SME competitors as a mechanism to build legitimacy and to overcome uncertainty (Barreto & Baden-Fuller, 2006; DiMaggio & Powell, 1983). Comparing each firm’s salient competitors against its performance revealed a relationship between the location of a firm’s salient competitors as domestic or international and whether the firm was moribund or expanding. SMEs that switched their focus to salient international competitors as they internationalized appeared to perform better; potentially because they learned how to access the necessary factor resources against these international competitors or because they gained greater legitimacy in international markets through mimicking international competitors. This suggests that to gain access to resources and build legitimacy in foreign markets, SMEs need to change their focus to salient international competitors. Chapter 6 also contributes to current research streams looking at institutional effects on internationalization patterns (e.g. Ang et al., 2015; Värlander et al., 2016) and the specific influence of competitors on internationalizing SMEs (e.g. Medlin & Ellegaard, 2015; Sui et al., 2016).

To integrate the empirical findings and theoretical contributions of Chapters 4 to 6, Chapter 7 also addresses Research sub-questions 3 and 4 in explicating a conceptual process model of how competitors influence the success of internationalizing SMEs, as shown in Figure 8-2. Its contribution is to synthesize social-constructivist and structural perspectives of competing (Medlin & Ellegaard, 2015), and to integrate industry and foreign market institutional logics (Thornton et al., 2012) with manager mental models in the firm (Porac et al., 1989). Institutional logics do not appear to have been used previously to theorize about SME competition or internationalization but are increasingly being used as a lens to understand aspects of international business (e.g. Greenwood et al., 2010; Värlander et al., 2016) and entrepreneurship (e.g. Jennings et al., 2013; Pahnke et al., 2015a; Walker, Schlosser, & Deephouse, 2014). Within the internationalizing SME competitive process model shown in Figure 8-2, accessing resources and building legitimacy are the two main mechanisms (Gross, 2009) occurring in the competitive context while learning and reframing are the two main mechanisms in the firm. The contextual mechanisms cause the industry to evolve, which in turn drives firm-level mechanisms through competitive engagements which, when aggregated across an industry, cause changes to the resources and legitimacy in the industry. This cyclical co-dependence between context and competing is an example of structuration (Giddens, 1984). Recognized contradictions or tensions between manager mental models and institutional logics (Seo & Creed, 2002) in international markets may trigger managers to identify new opportunities as they internationalize (Sarason et al., 2006),

because unlike foreign competitors that remain embedded in their foreign institutional logics and so take them for granted, internationalizing SMEs may gain an advantage through their perspective as outsiders.

Figure 8-2: Internationalizing SME competitive process model



In explaining how competitors influence the success of internationalizing SMEs, six propositions are articulated in Chapter 7:

Proposition 7-1: During the emergence and growth stages of industry evolution, the main competitors of internationalizing SMEs are other SMEs.<sup>25</sup>

Proposition 7-2: To build legitimacy quickly in a new country, internationalizing SMEs will conform to foreign industry expectations by mimicking competitors.<sup>26</sup>

Proposition 7-3: Internationalizing SMEs may modify their customer targets as they enter a new foreign market.

<sup>25</sup> Similar to Proposition 6-1 in Chapter 6

<sup>26</sup> Similar to Proposition 6-3 in Chapter 6

Proposition 7-4: Internationalizing SMEs that reframe their mental models to learn from salient international competitors internationalize more successfully than if they focus on domestic competitors.<sup>27</sup>

Proposition 7-5: Internationalizing SMEs that reframe their mental models to learn from salient SME competitors internationalize more successfully than SMEs that reframe on large competitors.

Proposition 7-6: Contradictions between mental models and institutional logics recognized by managers within internationalizing SMEs lead to identification of new international opportunities.

Table 8-1 summarizes the key findings of Chapters 4 to 7 and their theoretical contribution. Those contributions in bold are directly related to the overarching question of how competitors influence the success of internationalizing SMEs.

**Table 8-1: Summary of chapter contributions to theory**

Ch	Conclusion	Contribution to theory	Theory references
4	The assumptions underlying three generic strategies attributed to SMEs are challenged as inconsistent with theories of SME competition, and not supported empirically in study	Three generic strategies are better understood as characteristics of the structural hole competitive strategy	Targeting niches (Zucchella & Palamara, 2006), differentiating products (Bloodgood et al., 1996) and leveraging networks (Blomstermo et al., 2004a)
4	Conceptual model of competing in business networks (Figure 4-1)	Building from business network foundations, links components of competitive advantage, competitive strategy, competitive engagements, business outcomes and internationalization together	(Barney, 1991; Ford & Håkansson, 2013; Grimm et al., 2006; Johanson & Vahlne, 2009; Medlin & Ellegaard, 2015; Porter, 1980; Sirmon et al., 2008)
4	Case firms used their position to bridge structural holes to overcome information asymmetries between FMS industry knowledge and customers' knowledge of their own industries and markets in foreign countries	<b>Strategy is effective against large competitors, other internationalizing SMEs which lack access to detailed customer industry information on the foreign market side of the hole, and foreign market SMEs which lack the international technology knowledge</b>	Structural holes (Burt, 2002), information asymmetries (Peng et al., 2014)
4	Being a network outsider is potentially an advantage when internationalizing SMEs bridge structural holes as a competitive strategy	The concept of "liability of outsidership" is sometimes an advantage because the weak position of an internationalizing SME may allow it to gain greater information access than large or centrally located firms	(Johanson & Vahlne, 2009; Shipilov, 2008)
4	Internationalizing SME network model of competing (Figure 4-4)	<b>Integrates the business network foundations of competitive strategy with Uppsala model's business</b>	(Johanson & Vahlne, 2009)

<sup>27</sup> Similar to Proposition 6-4 in Chapter 6



		<b>network underpinnings to show how competitors influence business networks</b>	
5	External actors - early customers, shareholder and channel partners, and competitors - constrain the niche selections of internationalizing SMEs	<b>External actors are likely to be more important influences on the niche in which the firm competes than deliberate firm choice</b>	(Cannone & Ughetto, 2014; Gabrielsson et al., 2008; Rialp et al., 2005b)
5	Competitors influence the options available for SME niche selection through control of access to resources and as models for SMEs' learning	<b>The resources available in individual niches change according to the stage of industry evolution so evolutionary timing affects internationalizing SMEs when they internationalize</b>	(Fernhaber et al., 2007; Hannan & Freeman, 1989; Holcomb et al., 2009; Markman et al., 2009)
5	Niches appear to be a socially-constructed consequence of entrepreneurial co-creation with external actors, rather than existing resource pools awaiting discovery	Socially-constructed firm niches may be constantly changing and should be distinguished from structural ecological and market niches able to be inferred by market observers	(Porac et al., 1989) (Holcomb et al., 2009; Medlin & Ellegaard, 2015)
5	Niche selection is primarily a competitive response and in most cases is not a planned strategy. Appears to be better understood as a commitment to stay	Niche selection is a <i>post hoc</i> understanding of position rather than an <i>ex ante</i> competitive strategy. This <b>challenges extant research suggesting that internationalizing SMEs pursue niche strategies to avoid competitors and consciously target global niches</b>	(Chetty & Campbell-Hunt, 2004; Gabrielsson et al., 2008)
6	Primary international competitors of case firms were foreign SMEs. Internationalizing SMEs maneuvered to differentiate themselves from other SMEs	<b>Challenges emphasis on large competitors in the SME internationalization literature – other SMEs are primary competitors, as theorized in competition literature</b>	Large firm competitors (e.g. Aspelund & Moen, 2005; Gabrielsson et al., 2008; Knight & Cavusgil, 1996)  Small firm competitors: (Audretsch et al., 1999; Carroll, 1985; Mas-Ruiz & Ruiz-Moreno, 2011).
6	Identification of moribund internationalizing SMEs that have not yet failed but are not growing. These firms are apparently stalled in their development as a result of competitor action during the growth stages of industry evolution	Challenges survival or failure dichotomy in evaluating internationalizing SME outcomes. <b>Influence of competitors through factor market rivalry and product market rivalry</b>	Independent survival: (e.g. Gabrielsson et al., 2008; Gabrielsson & Gabrielsson, 2013; Mudambi & Zahra, 2007),  Factor market rivalry (Markman et al., 2009), product market rivalry (Hannan & Freeman, 1989)
6	Internationalizing SMEs used mimicry of salient SME competitors as a mechanism to build legitimacy and to overcome uncertainty	<b>Influence of competitors as models for learning. Key role of managerial mental models (and socially-constructed firm-level perspective of competing)</b>	Mimicry: (Barreto & Baden-Fuller, 2006; Fernhaber & Li, 2010).  Mental models (Child & Hsieh, 2014; Maitland & Sammartino, 2015; Porac et al., 1989)  Competitors: (Medlin & Ellegaard, 2015; Sui et al., 2016)
6	SMEs that switched focus to salient international competitors as they internationalized appeared to perform better	<b>Influence of competitors as models for learning</b>	(DiMaggio & Powell, 1983; Terlaak & King, 2007)
7	Internationalizing SME competitive process model	<b>Synthesizes social-constructivist perspectives of competing within structural contexts, and integrates industry- and country-level institutional logics with firm-level manager mental models</b>	(Medlin & Ellegaard, 2015; Porac et al., 1989; Thornton et al., 2012)

The next section returns to the ontological roots of the thesis in critical realism to summarize its overall contributions.

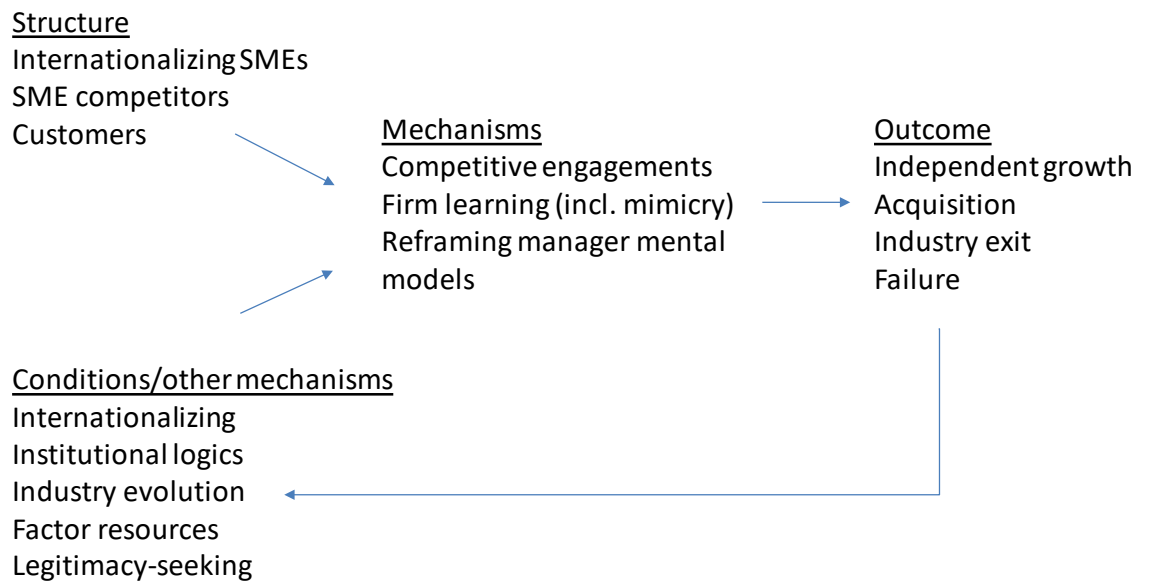
### 8.3.2 Critical realist model of competitor influence

The competitive process model shown in Figure 8-2 details how competitors influence internationalizing SMEs and is an expansion of the critical realist model of structure, mechanisms, conditions and effects (Sayer, 2000) on which this thesis is based (see Figure 2-1). However, the final critical realist causation model differs from the initial framework that was used to guide systematic combining (see Figure 3.5 for initial model).

In the final model, three structural components are key to understanding the influence of competitors on internationalizing SMEs: customers, competitors and the internationalizing SMEs themselves. Customers and potential customers are primary sources of knowledge, finance and other resources and co-create opportunities with internationalizing SMEs. Without customers, internationalizing SMEs cannot survive for long, and it is through seeking customers that internationalizing SMEs encounter competitors seeking the same resources. Large competitors had little direct impact on the case firms examined in this thesis; SME competitors were the primary rivals for resources. The triad of focal firm, customer and competitor (Ford & Håkansson, 2013) is the building block of business networks made up of multiple relationships between market and industry participants (Håkansson & Snehota, 1995). These structural components are shown in relation to the other components of the critical realist model of causality in Figure 8-3.

The primary means by which competitors influence internationalizing SMEs is interaction through competitive engagements. Without interaction at the firm level between internationalizing SME, customer and SME competitor, little influence occurs. As an illustration, most NZ case firms were unaware of *Nimrod*, the most successful case firm from NZ, and thus were not influenced by *Nimrod* because they never encountered it in competitive engagements. Two other social mechanisms at the firm level influence internationalizing SMEs through these competitive engagements: firm learning (including mimicry) and the development and reframing of manager mental models. The mental models that managers hold influence the actions their firms take but these models change (are reframed) as the result of firm learning through competitive experience and by observing competitors. Mimicry of competitors in both domestic and foreign markets is a means of overcoming uncertainty and building firm legitimacy.

Figure 8-3: Final causation model



These firm-level mechanisms lead to four potential outcomes for internationalizing SMEs: success outcomes are independent survival with growth, or acquisition with continuing firm operation under new owners. Failure outcomes are bankruptcy, industry exit (even though the firm survived) or acquisition due to unsatisfactory performance. Moribund firms have poor growth prospects so may be tending towards failure outcomes, even though they continue to survive as independent firms (hence the outcome has still not been reached). In the NZ FMS industry, although only one MNE firm failed outright, another firm exited the industry before it failed. Several SMEs survived yet were moribund.

Firm-level mechanisms are affected by conditions in the competitive context. Specifically, industry evolution (how the industry changes over time) is a consequence of the cumulated outcomes of interactions between firms in competitive engagements – and particularly the competitive interactions between SMEs in the early and growth stages of the industry. The stage of industry evolution affects the resources available to firms and the legitimacy of the industry, which in turn is a contextual influence on all competitive engagements (whether domestic or international). Institutional logics within industries and markets affect how firms behave in competitive engagements, and the way they seek legitimacy. When SMEs internationalize, they encounter different resource and legitimacy conditions as well being exposed to foreign institutional logics, representing both a problem and an opportunity. A feedback loop is added to the critical realist model to stress that the outcomes of mechanisms at the firm level change conditions at the contextual level.

### 8.3.3 Overall thesis contributions

This thesis problematizes (Alvesson & Sandberg, 2011) extant IB theories that assume away competing as unimportant in how SMEs internationalize. Instead, this thesis identifies important direct and indirect influences of competitors on firm success and the mechanisms that explain how these influences operate.

The thesis goes beyond structural conceptions of competition as remote from firms and instead addresses “competing” as a process occurring within business networks and driven by socially-constructed mechanisms unable to be directly observed. By applying institutional theories to examine a population of firms in an industry, the thesis finds that the primary competitors of internationalizing SMEs are other SMEs, and that these competitors have a substantial influence on internationalizing SME success by changing the competitive context, limiting the strategic options available to internationalizing SMEs and by acting as models for SME learning. The internationalizing SME competitive process model (Figure 8-2) illustrates how the influence of competitors occurs.

This thesis makes a methodological contribution by using systematic combining within an industry analysis to provide causal explanation with contextualization. It emphasizes competitive context by refocusing on rivalry over resources in the environment rather than through the lens of firm-specific resources.

## **8.4 Managerial implications**

The thesis findings and contributions have a number of implications for internationalizing SME managers and those that advise them. With the right strategies in response to industry conditions, SMEs can internationalize very successfully, despite their lack of comparable resources to MNEs. Indeed, internationalizing has been shown to be a survival strategy for SMEs in industries with similar characteristics to FMS – industries based on knowledge-based products and services, close relationships with customers, and with an international orientation (Coeurderoy et al., 2012). A great deal of strategy advice suggests that firms should maneuver until they create a market space isolated from competitors, yet such isolation could damage the firms (Barnett, 2008). This thesis highlights that competitors are just as influential for SMEs as they are for larger firms and may have a positive influence. Internationalizing SMEs need competitors to motivate firm development (Barnett & Hansen, 1996), to act as models for firm learning (Barnett & Sorenson, 2002) and to build industry legitimacy (Hannan & Freeman, 1989). Although at the extreme competitors can win all the resources and directly influence a firm’s failure, the competitive intensity in the NZ FMS industry, along with the high survival rates of the industry participants, suggests that competitive threats can be

exaggerated. The following sections outline the lessons provided by the FMS industry for other technology SMEs seeking to internationalize.

#### 8.4.1 Success is not based on technology

Successful firms in the study were customer-centric rather than technology-centric. While innovative technology was certainly important, firm success was linked to sales and marketing strategy, and in particular applying limited resources for greatest effect on targeted customers. When SMEs enter a new country they may make the error of thinking that because that market is much larger than their domestic market they can afford to be less focused, but the opposite is true. Narrower targeting is required as SMEs internationalize because, to gain the competitive benefit of bridging structural holes in business networks, firms need to find initial customers willing to work with small, unknown SMEs. Success is based on learning about the new foreign market through that customer and then using the first customer as a reference site to win the next customer, as discussed next.

#### 8.4.2 Co-developing products with customers - know your customer's industry

Internationalizing SMEs needed to initially co-develop technology with customers and then continue this as a means of building a base in a foreign market. This meant working with senior managers in the customer organization on technology applications that made the customer more competitive in *their* industry. Although horizontal (technological) product differentiation was a factor in the earliest stages of the industry, within five to seven years the FMS market had progressed to niche segments based on customer industry applications. It was clear from interviewing the senior managers in NZ FMS SMEs that they had in-depth understanding of their customers' industries and business requirements. Finding foreign customers willing to enter a close relationship with a SME technology provider from NZ was not straightforward but the SMEs only needed one or two customers to provide a bridge into foreign markets. With one successful customer reference site in a market niche in a foreign market, SMEs could then sell to other firms in that foreign niche. What the SMEs learned about co-developing products with their customers in NZ became valuable once they internationalized and began working with customers in other countries. This co-development skill was as much a differentiator as technology.

#### 8.4.3 In-country, direct selling rather than distributors

Internationalizing required the senior managers of the SME to travel constantly to foreign markets in order to develop deep customer relationships and build co-development opportunities. The specialized nature of new country opportunities implies selling direct rather than via distributors and resellers, or at a minimum co-selling. In many countries, distributors and resellers with the necessary skills will have already been signed up by competitors, and in any case may not be willing to commit to a small partner. The remaining sales channels are unlikely to have the resources to be self-sufficient in selling advanced technology products and require lots of direct support by the SME. Nevertheless, local partners may provide valuable services such as setting up customer meetings with senior decision-makers, helping with logistics and regulatory clearances and providing first-level service and support, but will be of doubtful value as the main sales channel unless the SME already has a packaged, commoditized product. Instead, SMEs may need to set up their own small office in the foreign country. Senior SME managers (i.e. CEO, Sales Manager and Engineering Manager) must be able to dedicate a great deal of time in the foreign country to winning the first few customers and ensuring the implementation runs smoothly in order to build reference sites.

#### 8.4.4 Learning from salient international SME competitors

Another reason for senior managers to be on the ground in the foreign market is to learn from the competitors they encounter there. NZ FMS SMEs that remained focused on their NZ rivals appeared to internationalize much less successfully than those that were focused on international markets and international competitors from the start. On first entry to a foreign market, it is easy for SME managers to be distracted by the more obvious large foreign competitors, yet foreign *SME* competitors have more lessons to impart because they have comparable resources and operational routines. The foreign SME firms encountered in the first few sales engagements may provide the best models for firms to consider – they target the same niches, have existing foreign country relationships and systems established, and understand the ways of doing business in that country.

#### 8.4.5 Difficult leap from domestic operations to first international reference sites

All respondents noted the difficulty in scaling sales, support and product development as SMEs internationalized. This is the point where companies really need a capital injection because internationalization involves substantial additional costs for travel and accommodation, establishing foreign operations, localizing products, fulfilling foreign regulatory requirements and supporting new

foreign customers (e.g. translating service manuals and documentation, training in a foreign language).

Given these substantial costs involved in internationalizing, it is understandable why some FMS SMEs initially chose an export-oriented approach, with the expectation that they could sign up a foreign distributor, ship their product overseas and get extra sales volume for not much extra work. Exporting was seen as an easy way to generate an additional revenue stream but this approach did not work out as well as expected because either the revenue was minimal or substantial sales support was still required. SMEs that are primarily manufacturing firms selling well-defined, packaged products may benefit from an export-oriented strategy but SMEs with their businesses based on technological innovation will find limited benefit in arms-length exporting. The NZ FMS SMEs that internationalized most successfully either had an international focus from firm establishment or committed the majority of their firm resources to internationalizing once that decision to internationalize was made.

## **8.5 Research limitations**

The research in this thesis is exploratory, given the lack of extant research into competitive influences on internationalizing SMEs (Andersson et al., 2014). By using case studies to gain greater contextual explanation, the thesis trades off measurement precision and generalizability to other populations, thereby limiting how its findings can be applied in other contexts (McGrath, 1981). Nonetheless, using case studies was a deliberate methodological decision within the critical realist ontology (Easton, 2010), in seeking to reconcile both context and explanation within the complexity of international business (Welch et al., 2011). Although the causal explanations offered in this thesis would appear to be analytically generalizable (Yin, 2009) to internationalizing SMEs in other countries in other high-technology, business-to-business markets, this theoretical jump cannot be made with certainty.

Although the research was conceived from a process perspective by investigating *competing* as a process among *internationalizing* SMEs, insufficient event data could be gathered to define processes to the standards suggested by process researchers (e.g. Langley, 1999; Langley et al., 2013; van de Ven & Huber, 1990). Nonetheless, the research has identified mechanisms of competitor influence, representing sequences or processes analyzed at a lower order of complexity by which a cause brings about an effect (Gross, 2009). The theorized internationalizing SME competitive process model (see Chapter 7) is evolutionary in nature and would be categorized as phylogenetic in that it relies on selection and no equilibrium is inevitable (Hodgson, 1993). That is, the model explains how

competitors influence internationalizing SMEs, but does not predict what influence a specific competitor will have on a specific SME at the firm level.

Although initial desk research suggested FMS was a growing industry, through the course of the first phase of interviews it became apparent that FMS was not only an older industry than it had first appeared but was moving into the consolidation phase of industry evolution. Despite efforts to minimize the bias inherent in retrospective reports by interview participants (Huber & Power, 1985), respondents would find it difficult to recall the beginnings of the industry 15 years prior so a risk remains that their recall contained rationalizations. Given the importance of industry evolution in the overall findings, the retrospective reports provided within the interviews are a major limitation.

Also difficult to foresee at the stage of industry selection was the intensity of competition among NZ firms, and this competitive rivalry seemed a factor in three of the key firms not wishing to be interviewed for the study (*Dakota, Lancaster, Nimrod*). Understanding of these firms was gained from secondary data sources, third-party interviews and interviews with previous managers but the lack of direct interview data remains a gap. Because of ongoing rivalries, those respondents who did participate were somewhat guarded in the answers they gave, making it difficult to probe their sense-making processes. The depth of questioning in Phase 1 may have encouraged several respondents to avoid participating in the second phase, where there was difficulty in securing follow-up interviews.

## **8.6 Future research**

To examine whether the thesis findings are more broadly generalizable, other industries in other countries could be studied using the same method as this thesis, while the six propositions offered in Chapter 7 suggest multiple avenues for future research. To address the limitation noted above of FMS being in consolidation, identifying emerging or growing industries and then tracking the changes in the industry population over time in a longitudinal study would overcome the problems of retrospective reports.

The unexpectedly high survival outcomes for the firms in the FMS industry in NZ revealed in this thesis may be exceptional or reflect the qualitative nature of this research in examining the heritage of industry participants in depth (see Chapter 6). Low rates of SME survival were expected, based on extant SME literature (e.g. Geroski et al., 2010; Mudambi & Zahra, 2007; Short et al., 2009). To ensure that low survival is not an artefact of samples based on industry directories (see Section 6.6.2), future quantitative research into SME survival rates could qualify sample data through qualitative desk research to carefully examine the heritage of all firms in the sample, check whether firms had



previously changed names or industry, and evaluate outcomes of acquisition and exit from industry in addition to outcomes of independent survival and failure.

International Entrepreneurship literature has examined rapid internationalization relative to the inception of the firm, but does rapid internationalization relative to the inception of the industry better explain the patterns shown by Born Globals? The thesis findings suggest that the stage of industry evolution has an important effect on the success of SME internationalization. The three pioneering SMEs in the NZ FMS industry all internationalized soon after the industry emerged and two of these were the most successful of all the firms in the industry, while SMEs that internationalized later relative to the industry's evolution were not as successful.

The concept of firm niches as socially-constructed spaces understood via firm experience and managerial mental models (see Chapter 5) has potential for further study, potentially using cognitive mapping techniques. This research might investigate how managers identify their current market space relative to salient competitors, what tradeoffs they make in moving to new spaces, and how far ahead managers focus their attention in understanding salient competitor responses. Moribund SMEs were also identified in the thesis as firms that appeared to be stalled yet were able to survive based on existing customer relationships. If moribund SMEs are a feature of other industries, how do they influence the industry evolution and can they overcome their resource access and legitimacy constraints to regain growth?

Institutional logics offer a rich theoretical foundation for studying how firms compete internationally and how internationalizing SMEs recognize opportunities. Building from the research underway in management on conflict and contradiction in logics as the basis for institutional entrepreneurship (e.g. Bruton et al., 2010; Granqvist & Gustafsson, 2016; Voronov & Yorks, 2015; Walker et al., 2014), how do managers reconcile conflicting logics between countries as they internationalize?

As this thesis has hopefully shown, the influence that competitors have on the success of internationalizing SMEs is a rich and relevant research topic in IB and offers scope for future theorizing.



## **Appendix A. The Fleet Management Systems industry**

### **A.1. Appendix overview**

This appendix contains additional background on the competitive context of internationalizing Fleet Management Systems (FMS) SMEs in NZ. Appendix A begins with an overview of FMS (telematics) technology, customers and vertical application niches within this sector. It then provides overviews of the FMS industry participants and market characteristics in New Zealand (NZ), Australia, the United States (US) and Europe. Sources, where not identified, are interviews with industry participants during the study, industry conferences, industry analyst reports, press articles and internet-based research on FMS.

### **A.2. Fleet Management Systems (FMS) technology overview**

Fleet Management Systems (FMS) tie together multiple technologies, such as mobile hardware devices, cellular data communications, GPS tracking and internet-based software to create integrated systems for the remote management of trucks, vans and other high-value assets. Specialized hardware devices installed in vehicles collect data on vehicle operating conditions and transmit it over mobile data networks including satellite, radio frequency (RF) and digital cellular (GSM, EDGE, GPRS, LTE, W-CDMA etc.) systems. By integrating telematics (digital machine performance data like engine speed, braking, acceleration, fuel consumption, temperature) and transmitting larger volumes of data, businesses can track the efficiency of an entire fleet in real time, permitting analysis of driver behavior, resource allocation and scheduling, and detailed vehicle performance.

FMS is in its third generation of technology; the first generation provided basic, automated vehicle location, the second generation offered GPS Fleet Management while the third generation integrated FMS data into other corporate IT systems. Consequently, fleet management has been an evolving business application. In the early stages of the industry (2000-2004), FMS helped businesses answer the question, “Where are my vehicles?” Using GPS transponders transmitting GPS coordinates every few minutes via RF, circuit-switched and later cellular-switched telecommunications networks, vehicle locations could be identified on a digital map. Initially, the high cost and low transmission speeds of data transfer over telecommunications networks limited FMS technology applications but once data transmission costs reduced and speeds increased enough to allow real-time vehicle updates every few seconds, fleet management evolved as a standalone business application. As the industry

grew and the technology developed (2004-2009), the business issue became, “where are my vehicles tracking?” GPS data were integrated with data from other business systems to allow improved dispatching and scheduling. After 2009, the business issue developed into, “how well are my vehicles performing?” Core FMS technologies of location and automated data transfer were integrated with dispatch systems, vehicle operating diagnostics, driver monitoring, health and safety, back-end systems (vehicle maintenance, inventory) and companies' core business processes (billing, warehousing, just-in-time deliveries). These developments in machine-to-machine (M2M) data are precursors of emerging and future regulatory systems such as electronic road user charging, electronic logbooks, robotic drivers and intelligent traffic systems.

FMS were originally sold as aftermarket technology retrofitted to vehicles, which required specialist installers such as technicians and auto electricians. Since about 2013, telematics technology has been an option installed in the factory from new by some vehicle manufacturers, with Ford, Volvo and Hino announcing in the press that they are installing FMS technology into their new trucks as standard. As part of broader moves towards the “connected car” and the Internet of Things (IoT), governments, smartphone and mobile device companies (Apple, Samsung, app developers), finance and insurance companies and “Big Data” companies (Oracle, Google, Amazon) are becoming involved in telematics as a result of the data and technological changes that these systems make possible.

FMS technology appears mature. In 2013, Gartner Group described FMS as well up the “slope of enlightenment” in its “hype cycle” of operational technologies, which implies that 10-20% of the potential target market has already adopted the technology<sup>28</sup>. This reinforces the 30% penetration rate, slowing growth rates and expected saturation of the US market in 3-5 years reported by industry analysts<sup>29</sup>.

Despite this maturity, no clearly dominant design has emerged, with 2014 designs integrating GPS and telematics in a commodity hardware platform, and then sold using a software-as-a-service (SaaS) subscription pricing model amortizing the hardware costs. A partial dominant design emerged with suppliers like Calamp and GenX Mobile in the US and smaller firms in Taiwan and PRC offering quite advanced feature sets in commodity hardware platforms, including GPS, accelerometer, digital and analogue inputs and data transmission across EDGE, GPRS and GSM bands. This has driven costs down to around \$ 250 per unit. However, wide scope remains for continuing design changes in software, services and platform extensions, and a leading industry consultant warned that although the

---

<sup>28</sup> Gartner Group, Hype Cycle for Operational Technology, 2013.

<sup>29</sup> CJ Driscoll & Associates, 2014.

industry was mature, suppliers should expect continuing disruptive technological change<sup>30</sup>. This pattern of hardware commoditization but continuing software and functionality development is common in the IT industry, as seen in PCs, mobile phones and computer networking.

Other evidence that FMS is now a mature industry is the substantial price reductions between 2005 and 2015 and the reduced gross margins reported by NZ managers. Although in the early years of industry evolution, some companies focused on hardware-only sales, hardware commoditization and rapid price declines limited this business model. In 2006, hardware was sold in NZ for about \$ 1000 per unit as an upfront cost, plus a software and services subscription of \$ 100 per month per vehicle but by 2008, software subscriptions had declined to \$ 25. By 2014 software-as-a-service (SaaS) subscriptions for basic hardware rental, software and data transmission bundles were sold for \$ 20 to \$ 25 per month including data cost of \$ 5 (paid to the telecommunications carrier), leaving \$ 15-20 to cover hardware and software. In response to hardware commoditization, NZ FMS SMEs created software and systems that could operate with a variety of low-cost hardware manufactured overseas.

Gross profit margins that were typically 40% in NZ were often restricted to 15% when firms expanded overseas. For example, in India, competitor systems were sold for as little as \$ 5 per month because with an abundance of skilled software engineers in India, local vendors easily integrated basic Indian-manufactured hardware with simple software and a SaaS front end. In the US, FMS providers typically sold US-manufactured hardware for between \$ 250 and \$ 300 per unit with monthly fees at \$ 25 per month per vehicle<sup>31</sup>. The next section examines the customers that FMS is sold to and how the technology is applied in different customer industries.

### **A.3. FMS customers and vertical markets**

FMS customers are organizations with fleets of vehicles, so FMS is a business-to-business (government, industrial and commercial) market. Customers range from small courier companies with 5-10 vans operating in a single urban center, to large national third-party logistics (3PL) companies with fleets of hundreds of large trucks and trailers. FMS provides business benefits in terms of reduced operating costs, increased productivity, maintenance efficiency, and health and safety protection in each vertical market. A vertical market (or vertical niche) is a market segment focused on customers' industry requirements with products and services differentiated to suit particular industry applications (Dalgic & Leeuw, 1994).

---

<sup>30</sup> Licht & Associates, 2014.

<sup>31</sup> Ibid.

### ***Road freight:***

Most logistics systems require road transport of goods at some point, and in many countries, road transport moves the greatest volume of goods. In New Zealand, for example, 70% of freight (by weight-distance) is moved by road, 15% by rail and 15% by coastal shipping<sup>32</sup>, or 91%, 7% and 2% by weight<sup>33</sup>. 17% of heavy vehicles (over 3.5 tonnes) in NZ are involved in commercial road freight<sup>34</sup>.

FMS are important to the freight industry for tracking the location of trucks and trailers (separate but related vehicles) for efficiency and security reasons. FMS also permits very close attention to driver behavior and operating efficiency, with modern trucks fitted with multiple sensors on brakes, suspension, engine, hydraulics etc. Advanced systems track how often a driver uses the brakes for example, with a heavy brake user likely to be using more fuel by accelerating and decelerating harder, wearing out brakes faster and travelling closer to other vehicles, increasing the risk of collision. In the Ports of Los Angeles, the largest port infrastructure in the world, trials are underway to integrate truck GPS systems with the port container loading systems to reduce road and port congestion<sup>35</sup>.

### ***Refrigeration:***

The refrigeration vertical is a subset of road and rail freight. Known in industry slang as “reefers”, refrigerated shipping containers used in intermodal freight transport of temperature-sensitive goods require either an external power source to run the refrigeration motors, such as the truck’s diesel engines, or internal motors and fuel supply. With greater interest in food safety in developed countries, telematics allows manufacturers to track the shipping conditions of perishable goods throughout their transit, monitoring internal and external temperature, refrigeration unit fuel and performance as well as location. Advanced telematics allow operators to remotely control the operating conditions of a reefer in-transit.

### ***Local government:***

City and regional councils have large fleets of trucks, vans and cars involved in maintenance, waste collection, social services, building inspections, parking enforcement and the like. Tracking the location of these vehicles is important for the safety and security of remote workers and to ensure that

---

<sup>32</sup> NZ Transport Agency, 2013.

<sup>33</sup> NZ Road Transport Forum (using 2014 government research data).

<sup>34</sup> Ibid.

<sup>35</sup> TU Telematics conference, Atlanta 2014.

vehicles are not misused by staff. More advanced systems track individual driver behavior, monitor fuel efficiency and dispatch service vehicles to jobs. For example, Hamilton City Council in NZ integrates GPS in-vehicle tracking with dispatch systems so that staff who observe “tagging” or other vandalism can photograph the damage and record its location, with the clean-up job automatically passed to a special team to remediate.

### ***Electronic road user charging (eRUC):***

In NZ, per-kilometer public road charges are levied on diesel-fueled vehicles. Rates vary substantially on vehicle type and weight (from \$ 58 per 1000 kilometers for a diesel car to \$ 882 per 1000 kilometers for the heaviest vehicles<sup>36</sup>) and comprise a large proportion of distance operating costs. Some vehicles, such as logging trucks, travel extensively on private roads so do not incur levies on this mileage. Forestry trucks often piggyback their trailers on return journeys on public roads to avoid RUC charges on the trailer. eRUC solutions provide a tamperproof and auditable record of the vehicle weight, distance travelled and location to calculate the RUC incurred automatically.

Other jurisdictions are investigating or implementing similar GPS-based road user charging systems. The state of Oregon in the US has a weight-mile tax similar to NZ on heavy vehicles. Sweden and Denmark have also investigated electronic charging systems.

Technical complications with maps and location polling frequency (linked to data transmission costs) limited early eRUC implementations. For example, if a vehicle location is polled (identified) every 2 minutes, the system may interpret that the vehicle has driven off-road for one kilometer to get from one point to the next, when in fact the truck has remained on an S-shaped public road for 1.8 kilometers. Accordingly, advanced software and mapping systems were developed to predict possible routes based on current location, increase polling frequencies on winding roads and reduce frequency on straight roads.

### ***Forestry:***

The forestry industry uses GPS and telematics to track its off-road fleet of cranes and bulldozers in remote areas for operator safety and vehicle utilization. These units may need tri-band satellite, RF and cellular data communications because vehicles are often out of cellular coverage. The forestry industry already uses GPS data to map locations of trees for felling and to ensure vehicles can find

---

<sup>36</sup> NZ Transport Agency, 2014.

them. In NZ, logging trucks and heavy vehicles travel extensively on private roads in forests where they do not incur road user charges (RUC) so FMS systems track public/private road use, automate RUC payments to the government and provide an auditable data record.

### ***Construction:***

High-value vehicles such as cranes, bulldozers and graders, as well as trucks, are involved in road construction and maintenance, civil engineering and building construction. These vehicles may be hired on a per-hour basis and moved between different jobs and may also be operating off public roads. Telematics allows remote monitoring of operating performance, location (for billing, safety and security) and operator behavior.

### ***Oil, gas and mining:***

Similar to construction, oil and gas exploration requires large fleets of expensive off-road equipment. Some mining equipment operates below ground level, requiring central monitoring of vehicles for safety and security even though they may be in a tunnel a kilometer underground (calculated by distance between cells on a known tunnel path rather than GPS). Satellite and RF data communication is a key component of FMS systems for aboveground mining operations in remote areas such as outback Australia.

### ***SMEs, “white vans”:***

The largest vertical segment by vehicle numbers is the van, utility and light truck segment used by tradespeople, couriers and small businesses. Even small fleets of vehicles can make operational savings by applying FMS.

### ***Utilities:***

Water, electricity, telecommunications and engineering support companies have large fleets of vans, trucks and specialist vehicles used in the maintenance of networks. These vehicles need advanced mapping systems (e.g. overlaying physical maps with maps of pipes or wiring) linked to GPS dispatch systems.



***Public transport:***

Bus and taxi companies are large users of FMS systems to track location and operating conditions for safety and security, as well as to integrate with ticketing, dispatch and payment systems. For example, GPS systems on trams in Melbourne, Australia, are integrated with display panels at tram stops to predict when the next trams will arrive.

***Finance:***

A specialist application of FMS technology is in subprime finance, in case of non-payment of loans. GPS and telematics units fitted to financed vehicles can disable the ignition and identify the location of the vehicle for repossession. In Australia, it is illegal to disable the ignition so the vehicle has a delayed start to encourage the user to settle outstanding payments.

***Insurance:***

GPS and telematics are the basis for pay-as-you-use insurance. Systems identify the actual time and location of use of the vehicle, whether it travels on high-risk roads and whether it is driven in a low-risk or high-risk manner. Users are billed according to risk. In the case of an accident, the GPS and telematics systems can determine exactly where the vehicle was and how it was being driven at the time.

***Security:***

In countries like South Africa and Brazil, the primary use of FMS and telematics units is for security. In Brazil for example, all imported FMS units must meet CONTRAN 245 legal requirements for tracking and remote immobilization of stolen vehicles.

***OEM:***

Vehicle manufacturers are now installing integrated telematics units in all new vehicles and some FMS suppliers have agreements with the vehicle manufacturers to supply these systems. For example, new VW sedans are fitted with internal Wi-Fi linked to broadband internet, telematics allowing the vehicle manufacturer to remotely monitor vehicle performance and predict failures, as well as built-in GPS navigation.

New trucks contain arrays of sensors on all key components (engine, gearbox, hydraulics, brakes, electrical, suspension) that are all connected via telematics systems. However, this market trend is not without its complications because the truck manufacturers all use different standards, meaning US, European and Japanese trucks are not compatible. Many truck manufacturers are effectively system integrators offering multiple component options such as engines and braking systems from different suppliers, requiring telematics compatibility at the component level. Vehicle manufacturers are more interested in monitoring vehicle operating characteristics for service and maintenance and less interested in location and other data used to integrate vehicles into owners' business systems. In summary, data compatibility and transmission priority issues abound. Given the relatively low cost of FMS relative to its business benefits, it does not appear likely that retrofitted FMS systems will be made obsolete by OEM systems in the next 5 years – a truck is likely to have multiple telematics and FMS systems onboard.

Having examined some of the applications of FMS technology, the next section provides an overview of the FMS industry that supplies customers.

#### **A.4. FMS Industry**

Key organizations involved in selling FMS are hardware, software and services companies providing fleet management components and systems. Although on the surface, FMS seems a global application unconstrained by institutional or regulatory factors by using publically available internet, GPS and telecommunications services, geographic markets vary substantially. Europe and North America have quite different key industry participants; firstly, due to the influence of different vehicle manufacturers and thus telematics standards, secondly possibly due to different telecommunications infrastructure that had path-dependent effects in the initial stages of FMS development and thirdly because the competitors have evolved along different pathways (see Table A-1 for global rankings). For example, in Europe the market leader is Masternaut, a French firm with its roots in military electronics. Tom Tom Telematics from The Netherlands is successful across Europe in FMS for small and medium businesses but its roots are in consumer car-navigation hardware. In North America, however, the leading firms are American (see Table A-2), with Qualcomm's heritage in mobile phone chipsets and Trimble's in GPS-based surveying equipment.

Table A-1: Key global suppliers in aftermarket telematics (2010/11)

Company	Turnover	Growth	EBITDA	Valuation
Qualcomm Enterprise Services <sup>1</sup>	€ 279 m	9 %	N/A	N/A
Trimble Mobile Solutions <sup>1,2</sup>	€ 170 m	N/A	N/A	N/A
Autotrac	€ 120 m	N/A	N/A	N/A
LoJack	€ 109 m	9 %	€ 0 m	€ 39 m
Ituran Location and Control	€ 108 m	22 %	€ 23 m	€ 196 m
Zatix	€ 100 m	20 %	N/A	N/A
Altech Netstar <sup>1</sup>	€ 98 m	7 %	€ 30 m	N/A
MiX Telematics	€ 91 m	20 %	€ 21 m	€ 100 m
Masternaut/Cybit (proforma)	€ 80 m	15 %	N/A	N/A
Digicore	€ 74 m	34 %	€ 8 m	€ 73 m
Zonar Systems	€ 74 m	N/A	N/A	N/A
Trafficmaster	€ 70 m	N/A	N/A	€ 83 m
Sascar	€ 69 m	N/A	N/A	€ 129 m
TomTom Business Solutions <sup>1</sup>	€ 61 m	19 %	N/A	N/A
Navman Wireless	€ 60 m	N/A	N/A	N/A
Octo Telematics	€ 58 m	21 %	N/A	N/A
Pointer Telocation	€ 55 m	13 %	€ 5 m	€ 16 m
Viasat	€ 48 m	50 %	€ 13 m	N/A
XATA	€ 47 m	-11 %	€ 4 m	€ 12 m
Car System	€ 47 m	N/A	N/A	N/A
CalAmp Wireless Datacom <sup>1</sup>	€ 42 m	-21 %	N/A	N/A
Transics	€ 41 m	13 %	€ 4 m	€ 48 m
Cobra AT LBS <sup>1</sup>	€ 34 m	0 %	N/A	N/A
Fleetmatics <sup>3</sup>	€ 30 m	N/A	N/A	N/A
WebTech Wireless	€ 30 m	52 %	-€ 5 m	€ 24 m

<sup>1</sup>Telematics divisions of larger groups; <sup>2</sup> Proforma incl PeopleNet; <sup>3</sup>Berg Insight estimate

Source: Berg Insight, 2012

As the industry matured, large mergers and acquisitions occurred. In 2013, Qualcomm sold Omnitrac, the FMS market leader, to a private equity firm. Trimble followed an acquisition path to create a FMS portfolio; picking up PeopleNet (2011) and GEOTrac (2012).

Table A-2: Top FMS companies based on estimated US subscribers, 2013

Supplier	Applications	Equipment	Est. UIS 3/13
QUALCOMM	Fleet management for long haul trucks and trailers	Installed satellite and CDMA/1xRTT cellular units	500,000
Trimble/PeopleNet	Fleet management for enterprises, SMB, and trucking/logistics	Mostly vehicle-installed cellular-based units	380,000
FleetMatics/SageQuest	Fleet management for SMB and field service enterprise fleets	Mostly vehicle-installed GPS/GPRS units	300,000
Telogis	Fleet management and routing for enterprise, telecom, utilities, SMB	Mostly installed cellular-based units	280,000*
Geotab	Enterprise, SMB, insurance telematics	Mostly vehicle-installed GPS/GPRS units	270,000**
Zonar Systems	School bus, trucking, waste disposal, utilities	Installed GPS/GPRS units; transitioning to GSM 3G	240,000
SkyBitz	Trailer and asset monitoring	LightSquared and Iridium satellite communications and GPRS	210,000
Xora	Monitor location, time management, mobile forms, messaging, and other	Mostly GPS-equipped cell phones and smartphones; some installed units	160,000
Asset Intelligence, an ID Systems Company	Trailer and asset monitoring	ORBCOMM satellite or CDMA cellular devices	160,000
Teletrac	Fleet management for local fleets and trucking	Installed cellular GSM/GPRS	150,000

\*Includes all subscriber units sending GPS updates

C.J. Driscoll & Associates and Licht & Associates

\*\*Includes real-time and passive units

**14**

Source C.J. Driscoll & Associates and Licht Associates, 2014

Complementary and related organizations in other industries that provide services to the FMS industry are:

- Telecommunications companies providing cellular services
- Satellite companies providing GPS, as well as communications for out-of-cell coverage (e.g. Iridium, Inmarsat)
- Truck and industrial vehicle manufacturers (e.g. Volvo, Scania, Ford, Caterpillar)
- Service organizations like distributors and system integrators; installers (auto electricians).

The following sections provides overviews of the FMS industries in the NZ, Australian, the US and European markets.

## A.5. FMS in New Zealand

NZ's truck market is tiny, representing only 1% of that in the US. In 2012, NZ roads carried 110,000 trucks (about 80,000 over 3.5 tonnes<sup>37</sup>), with 22,000 of these carrying commercial road freight<sup>38</sup>. NZ also had 390,000 light commercial vehicles and 8000 buses<sup>39</sup>. Despite NZ's tiny market, several respondents indicated that it was ahead of the US market in terms of technology development. A senior manager in *Avro*, a firm now owned by a US MNE and in a position to compare with other product developments in the US, said: "(New Zealand is) a hot bed of GPS technology per capita. It's an outlier like you wouldn't believe. I'd say (the US) are about 18 months behind New Zealand on some stuff we do here, from an integration perspective." Other study respondents similarly reinforced that NZ FMS firms were developing world-class technology, while *Avro*, *Eagle*, *Dakota*, *Nimrod* and *Lancaster* indicated or were reported in the press to be hiring large numbers of additional software development staff.

As previously described in the Vertical Market section, a peculiarity of the NZ market is the Road User Charging (RUC) regulations for diesel vehicles, which is not a regulatory approach taken in other countries. Several respondents suggested RUC was a catalyst that explained the vibrancy of NZ's FMS industry, as FMS suppliers needed to solve complex location tracking problems accurately for their NZ customers. Another catalyst suggested was the widely-publicized success of Navman in consumer GPS navigation in the late 1990s and early 2000s providing a "proof of concept" that NZ technology SMEs could be successful internationally. All the internationalizing NZ FMS SMEs started up between 2000 and 2005. FMS is just one sector within what appears to be a location-oriented (GPS) center of expertise in NZ. Other NZ SMEs are involved in GPS-related technologies such as light aircraft navigation (*Spidertracks*, *v2tracking*), mobile workforce monitoring (*GeoOps*, *VWork*) and GPS surveying and agricultural applications (*Precision Tracking*, *Tracmap*). The next section describes a cooperative export initiative in the FMS sector that built from this center of expertise.

### ***Telematics Alliance***

An export-oriented industry grouping of NZ FMS and telematics firms developed from 2014 under the guidance of New Zealand Trade and Enterprise (NZTE). A first meeting was held in NZTE offices in Auckland in late 2013 to present the idea of an alliance and to review possibilities. Nine companies

---

<sup>37</sup> NZ Ministry of Transport, 2014.

<sup>38</sup> NZ Road Transport Forum website.

<sup>39</sup> NZ Ministry of Transport, 2014.

attended the initial scoping meeting; *Eagle, Lancaster, Dakota, Heron, Gloster, Javelin*, a specialist telematics company from Hamilton and two companies from Dunedin (who participated via teleconference). This was the first time any of these companies had met each other formally, although some individuals knew one another from tradeshows and other industry events. *Avro* and *Nimrod* were not invited to participate because, with their US ownership, they were no longer considered NZ companies. After this meeting, the two Dunedin companies and *Lancaster* decided not to continue in the group, with *Lancaster* possibly sensitive to public disclosures before its stock market listing and competitive confidentiality.

Subsequently, the six remaining Telematics Alliance (TA) members (*Eagle, Dakota, Heron, Gloster, Javelin*, and the small specialist telematics company) met every four to six weeks during 2014 to consider opportunities for collaboration including joint buying, R&D collaborations, joint market research and mergers. Early on, the TA sought legal guidance to ensure they did not break anti-trust laws in NZ or overseas. A formal agreement was signed in mid-2014 but a plan to announce the TA's formation publically was scrapped for fear of a backlash from overseas competitors.

Both members and the NZTE coordinators noted that differences in the objectives and strategies of the various member firms appeared to limit what the group could achieve. For example, some members were content with their firm's opportunities, strategy and performance and saw the TA as providing limited potential. Other members were conscious that with rapid changes in the FMS industry internationally their firm's opportunities were becoming increasingly restricted. They saw the TA as a potential vehicle to form a larger NZ FMS telematics company with the necessary resources to compete as a major player internationally and to create a standard platform from the best of each other's technology. Some members were open about their strategies whereas others were cautious about what they disclosed and saw membership as a means of observing competitor development. TA members treated two NZ-heritage companies *Lancaster* and *Nimrod* (both outside the TA) as competitors, along with large MNEs in FMS like Trimble and Fleetmatics. Other threats identified were enterprise software companies like Google, Oracle and IBM. The TA was also conscious of the acquisitions going on in the telematics industry and the high valuations that acquired companies were achieving.

One commonality was that all the members perceived telematics as evolving into the Internet of Things for vehicles (IoT) but decided not to call the alliance that because of difficulties in determining industry boundaries. Even local telecommunications companies would see themselves as participating in an IoT Alliance and this was perceived as diluting the focus and opportunity if hundreds of local companies were to join.

Several projects were completed by the TA. In the middle of 2014, Clem Driscoll, a respected FMS and telematics industry analyst from the US was invited to Auckland to present on the market

opportunities for the group. Mr Driscoll also provided individual reports to each TA member. Another proposed project was analyzing the features and capabilities of each member's products to identify opportunities for specialization and reduce duplication of effort in new product development. The TA remained a "below the radar" development and appeared to lose momentum as an active project in 2015 after the merger of *Eagle* and *Dakota*.

## **A.6. FMS in Australia**

In 2014, Australia had about 580,000 trucks and heavy vehicles and 2.8 million light commercial vehicles out of almost 17 million registered vehicles<sup>40</sup>. Road transportation is a state-level responsibility while the Commonwealth Government regulates interstate transport. 75% of Australia's domestic freight (by weight-distance) is carried by road<sup>41</sup>.

Australia has a large commercial fleet market, with about 500,000 vehicles in service (mostly cars). Large US operators like GE Capital Custom Fleet and Hertz are well established, and Penske established a truck rental and leasing business in 2014 (also acting as distributor for Western Star, MAN Truck and Bus, and Dennis Eagle heavy vehicles).

The Australian market is mature with a high penetration of basic vehicle tracking systems but underpenetrated in terms of advanced systems. The market remains highly fragmented but industry analysts Frost and Sullivan expected it to grow at 25% per annum to 2019<sup>42</sup>. A survey in 2013 by ACA Research of 250 fleet managers showed 15% currently using FMS with another 10% expecting to implement FMS in the next 12 months<sup>43</sup>. Those with fleets of greater than 250 vehicles were more likely to use or intending to use FMS. In a follow up survey in 2014, the earlier figures were supported with 26% penetration reported<sup>44</sup>.

In 2006, Australian state and federal governments formed the Transport Certification Authority (TCA), a national government body responsible for providing advice and assurance in the use of telematics and related intelligent technologies. TCA have implemented the mandatory Intelligent Access Program (IAP) for heavy vehicles where certified GPS and telematics products are used to direct vehicles along certain routes and monitor their location, speeds and weights, but with the IAP focus on safety and regulatory compliance rather than efficiency. In 2013, the TCA helped establish

---

<sup>40</sup> Australia Bureau of Statistics, 2015.

<sup>41</sup> National Transport Commission website, 2014.

<sup>42</sup> Frost and Sullivan, 2014.

<sup>43</sup> ACA Research, 2013.

<sup>44</sup> ACA Research, 2014.

the Telematics Industry Group of FMS suppliers to develop an in-vehicle unit specification as a platform to support future development across Australia.

NZ FMS suppliers found the Australian market even more competitive than the NZ market. Australia has hundreds of FMS resellers, many of which are already highly specialized by vertical market. In 2006, a federal government-sponsored telematics capability report listed over 130 organizations involved in vehicle telematics in Australia<sup>45</sup> and since then many more domestic and international organizations have entered the industry. Most of the largest MNEs in the FMS industry have offices in Australia, such as Digicore C-Track, Fleetmatics (bought local reseller 2013, entered 2014), MiX Telematics, Trimble and Tom Telematics (entered 2013).

Prominent Australian heritage vendors are Securatrak, Intellitrac and MT Data. The latter two are the only domestic firms to have developed their own FMS technology and had any success in internationalizing:

- Securatrak: Established 2003. Distributor for GeoTab systems from Canada. Office in Vietnam signing resellers in SE Asia.
- Intellitrac: Established 1987 in electronics; added security GPS in 1998 and a GPS fleet management product in 2002. Resellers in NZ and Indonesia. Vertical market focus on insurance, mining gas oil and local government.
- MT Data: Established 2003. Main success in taxi dispatch systems with later expansion into FMS. Offices in NZ, UK, USA and a joint venture in the Middle East.

## **A.7. FMS market in The United States**

In 2012, 8.2 million trucks were registered in the USA in classes 3-8 (4.5 tonnes and above)<sup>46</sup>. More than 400,000 companies used FMS systems with over 7.4 million units in service, representing a 30% penetration rate and an expected 3 to 5 years to saturation<sup>47</sup>. The trucking segment of FMS was growing at 8-10% annually<sup>48</sup>. Over 18 million vehicles (including cars) operated in fleets of 5 or greater but only a third of those fleets used FMS in some form<sup>49</sup>. A survey of large fleet operators in the US, representing 90% of the vehicles in fleets, showed 67% expected to or had already

---

<sup>45</sup> The Australian Telematics Industry Handbook, 2006.

<sup>46</sup> US Dept of Energy, 2012.

<sup>47</sup> CJ Driscoll & Associates, 2014.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.



implemented FMS systems. A short-term issue for the market was AT&T announcing it would shut down its 2G GPRS digital service at the end of 2016. A large portion of older units in service relied on this transmission technology and customers were likely to use this forced change in technology to evaluate new suppliers, leading to market churn.

Table A-3 lists the top 10 FMS firms in the US in 2014, based on number of units in service, plus revenue figures where available. With most of these firms either privately held or divisions of large MNEs, getting complete and comparable data proved difficult. However, these figures suggest that the top 10 suppliers only held a 43% share of the 7.4 million units in service, with the largest supplier holding just a 6% share, which highlights a still-fragmented market.

Table A-3: Top 10 FMS suppliers in United States in 2014, based on size of subscriber base

Rank	2014	US Connections	Approximate Global Revenue USD M
1	Fleetmatics/Sagequest	480,000	177 (2013)
2	Omnitracs	440,000	371 (2012)
3	Trimble/PeopleNet	400,000	212 (PeopleNet division only, 2011)
4	GeoTab	370,000	
5	Zonar Systems	360,000	92 (2011)
6	Verizon Networkfleet	310,000	
7	Telogis	260,000	69 (2013)
8	Skybitz	252,000	
9	Asset Intelligence	190,000	
10	Teletrac	170,000	

Sources: CJ Driscoll & Associates 2013, 2014, press reports, Berg Insight 2012)

## **A.8. FMS market in Europe**

In 2011, 36 million commercial vehicles operated in the main 25 European countries, including 6 million medium and heavy trucks and buses. The FMS market was expected to grow by over 14% per year from 3.6 million units in 2014 to over 7 million in 2018, with penetration of commercial fleets increasing from 12% to 23% <sup>50</sup>.

---

<sup>50</sup> Berg Insight, 2014.

As shown in Table A-4, the European market was almost as fragmented as the US market in 2014, with the top 10 vendors holding only a 33% share of the 3.6 million units in service, although the two largest suppliers each held a 10% share.

Table A-4: Top 10 FMS suppliers in Europe in 2014, based on size of subscriber base

<b>Rank</b>	<b>2014</b>	<b>Europe Connections</b>	<b>Approximate Global Revenue USD M</b>
1	Masternaut (France)	350,000	\$ 111 M (€100 M)
2	TomTom Telematics (Holland)	350,000	\$ 122 M (€110 M)
3	Digicore (South Africa)	100,000	\$ 73 M (Rand 891 M)
4	Trakm8 (UK)	90,000	\$ 11 M (£7 M)
5	Transics (Belgium)	85,000	Subsidiary (€56 M 2013)
6	Microlise (UK)	70,000 (est.)	\$ 37 M (£ 24 M ) 140,000 connections worldwide
7	Quartix (UK)	56,000	\$ 23 M (£15 M)
8	Astrata/Omnitracs (South Africa)	40,000	Privately held
9	Vehco (Sweden)	30,000	\$ 33 M (€30 M)
10	Navman Wireless (US)	30,000 (est.)	Subsidiary

Sources: Berg Insight 2014, press reports

## Appendix B. Interview questions for MNE managers

### *MNE managers – Phase 1 interviews*

1. What is the history of (your firm) in FMS and telematics?
  - a. What markets do you sell FMS and telematics into internationally?
  - b. Via channels or direct?
2. Who are your main competitors? (*prompt and clarify geographic locations, product-markets*)
3. How have your competitors changed over the last 5-10 years?
  - a. What events prompted the changes? (*probe for changed strategies and key events by existing competitors as well as new competitors*).
4. How have local competitors impacted your international strategies?
  - a. What did you do in response?
5. How do small international firms that enter your home market affect your strategy?
  - a. Do you see these firms as serious competitors or acquisition targets?
6. Does your company have a growth plan based on building internal skills or by acquiring other firms?
7. How do you see the FMS and telematics industry developing over the next 5 years?
8. What do you know about firms from NZ in the FMS and telematics sector?
9. Who else could I speak to who could provide a perspective on competitors?
10. Can you suggest the names of people in other firms or your alliance partners who could give me their perspectives of the FMS sector?

## Appendix C. Ethics documents

### *Participant information sheet (Manager)*

DEPARTMENT OF MANAGEMENT AND  
INTERNATIONAL BUSINESS



Level 4 Owen Glen G Building  
12 Grafton Road  
Auckland, New Zealand  
Telephone 64 9 373 7599  
Facsimile 64 9 3737 477  
The University of Auckland  
Private Bag 92019  
Auckland, New Zealand

#### Participant Information Sheet (Manager)

**Influence of competition on small firm development**  
Researcher: Denis Odlin

#### Overview

You are invited to participate in research investigating how competition influences the international development and survival of start-up entrepreneurial firms in the Fleet Management Systems (FMS) sector. You have been identified as someone with expert knowledge who could provide valuable insight for this study.

#### Researcher profile

My name is Denis Odlin and I am conducting this research as part of my PhD dissertation in the Department of Management and International Business at the University of Auckland, New Zealand, under the supervision of Dr Maureen Benson-Rea and Dr Peter Záborský. I have over 20 years of experience in the international business sector, working in senior sales and marketing management in the IT sector in Australia and Asia before commencing my PhD research.

#### Research procedures

I would like to interview you for 60 – 90 minutes on your experiences in sales and marketing in FMS, with particular focus on competitive strategies and responses. As the research is concerned with how change occurs, I would like to interview you again several times over the course of a year.

Interviews will be conducted in person or over Skype.

Interviews will be audio recorded to ensure an accurate record of your comments, and a third party who has signed a confidentiality agreement will transcribe the recordings. Each interview transcript will be emailed to you to give an opportunity to review the transcript and note any points that require further clarification or correction. You will have two weeks to complete this review and email it back to the researcher. If you do not return the transcript after two weeks the researcher will assume the transcript is correct. You have the option of not being recorded, and even if you agree to being recorded, you may choose to have the recorder turned off at any time.

#### Confidentiality

Your comments will not be attributed to you or your company by name. Your comments will not be shared with people inside your company. Pseudonyms will be used to identify people and companies in research reports to maintain confidentiality. Given the nature of FMS a small risk remains that someone reading the report with knowledge of the sector might guess which companies are being referred to.

#### Data use, storage, destruction

Your comments will be considered and summarised within the research findings. Data will be evaluated qualitatively to identify common environmental and strategic factors influencing firm survival outcomes. Short excerpts from transcripts may be used anonymously to highlight points within the PhD dissertation, academic papers and other published work.

A summary of the research findings will be sent to all participants.

The audio recording and transcripts will be stored separately. Pseudonyms will be used in file names to ensure full confidentiality for participants, such as when the audio is sent to a third party for transcription. The data will be stored for six years after which the computer files will be erased and the paper transcripts shredded.

#### Right to withdraw from research

You may withdraw from the research at any time. Data gathered may be withdrawn up to ten days after interview.

#### Contact Details

Denis Odlin: email: d.odlin@auckland.ac.nz; mobile: 027 7769 320; Skype: denisodlin

Supervisors: Dr Maureen Benson-Rea: email: m.benson-rea@auckland.ac.nz; phone 09 373-7599 extn 87356 or 09 923 7356; Dr Peter Záborský: email: p.zamborsky@auckland.ac.nz; telephone 09 373-7599 extn 89819 or 09 923 9819

Head of Department: Prof. Nigel Haworth: email: n.haworth@auckland.ac.nz; telephone 09 373-7599 extn 85235 or 09 923 5235

Chair contact details: —For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Research Office, Private Bag 92019, Auckland 1142, New Zealand. Telephone 09 373-7599 (International +64 9 373 7599) extn. 87830/83761. Email: humanethics@auckland.ac.nz.

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON  
23rd May 2014 for 3 years, Reference Number 011702

## Consent form (Manager)

DEPARTMENT OF MANAGEMENT AND  
INTERNATIONAL BUSINESS



Te Whare Wānanga o Tāmaki Makaurau

Level 4 Owen Glen G Building  
12 Grafton Road  
Auckland, New Zealand  
Telephone 64 9 373 7599  
Facsimile 64 9 3737 477  
The University of Auckland  
Private Bag 92019  
Auckland, New Zealand

### CONSENT FORM

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

#### For Participation in the Project:

Influence of competition on small firm development

#### Research Team:

Denis Odlin, principal investigator (email: d.odlin@auckland.ac.nz)

I confirm that I have read the Participant Information Sheet. I understand the objectives of the research project and the reason why I was selected. The researchers have given me the opportunity to ask questions, and obtain answers and clarifications. I consent to participate in this research project. I understand that I have the following options:

- I may withdraw from the project during the interview or at any time within ten days after the interview without the need to provide an explanation.
- I may refuse to be recorded. If I choose to be recorded, I may stop the recording at any point during the interview.
- I may withdraw from the research at any time. Data gathered may be withdrawn up to 10 days after interview.
- A transcript of my interview will be sent to me to review. I will have two weeks to return this to the researchers with any changes or points of clarification noted.
- Data related to this project will be stored in a locked filing cabinet on University of Auckland premises, for a period of six years.
- I may request a copy of my interview recording if I wish to do so.
- Information will be treated confidentially; participants will not be identified. However, because of the small size of the Fleet Management Systems sector there is a slight risk that participants might be identified.
- I wish to receive a copy of my interview recording:  Yes  No
- I wish to receive copies of any future research papers:  Yes  No

If yes, please use the following email and/or physical address:

Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON  
23rd MAY, 2014 FOR 3 YEARS, REFERENCE NUMBER 011702

## Appendix D. NVIVO classifications

As noted in Section 3.6 on data analysis processes in the Methodology chapter, interview transcripts were entered into NVIVO qualitative data analysis software and the transcripts coded. Table D-1 lists the coding structure used, with node name and description sequenced alphabetically. Fourteen major themes were used and some of these were further distinguished by specific sub-themes. The column “Sources” totals the number of transcripts coded under that node, while “References” totals the number of times that node was coded within those transcripts. An illustrative example for each node is provided.

Following the systematic combining method, coding was conducted as the study progressed in order to revisit the interviews and become familiar with respondent comments. Initially only high-level themes of acquisition, competitive environment, customers, events, geographic markets, pricing, resources and survival were coded. Any competitors that case firms mentioned were also coded, as shown in Table D-2. These high-level themes reflected the initial causation model (see Figure 3-5) of structure (case firms, competitors, customers, resources), effects (survival, acquisition), mechanisms (competitive environment, events) and conditions (geographic markets, pricing).

In a second round of coding after the first phase of interviewing, other major themes were added and coded, and greater distinction was made by coding some sub-themes. These additional themes and sub-themes reflected changes in the causation model (see Figure 3-7): structure (sales channels added, customer and sales channel sub-themes), effects (case firm performance added), mechanisms (competitive environment and event subthemes, networking added) and conditions (resources become conditions, with subthemes, vertical markets, NZ-specific factors).

Table D-1: Final coding structure - major themes & sub-themes

	Node	Description	Sources	References	Example
1	<b>Acquisition</b>	Case firm considers buying or buys another firm, case firm is acquired by another firm	19	82	“All of us have an exit plan. Definitely. I mean we see ourselves purely exiting ourselves as a trade sale, essentially.”
2	<b>Competitive environment</b>	Comments about industry and market environment	26	387	

2.1	Changes in competitors	Comments about how competitors changed over time	16	39	“The New Zealand industry is changing fast; the New Zealand companies are trying to change fast.”
2.2	Competitor influence	Comments about how competitors influenced case firms	11	31	“We have an eye on the new competitors, but we found if we watch them too much we actually get blinded in our strategy.”
2.3	Differentiation, positioning	Comments about differences between competitors and where competitors were positioned in the market	21	70	“So if you can vertically integrate there, you’ve got to differentiate. You can’t be everywhere in this telematics space.”
2.4	International competitors	Comments about competitors based in countries other than NZ	14	47	“Telematics in Europe is incredibly strong. Every major company had their own vehicle manufacturer, back in the day.”
2.5	Large competitors	Comments that distinguished large competitor strategies	15	26	“The big players in the market soon develop the same comparable technology, and because of their reach they will suck all living cash out of you, so you end up going broke.”
2.6	Market shakeout	Comments about market and industry consolidation	9	13	“The international market is very mature. It is consolidating rapidly.”
2.7	NZ competitors	Comments about NZ heritage competitors	19	67	“So in 2008 there was about twenty providers in the New Zealand market, none of them doing particularly well.”
2.8	Pricing pressure	Comments about competitors' prices	14	30	“Avro and Lancaster have got very aggressive in terms of price. And their sales strategy seems to be formulated around price rather than looking at the value that they can add.”
2.9	Recognizing competitors	Comments about identifying salient competitors	19	48	“If you look at some of our competitors here, they've got significantly bigger sales forces than we have, and yet our revenues are still significantly more.”
2.10	Small competitors	Comments that distinguished small competitor strategies	10	16	“The small no-name players, they don’t have a lot of features, start to deliver features and start to get credibility. But they’re never going to change the pricing.”
3	<b>Customers</b>	Case firm customers, including end-user customers where sold via third party sales channels	26	253	
3.1	Customer base	Case firm's existing customers, including number, key market segments	11	18	“In the good old days, we used to have three or four big customers. If any of them was to leave it would be painful.”
3.2	Customer buying process	Customer processes for selecting vendors	14	29	“So it was all one-on-one selling, purely based on trust. And that’s how people bought from people, especially in the transport industry.”



3.3	Customer contribution to R&D	Customer involvement in case firm product development	16	44	The mining companies have hundreds of smart engineers who go "This must be possible" and write it into the specifications.
3.4	Customer experience in FMS Telematics	Customers' expertise in FMS	6	10	"If you go and sit down on the corner of the port most trucks that go past will have a provider in them of some sort. When you go to the States for whatever reason they just don't seem to adopt the technology as quickly at New Zealand."
3.5	Customer names	Case firm named key customers	19	63	"We do play at the enterprise end of town, so with customers like (MINING CO), you've got to absolutely have the engagement model that meets a company of that nature's expectation."
3.6	Customer needs	Customer technological and functional requirements, including industry-specific factors	22	50	"It's a worldwide problem around, "What is my guy doing? How do I get something to him?""
3.7	Customer purchase and selection drivers	Customer criteria for selecting vendors	17	39	"Some customers want more detailed mapping, so they might want to have an Esri or another GIS type of mapping which goes down to manhole cover, drainage levels."
4	<b>Event</b>	Case firm event or activity at specific time	25	432	
4.1	Change of strategy event	Case firm change of strategy at specific time	18	74	"I remember we had some private equity guys wanting to invest with us. And literally we were diluting 50% at that point in time. The deal dried up in April."
4.2	Channel event	Case firm sales channel event or activity at specific time	10	31	"Finally we got a tie up with Vodafone Global M2M platform."
4.3	Competitor action event	Case firm mentions key competitor activity at specific time	11	34	"Lancaster was coming into the market. That looked like a serious product and we were talking about partnering with them and maybe helping them out with software."
4.4	Endorsement event	Case firm endorsed by third party at specific time	10	17	"We entered the Waitakere Business Awards, Westpac awards, and we won "business innovation" there."
4.5	Internationalization event	Case firm event or activity involved in international expansion or contraction at specific time	13	63	"Then I got the chance to go through the NZTE Incubators, to go spend some time in the US and travel around and learn about how they do business over there."
4.6	Major sale event	Case firm key sale to customer at specific time	8	26	4,000 vehicles in one fleet. That's the biggest GPS rollout in New Zealand history

4.7	Ownership event	Case firm event or activity associated with a change in ownership or shareholding at specific time	20	62	“He invested about one third shareholding or something like that and chucked a whole lot of money in. That got us going again.”
4.8	Performance event	Event or activity at specific time that influenced case firm performance, including external events	6	18	“We were actually making money in between 2011 and 2012 and we could pay ourselves a good salary. And it was nice and stable.”
4.9	Pricing event	Case firm pricing activity at specific time	6	8	“The price of hardware was very expensive back then and there’s a lot of technical risks. And then the smartphone came in and removed most people out of the market.”
4.10	Product event	Case firm product activity, such as new product launch or redevelopment, at specific time	15	70	“Following the success of the pilot, Lancaster launched its electronic WMT service in April 2014.”
4.11	Telematics Alliance event	Case firm activity in relation the Telematics Alliance at a specific time	9	29	“The Telematics Alliance brought an expert over recently, over the last six weeks. He came and met with the six organizations.”
5	<b>Geographic market</b>	Comments related to specific country markets	27	418	
5.1	Asia market	Comments related to Asian markets	13	35	“People talk about China, but guess what? Map data in China, remote parts of China? You can use a satellite image, you can't do any smart queries against that.”
5.2	Australian market	Comments related to Australian market	21	100	“A lot of Australian companies target New Zealand from Australia, as New Zealand companies target Australia from New Zealand.”
5.3	Europe market	Comments related to European markets	16	47	“European freight transport volumes are forecast to rise by 83% from 2005 to 2030.”
5.4	Global market	Comments related to global trends in FMS markets	15	27	“There's no global provider that you can switch onto in every location, that I've seen, that does it well.”
5.5	Latin America market	Comments related to South American markets	7	15	‘Chile is a distribution agreement there, and that's just been an amazing success story.’
5.6	NZ Geographic market	Comments related to NZ market	21	80	“If you look at the NZ market now, I think there's about, active ones, probably at 15 or 16 active telematics vendors.”
5.7	Other geographic market	Comments related to other country markets, including the Middle East	10	22	“Middle East is generally dominated by South African and European providers.”

5.8	US market	Comments related to North American markets, including US and Canada	20	92	“The US is typically where people are going. It is a big market so it makes sense.”
6	<b>Key quote</b>	Comments that make strong points or offer clear examples	23	208	“Everybody else who’s around now has started in the last 10 years. And we were all little backyard start-ups.”
7	<b>Networks</b>	Comments on case firm business networks	13	45	“We prefer to have the relationship with the customer, we form partnerships. We’re not just selling something and then we head off.”
8	<b>Performance</b>	Comments on case firm performance and performance targets (revenue, unit sales, profit, loss, bankruptcy)	12	45	“Our average customer is five devices, five to 10 devices. So we’ve got some that are over 500 and some that down at one and two.”
9	<b>Pricing</b>	Case firm pricing, including strategy, dollar values and influences on case firm pricing	19	76	“The rent was about \$120 a month over a 36-month contract to a 60-month contract in the initial stages.”
10	<b>Resources</b>	Case firm resources	26	490	
10.1	Channel resources	Resources obtained via sales channels, resources to deliver product or service to customers, including internal sales staff	15	44	“We’ve partnered with Telstra, we’ve got a great channel to market, we’re not just in the CBDs. We’re regionally through every state and we’re dominant.”
10.2	Financial resources	Case firm financial resources	16	67	“The money we were saving from doing that we put into moving into Australia, which was a very expensive task.”
10.3	Knowledge resources	Case firm knowledge, skills and capabilities (not including formal IP as patents)	14	68	“It was the optimization algorithms which they had some expertise in the software team around linear programming.”
10.4	Legitimacy resources	Case firm awards, reference customers, regulatory authorizations and reputation	15	56	“Our best reference customer in the world now is ACME. So, if we’re trying to get a new customer and they always ask for references, we give ACME as one of our cases.”
10.5	Manufacturing resources	Case firm resources for manufacturing, including third party resources	10	28	“Unlike the other GPS providers, we didn’t manufacture hardware so we were purely firmware, middleware, and software.”
10.6	Office resources	Case firm operations in different locations	12	29	“We had six staff at one stage in San Francisco. We probably invested about \$1 million, or probably even slightly more than that setting up an office.”
10.7	Patent resources	Case firm IP recognized legally	6	10	“We have built incredible amount of IP, we’ve also filed for some patents”

10.8	R&D resources	Case firm resources for R&D and product development	21	60	“It’s quite a complex game now and for any of the companies that have been in the industry for a long time, the issue becomes very much a case of, ‘at what stage do I axe my legacy system and start afresh?’”
10.9	Staff resources	Case firm management and personnel	21	99	“In New Zealand we have six staff. And then we’ve got about five developers that we use that are contractors or permanent contractors.”
10.10	Time resources	Case firm speed to market, time available relative to competitors	13	29	“They’ve got a couple of years to actually make some headway, and if they don’t, they’re toast. The technology is not toast; somebody will pick up the technology.”
11	<b>Sales channel</b>	Comments about the way they sell their products and services	21	213	
11.1	Channel strategy	Comments about strategy and goals for using sales channels	12	34	“Building channel strategy is hard, hard, hard work, and it’s taken us a decade to get there.”
11.2	Direct channel	Comments about selling directly to end user customers	17	52	“I used to do 10 round the world trips a year, just \$7,500, 15 stops and that was our sales team: me on a plane.”
11.3	Distributor channels	Comments about selling via distributors (who take stock of product but then sell to other sales channels)	10	19	“The leap to Australia was a lot easier and they basically took a distributor route through there.”
11.4	Other channel	Comments about selling via other channels (including websites, auto electrician, telemarketing)	7	13	“Because it’s all B2C sales over the internet, a lot of times you don’t know who you’re speaking to.”
11.5	Reseller channel	Comments about selling via resellers and system integrators	12	45	“Having someone that understands IT speak, or at the right level, resellers don’t have that knowledge base to actually do that.”
11.6	Strategic alliance	Comments about selling via alliance partners	7	27	“The other things I’ve learnt: find a local player, don’t find an international player. International players, they tend to get wrapped up in everywhere else in the world, and New Zealand just gets whatever the rest of the world has.”
11.7	Telecommunication provider channel	Comments about selling via telecommunications service providers	7	23	“We have a partnership with Optus as well. they’re starting to put their toe in the water. I think they’re realizing they’re a little bit behind Telstra.”
12	<b>Survival</b>	Aspects related to firm survival	16	56	“We want to be innovating because it’s survival for us because our entire market space is hemorrhaging to Lancaster”
13	<b>Vertical market</b>	Comments related to FMS target segments	23	242	

13.1	ERUC VM	Electronic road user charging segment (primarily NZ) but also including similar government-mandated electronic data gathering	10	27	“From a New Zealand perspective, it's only 20% of the market that's gone to eRUC.”
13.2	Forestry VM	Forestry segment	3	5	“Forestry is becoming increasingly specialized with the requirement to integrate with production systems.
13.3	Heavy transport VM	Road freight and heavy transport segment	16	33	[Radioco]’s customers were all truckies because they’re the ones who use RT.”
13.4	Insurance & finance VM	Insurance telematics & subprime finance segments	8	25	“Insurance companies are leveraging their understanding of packaging, end-consumer experience, gamification, they’re leveraging that to attack the fleet space.”
13.5	Local government VM	Government fleet segment (not including public transport)	5	6	“If somebody spray tags a building, the local council can go along and take a photograph of that tag and basically send it to an image recognition database and is associated with a particular tagger, if they know who that tagger is.”
13.6	Mining, oil & gas VM	Mining and oil and gas exploration segments	10	25	“Over here the mining industries have standard that you have to adhere to.”
13.7	Other VM	Other FMS industry applications	12	27	“Agriculture is a very specialist area”
13.8	Public transport VM	Public transport segment including buses, trams and rail (not including taxis)	5	12	“We’re going to then move from the buses into the trams, and then we're going to be tracking trains, so everything is fully integrated, multi-modal.”
13.9	Reefer VM	Refrigerated transport (truck and rail) segment	6	13	“So anyone can basically report the temperature and say, “Your temperature is going out, exception alert, pull over and find out what the hell is going wrong”.”
13.10	Rental VM	Rental vehicle tracking segment	2	2	“GPS tells me the time he's onsite, the time he's operating that crane, and when he stops and buggers off. I'm charging that thing out at \$220 bucks an hour, increments of 15 minutes are everything.”
13.11	Security VM	Segment related to security; tracking stolen vehicles	2	2	“In other places in the world, there is a higher requirement for a security component to any telematics support on board. So they want to know that a vehicle, for example, if it's a transport vehicle the door hasn't been opened where they shouldn't be opened.”

13.12	Taxi VM	Taxi fleet segment	3	4	“When we first started we thought we'd land all of the couriers and taxis, but we found quite quickly that taxis already had their own solutions and they're not going to change them.”
13.13	VM Strategy	Comments related to strategies and goals in vertical markets	12	31	‘I'd say, in most of the vertical markets, you almost have a two-tier or three-tier market. You have one or two players who are very, very good, who hold the majority of the market share with the serious place in that industry. You have three or four players who are also-rans.”
13.14	White Vans & Service VM	Small vehicle segment such as couriers and trades	15	30	“The companies that are going for the white van market now, the service markets, the plumbers, the electricians, they will be more likely to have work flow management.”
14	<b>Why NZ?</b>	Comments on why NZ has generated so many firms in FMS	16	66	“I've got a feeling that it could be a spin off from things like Navman back in the day. So you've got companies which have done it in the past and there'll be a lot of spin off expertise and capability.”

**Table D-2: Competitors**

	<b>Competitor name</b>	<b>Description</b>	<b>Sources</b>	<b>References</b>
1	Blackhawk		11	17
2	Calamp		7	11
3	Ctrack Digicore		7	17
4	ECall		1	4
5	ERoad		20	118
6	Fleetmatics		10	22
7	Google		8	13
8	Imarda		14	32
9	International Telematics		19	81
10	MinorPlanet		8	38
11	MT Data		10	15
12	Navman Wireless		18	72
13	OEM competitor	Competitors such as vehicle manufacturers that have their own systems	8	15
14	Oracle SAP	Enterprise software providers such as Oracle or SAP	9	12
15	Other competitors	Unnamed or infrequently mentioned	20	97
16	Smart devices competitor	iphones, Android phones and smart tablets	5	14
17	Smartrak		9	21
18	Snitch Amarda		8	17
19	Telogis		18	43
20	Tom Tom Telematics		10	29
21	TrackIt		2	3
22	Trimble		5	14
23	Visfleet		7	13
24	VWork		3	3
25	XLerate		9	14

## References

- Abbott, A. (1988). Transcending general linear reality. *Sociological Theory*, 6(2), 169-186.
- Abernathy, W. J., & Utterback, J. M. (1978). Patterns of industrial innovation. *Technology Review*, 80(7), 41-47.
- Acs, Z. J., & Audretsch, D. B. (1988). Innovation in large and small firms: An empirical analysis. *American Economic Review*, 78(4), 678-691.
- Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4), 645-670.
- Aldrich, H. E., & Reuf, M. (2006). *Organizations Evolving* (2nd ed.). London: SAGE Publications.
- Almor, T. (2013). Conceptualizing paths of growth for technology-based born-global firms originating in a small-population advanced economy. *International Studies of Management & Organization*, 43(2), 56-78.
- Alvesson, M., & Sandberg, J. (2011). Generating research questions through problematization. *Academy of Management Review*, 36(2), 247-271.
- Andersson, S. (2004). Internationalization in different industrial contexts. *Journal of Business Venturing*, 19(6), 851-875. <http://dx.doi.org/10.1016/j.jbusvent.2003.10.002>
- Andersson, S., Evers, N., & Kuivalainen, O. (2014). International new ventures: rapid internationalization across different industry contexts. *European Business Review*, 26(5), 390-405. 10.1108/EBR-05-2014-0040
- Andries, P., & Debackere, K. (2007). Adaptation and performance in new businesses: Understanding the moderating effects of independence and industry. *Small Business Economics*, 29(1-2), 81-99.
- Ang, S.-h., Benischke, M. H., & Doh, J. P. (2015). The interactions of institutions on foreign market entry mode. *Strategic Management Journal*, 36(10), 1536-1553. 10.1002/smj.2295
- Arthur, W. B. (1994). Positive feedbacks in the economy. In W. B. Arthur (Ed.), *Increasing returns and path dependence in the economy* (pp. 1-12). Ann Arbor: University of Michigan Press.
- Aspelund, A., & Moen, C. (2012). International new ventures and governance structures: Are international entrepreneurs strategic or entrepreneurial? *Journal of Management & Governance*, 16(1), 125-146.
- Aspelund, A., & Moen, Ø. (2005). Small international firms: Typology, performance and implications. *Management International Review*, 45(3), 37-57.
- Astley, W. G., & van de Ven, A. H. (1983). Central perspectives and debates in organization theory. *Administrative Science Quarterly*, 28(2), 245-273.
- Audretsch, D. B., Prince, Y. M., & Thurik, A. R. (1999). Do small firms compete with large firms? *Atlantic Economic Journal*, 27(2), 201-209.
- Australian Business Register. (2015). ABN Lookup. Retrieved from <http://abr.business.gov.au/>
- Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43(5), 909-924.
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329-366.
- Bangara, A., Freeman, S., & Schroder, W. (2012). Legitimacy and accelerated internationalization: An Indian perspective. *Journal of World Business*, 47, 623-634.
- Barnett, W. P. (1997). The dynamics of competitive intensity. *Administrative Science Quarterly*, 42(1), 128-160.
- Barnett, W. P. (2008). *The Red Queen among organizations: How competitiveness evolves*. Princeton: Princeton University Press.
- Barnett, W. P., Greve, H. R., & Park, D. Y. (1994). An evolutionary model of organizational performance. *Strategic Management Journal*, 15(Special issue), 11-28.



- Barnett, W. P., & Hansen, M. T. (1996). The Red Queen in organizational evolution. *Strategic Management Journal*, 17(Special issue), 139-157.
- Barnett, W. P., & McKendrick, D. G. (2004). Why are some organizations more competitive than others? Evidence from a changing global market. *Administrative Science Quarterly*, 49(4), 535-571.
- Barnett, W. P., & Sorenson, O. (2002). The Red Queen in organizational creation and development. *Industrial & Corporate Change*, 11(2), 289-325.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Barreto, I., & Baden-Fuller, C. (2006). To conform or to perform? Mimetic behaviour, legitimacy-based groups and performance consequences. *Journal of Management Studies*, 43(7), 1559-1581.
- Baum, J. A. C., & Korn, H. J. (1999). Dynamics of dyadic competitive interaction. *Strategic Management Journal*, 20(3), 251.
- Baum, M., Schwens, C., & Kabst, R. (2015). A latent class analysis of small firms' internationalization patterns. *Journal of World Business*, 50(4), 754-768. 10.1016/j.jwb.2015.03.001
- Bell, J., McNaughton, R., Young, S., & Crick, D. (2003). Towards an integrative model of small firm internationalization. *Journal of International Entrepreneurship*, 1(4), 339-362.
- Bertilsson, T. M. (2004). The elementary forms of pragmatism: On different types of abduction. *European Journal of Social Theory*, 7(3), 371-389.
- Bettis, R. A., & Prahalad, C. K. (1995). The dominant logic: Retrospective and extension. *Strategic Management Journal*, 16(1), 5-14. 10.1002/smj.4250160104
- Bhaskar, R. (1989). *Reclaiming reality*. London: Verso.
- Bitektine, A. (2011). Toward a theory of social judgments of organizations: The case of legitimacy, reputation, and status. *Academy of Management Review*, 36(1), 151-179. 10.5465/AMR.2011.55662572
- Blomstermo, A., Eriksson, K., Lindstrand, A., & Sharma, D. D. (2004a). The perceived usefulness of network experiential knowledge in the internationalizing firm. *Journal of International Management*, 10(3), 355-373.
- Blomstermo, A., Eriksson, K., & Sharma, D. D. (2004b). Domestic activity and knowledge development in the internationalization process of firms. *Journal of International Entrepreneurship*, 2(3), 239-258.
- Bloodgood, J. M., Sapienza, H. J., & Almeida, J. G. (1996). The internationalization of new high-potential U.S. ventures: Antecedents and outcomes. *Entrepreneurship Theory and Practice*, 20(4), 61-76.
- Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice*, 34(3), 421-440.
- Bryman, A., & Bell, E. (2011). *Business research methods* (3rd ed.). Oxford: University Press.
- Buckley, P. J. (1997). International technology transfer by small and medium-sized enterprises. *Small Business Economics*, 9(1), 67-78. 10.2307/40228648
- Buckley, P. J., & Casson, M. C. (2009). The internalization theory of the multinational enterprise: A review of the progress of a research agenda after 30 years. *Journal of International Business Studies*, 40(9), 1563-1580.
- Burke, A., & Hussels, S. (2013). How competition strengthens start-ups. *Harvard Business Review*, 91(3), 24-25.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge: Harvard University Press.
- Burt, R. S. (2002). The social capital of structural holes. In M. F. Guillen, R. Collins, P. England & M. Meyer (Eds.), *New directions in economic sociology* (pp. 202-247). New York: Russell Sage Foundation.
- Calof, J. L., & Beamish, P. W. (1995). Adapting to foreign markets: Explaining internationalization. *International Business Review*, 4(2), 115-131.

- Cannone, G., & Ughetto, E. (2014). Born globals: A cross-country survey on high-tech start-ups. *International Business Review*, 23(1), 272-283.
- Carroll, G. R. (1985). Concentration and specialization: Dynamics of niche width in populations of organizations. *American Journal of Sociology*, 90(6), 1262-1283.
- Carroll, G. R., Dobrev, S. D., & Swaminathan, A. (2002). Organizational processes of resource partitioning. *Research in Organizational Behavior*, 24, 1-40.
- Carroll, G. R., & Hannan, M. T. (1989). Density delay in the evolution of organizational populations: A model and five empirical tests. *Administrative Science Quarterly*, 34(3), 411.
- Casillas, J. C., Barbero, J. L., & Sapienza, H. J. (2015). Knowledge acquisition, learning and the initial pace of internationalization. *International Business Review*, 24(1), 102-114.
- Caves, R. E., & Porter, M. (1977). From entry barriers to mobility barriers: Conjectural decisions and contrived deterrence to new competition. *Quarterly Journal of Economics*, 91(2), 241-261.
- Cavusgil, S. T., & Knight, G. A. (2015). The born global firm: An entrepreneurial and capabilities perspective on early and rapid internationalization. *Journal of International Business Studies*, 46(1), 3-16.
- Cefis, E., & Marsili, O. (2011). Born to flip. Exit decisions of entrepreneurial firms in high-tech and low-tech industries. *Journal of Evolutionary Economics*, 21(3), 473-498.
- Cesinger, B., Fink, M., Madsen, T. K., & Kraus, S. (2012). Rapidly internationalizing ventures: How definitions can bridge the gap across contexts. *Management Decision*, 50(10), 1816-1842.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: SAGE Publications.
- Chen, E. L., Katila, R., McDonald, R., & Eisenhardt, K. M. (2010). Life in the fast lane: Origins of competitive interaction in new vs. established markets. *Strategic Management Journal*, 31(13), 1527.
- Chen, M.-J. (1996). Competitor analysis and interfirm rivalry: Toward a theoretical integration. *Academy of Management Review*, 21(1), 100-134.
- Chen, M.-J., & Hambrick, D. C. (1995). Speed, stealth, and selective attack: How small firms differ from large firms in competitive behavior. *Academy of Management Journal*, 38(2), 453.
- Chen, M.-J., & Miller, D. (2012). Competitive dynamics: Themes, trends, and a prospective research platform. *Academy of Management Annals*, 6(1), 135-210.
- Chetty, S., & Campbell-Hunt, C. (2003). Explosive international growth and problems of success amongst small to medium-sized firms. *International Small Business Journal*, 21(1), 5-27.
- Chetty, S., & Campbell-Hunt, C. (2004). A strategic approach to internationalization: A traditional versus a "born-global" approach. *Journal of International Marketing*, 12(1), 57-81.
- Chetty, S., Johanson, M., & Martín Martín, O. (2014). Speed of internationalization: Conceptualization, measurement and validation. *Journal of World Business*, 49(4), 633-650.
- Chetty, S., & Wilson, H. I. (2003). Collaborating with competitors to acquire resources. *International Business Review*, 12(1), 61-81.
- Child, J., & Hsieh, L. H. Y. (2014). Decision mode, information and network attachment in the internationalization of SMEs: A configurational and contingency analysis. *Journal of World Business*, 49(4), 598-610.
- Coad, A. (2014). Death is not a success: Reflections on business exit. *International Small Business Journal*, 32(7), 721-732.
- Coeurderoy, R., Cowling, M., Licht, G., & Murray, G. (2012). Young firm internationalization and survival: Empirical tests on a panel of 'adolescent' new technology-based firms in Germany and the UK. *International Small Business Journal*, 30(5), 472.
- Costa, L. A., Cool, K., & Dierickx, I. (2013). The competitive implications of the deployment of unique resources. *Strategic Management Journal*, 34(4), 445-463.
- Coviello, N. E. (2015). Re-thinking research on born globals. *Journal of International Business Studies*, 46(1), 17-26.
- Crick, D. (2009). The internationalization of born global and international new venture SMEs. *International Marketing Review*, 26(4), 453-476.
- Crick, D., & Jones, M. V. (2000). Small high-technology firms and international high-technology markets. *Journal of International Marketing*, 8(2), 63-85.

- Crick, D., & Spence, M. (2005). The internationalization of 'high performing' UK high-tech SMEs: a study of planned and unplanned strategies. *International Business Review*, 14(2), 167-185.
- Dalgic, T., & Leeuw, M. (1994). Niche marketing revisited: Concept, applications and some European cases. *European Journal of Marketing*, 28(4), 39-55.
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674-695.  
10.1016/j.jbusvent.2015.01.002
- Denrell, J. (2003). Vicarious learning, undersampling of failure, and the myths of management. *Organization Science*, 14(3), 227-243.
- DiMaggio, P. J., & Powell, W. (1991). Introduction. In W. Powell & P. J. DiMaggio (Eds.), *The new institutionalism in organizational analysis* (pp. 1-38). Chicago: University of Chicago Press.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- Dimitratos, P., Johnson, J., Slow, J., & Young, S. (2003). Micromultinationals: New types of firms for the global competitive landscape. *European Management Journal*, 21(2), 164-174.
- Diochon, M., Menzies, T., & Gasse, Y. (2007). From becoming to being: Measuring firm creation. *Journal of Enterprising Culture*, 15(1), 21-42.
- Dobrev, S. D., Kim, T.-Y., & Carroll, G. R. (2002). The evolution of organizational niches: U.S. automobile manufacturers, 1885-1981. *Administrative Science Quarterly*, 47(2), 233-264.
- Dorado, S. (2005). Institutional entrepreneurship, partaking, and convening. *Organization Studies*, 26(3), 385-414.
- Dos Santos Ferreira, R., & Thisee, J.-F. (1996). Horizontal and vertical differentiation: The Launhardt model. *International Journal of Industrial Organization*, 14(4), 485-506.
- Dow Jones. (2015). Factiva. Retrieved from <http://www.dowjones.com/products/product-factiva/>
- Downing, S. (2005). The social construction of entrepreneurship: Narrative and dramatic processes in the co-production of organizations and identities. *Entrepreneurship Theory and Practice*, 29(2), 185-204.
- Dubois, A., & Gadde, L.-E. (2002). Systematic combining: An abductive approach to case research. *Journal of Business Research*, 55(7), 553-560.
- Easton, G. (1988). Competition and marketing strategy. *European Journal of Marketing*, 22(2), 31-49.
- Easton, G. (2010). Critical realism in case study research. *Industrial Marketing Management*, 39(1), 118-128.
- Easton, G., & Araujo, L. (1994). Market exchange, social structures and time. *European Journal of Marketing*, 28(3), 3-84.
- Easton, G., Burrell, G., Rothschild, R., & Shearman, C. (1993). *Managers and competition*. Oxford: Blackwell.
- Echols, A., & Tsai, W. (2005). Niche and performance: The moderating role of network embeddedness. *Strategic Management Journal*, 26(3), 219-238. 10.1002/smj.443
- Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review*, 32(4), 1155-1179.
- Efrat, K., & Shoham, A. (2012). Born global firms: The differences between their short- and long-term performance drivers. *Journal of World Business*, 47(4), 675-685.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550. 10.5465/amr.1989.4308385
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25-32.
- European Commission. (2014). What is an SME? In *Enterprise and Industry*. Retrieved from [http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index\\_en.htm](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/index_en.htm)
- Fan, T. P. C. (2010). *De novo* venture strategy: Arch incumbency at inaugural entry. *Strategic Management Journal*, 31(1), 19-38.
- Fan, T. P. C., & Phan, P. (2007). International new ventures: Revisiting the influences behind the 'born global' firm. *Journal of International Business Studies*, 38(7), 1113-1131.
- Fernhaber, S. A., & Li, D. (2010). The impact of interorganizational imitation on new venture international entry and performance. *Entrepreneurship Theory and Practice*, 34(1), 1-30.

- Fernhaber, S. A., McDougall, P. P., & Oviatt, B. M. (2007). Exploring the role of industry structure in new venture internationalization. *Entrepreneurship Theory and Practice*, 31(4), 517-542.
- Ferrier, W. J., Smith, K. G., & Grimm, C. M. (1999). The role of competitive action in market share erosion and industry dethronement: A study of industry leaders and challengers. *Academy of Management Journal*, 42(4), 372-388.
- Fiegenbaum, A., & Thomas, H. (1995). Strategic groups as reference groups: Theory, modeling and empirical examination of industry and competitive strategy. *Strategic Management Journal*, 16(6), 461-476.
- Fisher, G., Kotha, S., & Lahiri, A. (2016). Changing with the times: An integrated view of identity, legitimacy, and new venture life cycles. *Academy of Management Review*, 41(3), 383-409.
- Ford, D., & Håkansson, H. (2013). Competition in business networks. *Industrial Marketing Management*, 42(7), 1017-1024. 10.1016/j.indmarman.2013.07.015
- Franco, A. M., Sarkar, M. B., Agarwal, R., & Echambadi, R. (2009). Swift and smart: The moderating effects of technological capabilities on the market pioneering-firm survival relationship. *Management Science*, 55(11), 1842-1860.
- Freeman, S., & Cavusgil, S. T. (2007). Toward a typology of commitment states among managers of born-global firms: A study of accelerated internationalization. *Journal of International Marketing*, 15(4), 1-40.
- Freeman, S., Edwards, R., & Schroder, B. (2006). How smaller born-global firms use networks and alliances to overcome constraints to rapid internationalization. *Journal of International Marketing*, 14(3), 33-63.
- Freeman, S., Hutchings, K., Lazaris, M., & Zyngier, S. (2010). A model of rapid knowledge development: The smaller born-global firm. *International Business Review*, 19(4), 70-84.
- Friedland, R., & Alford, R. (1991). Bringing society back in: Symbols, practices and institutional contradictions. In W. Powell & P. DiMaggio (Eds.), *The new institutionalism in organizational analysis* (pp. 232-263). Chicago: University Of Chicago Press.
- Gabrielsson, M., & Kirpalani, V. H. M. (2004). Born globals: How to reach new business space rapidly. *International Business Review*, 13(5), 555-571.
- Gabrielsson, M., Kirpalani, V. H. M., Dimitratos, P., Solberg, C. A., & Zucchella, A. (2008). Born globals: Propositions to help advance the theory. *International Business Review*, 17(4), 385-401.
- Gabrielsson, P., & Gabrielsson, M. (2013). A dynamic model of growth phases and survival in international business-to-business new ventures: The moderating effect of decision-making logic. *Industrial Marketing Management*, 42(8), 1357-1373.
- Gartner Group. (1997). Wireless management considerations before the wire is cut. Retrieved Networking: Wireless Communications, from <http://www.gartner.com/technology/research.jsp>
- Gartner Group. (2003). Hype cycle for transportation technologies. Retrieved from <http://www.gartner.com/technology/research.jsp>
- Gartner Group. (2012). Gartner Research. Retrieved from <http://www.gartner.com/technology/research.jsp>
- Garud, R., & Van de Ven, A. H. (2002). Strategic change processes. In A. M. Pettigrew, H. Thomas & R. Whittington (Eds.), *Handbook of strategy and management* (pp. 206-231). London: SAGE Publications.
- Gassmann, O., & Keupp, M. M. (2007). The competitive advantage of early and rapidly internationalizing SMEs in the biotechnology industry: A knowledge-based view. *Journal of World Business*, 42(3), 350-366.
- Geels, F. W. (2010). Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Research Policy*, 39(4), 495-510.
- Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions*, 1(1), 24-40.
- Geroski, P. A., Mata, J., & Portugal, P. (2010). Founding conditions and the survival of new firms. *Strategic Management Journal*, 31(5), 510.

- Gerschewski, S., Rose, E. L., & Lindsay, V. J. (2015). Understanding the drivers of international performance for born global firms: An integrated perspective. *Journal of World Business*, 50(3), 558-575.
- Gerschewski, S., & Xiao, S. S. (2015). Beyond financial indicators: An assessment of the measurement of performance for international new ventures. *International Business Review*, 24(4), 615-629.
- Giddens, A. (1984). *The constitution of society*. Cambridge: Polity Press.
- Gimeno, J., Hoskisson, R. E., Beal, B. D., & Wan, W. P. (2005). Explaining the clustering of international expansion moves: A critical test in the U.S. telecommunications industry. *Academy of Management Journal*, 48(2), 297-319.
- Glassdoor. (2015). Companies & reviews. Retrieved from <https://www.glassdoor.com/Reviews/index.htm>
- Gligor, D. M., Esmark, C. L., & Gölgeci, I. (2016). Building international business theory: A grounded theory approach. *Journal of International Business Studies*, 47(1), 93-111. 10.1057/jibs.2015.35
- Golden, B. R. (1992). Research notes: The past is the past - or is it? The use of retrospective accounts as indicators of past strategy. *Academy of Management Journal*, 35(4), 848-860. 10.2307/256318
- Granqvist, N., & Gustafsson, R. (2016). Temporal institutional work. *Academy of Management Journal*, 59(3), 1009-1035. 10.5465/amj.2013.0416
- Gray, B., Purdy, J. M., & Ansari, S. (2015). From interactions to institutions: Microprocesses of framing and mechanisms for the structuring of institutional fields. *Academy of Management Review*, 40(1), 115-143.
- Greenwood, R., Díaz, A. M., Li, S. X., & Lorente, J. C. (2010). The multiplicity of institutional logics and the heterogeneity of organizational responses. *Organization Science*, 21(2), 521-539. doi:10.1287/orsc.1090.0453
- Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. (2011). Institutional complexity and organizational responses. *Academy of Management Annals*, 5(1), 317-371. 10.1080/19416520.2011.590299
- Greve, H. R. (1996). Patterns of competition: The diffusion of a market position in radio broadcasting. *Administrative Science Quarterly*, 41(1), 29-60.
- Greve, H. R. (1999). Branch systems and nonlocal learning in populations. *Advances in Strategic Management*, 16, 57-80.
- Greve, H. R. (2000). Marketing niche entry decisions: Competition, learning, and strategy in Tokyo banking, 1894-1936. *Academy of Management Journal*, 43(5), 816-836.
- Greve, H. R. (2011). Market niche entry decisions: a retrospective introduction. In G. D. Markman & P. Phan (Eds.), *The competitive dynamics of entrepreneurial market entry* (pp. 283-285). Cheltenham: Edward Elgar.
- Grimm, C. M., Lee, H., & Smith, K. G. (2006). *Strategy as action: Competitive dynamics and competitive advantage*. New York: Oxford University Press.
- Gross, N. (2009). A pragmatist theory of social mechanisms. *American Sociological Review*, 74(3), 358-379.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks: SAGE Publications.
- Håkansson, H., & Snehota, I. (1995). *Developing relationships in business networks*. London: Routledge.
- Haley, G. T., & Haley, U. C. V. (1998). Boxing with shadows: Competing effectively with the Overseas Chinese and Overseas Indian business networks in the Asian arena. *Journal of Organizational Change Management*, 11(4), 301.
- Haley, G. T., Haley, U. C. V., & Tan, C.-T. (2009). *New Asian emperors*. Singapore: John Wiley & Sons.
- Haley, U. C. V., & Haley, G. T. (2006a). The logic of Chinese business strategy: East versus West: Part I. *Journal of Business Strategy*, 27(1), 35-42.

- Haley, U. C. V., & Haley, G. T. (2006b). The logic of Chinese business strategy: East versus West: Part II. *Journal of Business Strategy*, 27(2), 43-53.
- Haley, U. C. V., & Haley, G. T. (2013). *Subsidies to Chinese industry: State capitalism, business strategy and trade policy*. New York: Oxford University Press.
- Hallböck, J., & Gabrielsson, P. (2013). Entrepreneurial marketing strategies during the growth of international new ventures originating in small and open economies. *International Business Review*, 22(6), 1008-1020.
- Haltiwanger, J., Jarmin, R. S., & Miranda, J. (2012). Who creates jobs? Small versus large versus young. *Review of Economics and Statistics*, 95(2), 347-361. 10.1162/REST\_a\_00288
- Hånell, S. M., & Ghauri, P. N. (2016). Internationalization of smaller firms: Opportunity development through networks. *Thunderbird International Business Review*, 58(5), 465-477. 10.1002/tie.21763
- Hannan, M. T., Carroll, G. R., Dundon, E. A., & Torres, J. C. (1995). Organizational evolution in a multinational context: Entries of automobile manufacturers in Belgium, Britain, France, Germany, and Italy. *American Sociological Review*, 60(4), 509-528.
- Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology*, 82(5), 929-964.
- Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, 49(2), 149-164.
- Hannan, M. T., & Freeman, J. (1989). *Organizational ecology*. Cambridge: Harvard University Press.
- Harms, R., & Schiele, H. (2012). Antecedents and consequences of effectuation and causation in the international new venture creation process. *Journal of International Entrepreneurship*, 10(2), 95-116.
- Haveman, H. A., & Nonnemaker, L. (2000). Competition in multiple geographic markets: The impact on growth and market entry. *Administrative Science Quarterly*, 45(2), 232-267.
- Henisz, W. J., & Delios, A. (2001). Uncertainty, imitation, and plant location: Japanese multinational corporations, 1990-1996. *Administrative Science Quarterly*, 46(3), 443-475.
- Hennart, J.-F. (2014). The accidental internationalists: A theory of born globals. *Entrepreneurship Theory and Practice*, 38(1), 117-135.
- Henneberg, S. C., Naudé, P., & Mouzas, S. (2010). Sense-making and management in business networks — some observations, considerations, and a research agenda. *Industrial Marketing Management*, 39(3), 355-360. 10.1016/j.indmarman.2009.03.011
- Hilmersson, M., & Johanson, M. (2014a). *International learning strategy, speed of learning and speed of SME internationalization*. Paper presented at the Annual Meeting of the Academy of International Business, Vancouver
- Hilmersson, M., & Johanson, M. (2014b). *Speed of SME internationalization and performance*. Paper presented at the Annual Meeting of the Academy of International Business, Vancouver
- Hodgson, G. M. (1993). *Economics and evolution: Bringing life back into economics*. Ann Arbor: University of Michigan Press.
- Holcomb, T. R., Ireland, R. D., Holmes Jr, R. M., & Hitt, M. A. (2009). Architecture of entrepreneurial learning: Exploring the link among heuristics, knowledge, and action. *Entrepreneurship Theory and Practice*, 33(1), 167-192.
- Huber, G. P., & Power, D. J. (1985). Retrospective reports of strategic-level managers: Guidelines for increasing their accuracy. *Strategic Management Journal*, 6(2), 171-180.
- Hunt, S. D. (2013). A general theory of business marketing: R-A theory, Alderson, the ISBM framework, and the IMP theoretical structure. *Industrial Marketing Management*, 42(3), 283-293. 10.1016/j.indmarman.2013.02.002
- Hurmerinta-Peltomäki, L. (2004). Conceptual and methodological underpinnings in the study of rapid internationalizers. In M. V. Jones & P. Dimitratos (Eds.), *Emerging Paradigms in International Entrepreneurship* (pp. 64-88). Cheltenham: Edward Elgar.
- Jennings, P. D., Greenwood, R., Lounsbury, M. D., & Suddaby, R. (2013). Institutions, entrepreneurs, and communities: A special issue on entrepreneurship. *Journal of Business Venturing*, 28(1), 1-9.
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24, 602-611.

- Johanson, J., & Mattsson, L.-G. (1988). Internationalization in industrial systems - a network approach. In N. Hood & J.-E. Vahlne (Eds.), *Strategies in global competition* (pp. 287-314). London: Routledge.
- Johanson, J., & Vahlne, J.-E. (1977). The internationalization process of the firm - a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1), 25-34.
- Johanson, J., & Vahlne, J.-E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40(9), 1411-1431.
- Jolly, V. K., Alahuhta, M., & Jeanet, J.-P. (1992). Challenging the incumbents: How high technology start-ups compete globally. *Journal of Strategic Change*, 1, 71-92.
- Jones, M. V., Coviello, N., & Tang, Y. K. (2011). International Entrepreneurship research (1989-2009): A domain ontology and thematic analysis. *Journal of Business Venturing*, 26(6), 632-659.
- Jones, R., Suoranta, M., & Rowley, J. (2013). Strategic network marketing in technology SMEs. *Journal of Marketing Management*, 29(5/6), 671-697. 10.1080/0267257X.2013.797920
- Kalinic, I., & Forza, C. (2012). Rapid internationalization of traditional SMEs: Between gradualist models and born globals. *International Business Review*, 21, 694-707.
- Katila, R., Chen, E. L., & Piezunka, H. (2012). All the right moves: How entrepreneurial firms compete effectively. *Strategic Entrepreneurship Journal*, 6(2), 116-132.
- Keupp, M. M., & Gassmann, O. (2009). The past and the future of International Entrepreneurship: A review and suggestions for developing the field. *Journal of Management*, 35(3), 600-633.
- Khalid, S., & Larimo, J. (2012). Firm-specific advantage in developed markets: Dynamic capability perspective. *Management International Review*, 52(2), 233-250.
- Kim, J.-Y., & Miner, A. S. (2007). Vicarious learning from the failures and near-failures of others: Evidence from the U.S. commercial banking industry. *Academy of Management Journal*, 50(3), 687-714.
- Klein, K. J., Dansereau, F., & Hall, R. J. (1994). Levels issues in theory development, data collection and analysis. *Academy of Management Review*, 19(2), 195-229.
- Klepper, S., & Graddy, E. (1990). The evolution of new industries and the determinants of market structure. *RAND Journal of Economics*, 21(1), 27-44.
- Knight, G. A., & Cavusgil, S. T. (1996). The born global firm: A challenge to traditional internationalization theory. *Advances in International Marketing*, 8, 11-26.
- Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35(2), 124-141.
- Knight, G. A., & Liesch, P. W. (2016). Internationalization: From incremental to born global. *Journal of World Business*, 51(1), 93-102. 10.1016/j.jwb.2015.08.011
- Kogut, B., & Singh, H. (1988). The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, 19(3), 411-432.
- Kontinen, T., & Ojala, A. (2011). International opportunity recognition among small and medium-sized family firms. *Journal of Small Business Management*, 49(3), 490-514. 10.1111/j.1540-627X.2011.00326.x
- Kraaijenbrink, J., Spender, J.-C., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of Management*, 36(1), 349-372.
- Kuivalainen, O., Sundqvist, S., Saarenketo, S., & McNaughton, R. (2012). Internationalization patterns of small and medium-sized enterprises. *International Marketing Review*, 29(5), 448-465.
- Kvale, S. (1996). *Interviews: an introduction to qualitative research interviewing*. Thousand Oaks, Calif.: Sage.
- Laanti, R., Gabrielsson, M., & Gabrielsson, P. (2007). The globalization strategies of business-to-business born global firms in the wireless technology industry. *Industrial Marketing Management*, 36(8), 1104-1117.
- Laitinen, E. (1992). Prediction of a failure of a newly founded firm. *Journal of Business Venturing*, 7(4), 323-340.

- Langley, A. (1999). Strategies for theorizing from process data. *Academy of Management Review*, 24(4), 691-710.
- Langley, A., Smallman, C., Tsoukas, H., & van de Ven, A. H. (2013). Process studies of change in organization and management: Unveiling temporality, activity, and flow. *Academy of Management Journal*, 56(1), 1-13.
- Li, L., Qian, G., & Qian, Z. (2012). Early internationalization and performance of small high-tech "born-globals". *International Marketing Review*, 29(5), 536-561.
- Lieberman, M. B., & Asaba, S. (2006). Why do firms imitate each other? *Academy of Management Review*, 31(2), 366-385.
- LinkedIn. (2014). Advanced people search. Retrieved from <https://nz.linkedin.com/>
- Llewellyn, S., & Northcott, D. (2007). The "singular view" in management case studies. *Qualitative Research in Organizations and Management*, 2(3), 194-207. <http://dx.doi.org/10.1108/17465640710835355>
- Loane, S., Bell, J., & McNaughton, R. (2007). A cross-national study on the impact of management teams on the rapid internationalization of small firms. *Journal of World Business*, 42(4), 489-504.
- Lounsbury, M., & Boxenbaum, E. (2013). Institutional logics in action, Part A. *Research in the Sociology of Organizations*, 39A, 3-22.
- Lu, J. W., & Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, 22(6/7), 565-586.
- Luostarinen, R., & Gabrielsson, M. (2006). Globalization and marketing strategies of born globals in SMOPECs. *Thunderbird International Business Review*, 48(6), 773-801.
- Lyles, M. A., Saxton, T., & Watson, K. (2004). Venture survival in a transitional economy. *Journal of Management*, 30(3), 351-375.
- Madsen, T. K., & Servais, P. (1997). The internationalization of born globals: An evolutionary process? *International Business Review*, 6(6), 561-583.
- Maitland, E., & Sammartino, A. (2015). Managerial cognition and internationalization. *Journal of International Business Studies*, 46(7), 733-760.
- Mantere, S., & Ketokivi, M. (2013). Reasoning in organization science. *Academy of Management Review*, 38(1), 70-89.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organizational Science*, 2(1), 71-87.
- Markman, G. D., Gianiodis, P. T., & Buchholtz, A. K. (2009). Factor-market rivalry. *Academy of Management Review*, 34(3), 423-441.
- Markman, G. D., Gianiodis, P. T., & Buchholtz, A. K. (2011). Additional insights on resource-based competition. In G. D. Markman & P. Phan (Eds.), *The competitive dynamics of entrepreneurial market entry* (pp. 204-207). Cheltenham: Edward Elgar.
- Martineau, C., & Pastoriza, D. (2016). International involvement of established SMEs: A systematic review of antecedents, outcomes and moderators. *International Business Review*, 25(2), 458-470. 10.1016/j.ibusrev.2015.07.005
- Mas-Ruiz, F., & Ruiz-Moreno, F. (2011). Rivalry within strategic groups and consequences for performance: The firm-size effects. *Strategic Management Journal*, 32(12), 1286-1308.
- Mascarenhas, B. (1996). The founding of specialist firms in a global fragmenting industry. *Journal of International Business Studies*, 27(1), 27-42.
- McDougall, P. P. (1989). International versus domestic entrepreneurship: New venture strategic behavior and industry structure. *Journal of Business Venturing*, 4(6), 387-400.
- McGrath, J. E. (1981). Dilemmatics: The study of research choices and dilemmas. *American Behavioral Scientist*, 25(2), 179-210.
- McKendrick, D. G. (2001). Global strategy and population-level learning: The case of hard disk drives. *Strategic Management Journal*, 22(4), 307-334.
- Mead, M. (1961). *Cooperation and competition among primitive peoples*. Boston: Beacon Press.
- Medlin, C. J., & Ellegaard, C. (2015). Conceptualizing competition and rivalry in a networking business market. *Industrial Marketing Management*, 51, 131-140. 10.1016/j.indmarman.2015.05.009



- Meyer, A. D., Brooks, G. R., & Goes, J. B. (1990). Environmental jolts and industry revolutions: Organizational responses to discontinuous change. *Strategic Management Journal*, 11(5), 93-110.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340-363.
- Michailova, S. (2011). Contextualizing in International Business research: Why do we need more of it and how can we be better at it? *Scandinavian Journal of Management*, 27(1), 129-139. 10.1016/j.scaman.2010.11.003
- Michailova, S., & Wilson, H. I. M. (2008). Small firm internationalization through experiential learning: The moderating role of socialization tactics. *Journal of World Business*, 43(2), 243-254.
- Ministry of Business Innovation & Employment. (2014). *The small business sector report* Wellington: MBIE.
- Ministry of Business Innovation & Employment. (2015). *Small businesses in New Zealand: How do they compare with larger firms?* Wellington: MBIE.
- Mintzberg, H., & Waters, J. A. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 6(3), 257-272.
- Moen, Ø. (2002). The born globals: A new generation of small European exporters. *International Marketing Review*, 19(2), 156-175.
- Moen, Ø., Madsen, T. K., & Aspelund, A. (2008). The importance of the internet in international business-to-business markets. *International Marketing Review*, 25(5), 487-503. 10.1108/02651330810904053
- Mohr, L. B. (1982). *Explaining organizational behaviour*. San Francisco: Jossey-Bass.
- Moore, G. A. (1991). *Crossing the chasm: Marketing and selling high-tech products to mainstream customers*. New York: Harper Business.
- Mort, G. S., & Weerawardena, J. (2006). Networking capability and international entrepreneurship. *International Marketing Review*, 23(5), 549-572.
- Mudambi, R., & Zahra, S. A. (2007). The survival of international new ventures. *Journal of International Business Studies*, 38(2), 333-352.
- Muzychenko, O., & Liesch, P. W. (2015). International opportunity identification in the internationalisation of the firm. *Journal of World Business*, 50(4), 704-717.
- Nelson, R. R., & Winter, S. G. (2002). Evolutionary theorizing in economics. *Journal of Economic Perspectives*, 16(2), 23-46.
- New Zealand Companies Office. (2015). New Zealand Companies Register. Retrieved from <https://www.business.govt.nz/companies/>
- Nonaka, I., & Tyama, R. (2002). A firm as a dialectical being: Towards a dynamic theory of a firm. *Industrial and Corporate Change*, 11(5), 995-1009.
- Nordman, E. R., & Melén, S. (2008). The impact of different kinds of knowledge for the internationalization process of born globals in the biotech business. *Journal of World Business*, 43(2), 171-185.
- Nummela, N., Saarenketo, S., & Loane, S. (2016). The dynamics of failure in international new ventures: A case study of Finnish and Irish software companies. *International Small Business Journal*, 34(1), 51-69. 10.1177/0266242614539363
- Ocasio, W. (1997). Towards an attention-based view of the firm. *Strategic Management Journal*, 18(Supplement 1), 187-206.
- Ocasio, W. (2011). Attention to Attention. *Organization Science*, 22(5), 1286-1296.
- OECD. (2012). *Fostering SMEs' participation in global markets* (CFE/SME(2012)6/FINAL). Paris: Center for Entrepreneurship, SMEs and Local Development. Retrieved from <http://www.oecd.org/cfe/smes/fosteringsmallandmedium-sizedenterprisessmesparticipationinglobalmarkets.htm>
- OECD. (2013). *Entrepreneurship at a Glance*. Paris: OECD Publishing. Retrieved from [http://dx.doi.org/10.1787/entrepreneur\\_aag-2013-en](http://dx.doi.org/10.1787/entrepreneur_aag-2013-en)
- Oehme, M., & Bort, S. (2015). SME internationalization modes in the German biotechnology industry: The influence of imitation, network position, and international experience. *Journal of International Business Studies*, 46(6), 629-655.

- Olejnik, E., & Swoboda, B. (2012). SMEs' internationalisation patterns: Descriptives, dynamics and determinants. *International Marketing Review*, 29(5), 466-495. 10.1108/02651331211260340
- Oliver, C. (1997). Sustainable competitive advantage: Combining institutional and resource-based views. *Strategic Management Journal*, 18(9), 697-713.
- Orlikowski, W. J., & Baroudi, J. J. (1991). Studying information technology in organizations: Research approaches and assumptions. *Information Systems Research*, 2(1), 1-28.
- Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1), 45-64.
- Pahnke, E. C., Katila, R., & Eisenhardt, K. M. (2015a). Who takes you to the dance? How partners' institutional logics influence innovation in young firms. *Administrative Science Quarterly*, 60(4), 596-633. 10.1177/0001839215592913
- Pahnke, E. C., McDonald, R., Wang, D. A. N., & Hallen, B. (2015b). Exposed: Venture capital, competitor ties, and entrepreneurial innovation. *Academy of Management Journal*, 58(5), 1334-1360. 10.5465/amj.2012.0777
- Parolini, C. (1999). *The value net: A tool for competitive strategy*. Chichester: John Wiley.
- Peirce, C. S. (1878). Deduction, induction and hypothesis. In C. de Waal (Ed.), *Illustrations of the logic of science*. Chicago: Open Court.
- Peiris, I. K., Akoorie, M. E., & Sinha, P. (2012). International entrepreneurship: A critical analysis of studies in the past two decades and future directions for research. *Journal of International Entrepreneurship*, 10(4), 279-324.
- Peng, M. W., Lee, S.-H., & Hong, S. J. (2014). Entrepreneurs as intermediaries. *Journal of World Business*, 49(1), 21-31. 10.1016/j.jwb.2013.04.003
- Peng, M. W., Sun, S. L., Pinkham, B., & Chen, H. (2009). The institution-based view as a third leg for a strategy tripod. *Academy of Management Perspectives*, 23(3), 63-81.
- Peng, M. W., Wang, D. Y., & Yi, J. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39(5), 920-936.
- Pettigrew, A. M. (1990). Longitudinal field research on change: Theory and practice. *Organization Science*, 1(3), 267-292.
- Phan, P., & Markman, G. D. (2011). Introduction. In G. D. Markman & P. Phan (Eds.), *The competitive dynamics of entrepreneurial market entry* (pp. 1-7). Cheltenham: Edward Elgar.
- Piekkari, R., Plakoyiannaki, E., & Welch, C. (2010). "Good" case research in industrial marketing: Insights from research practice. *Industrial Marketing Management*, 39(1), 109-117.
- Piekkari, R., Welch, C., & Paavilainen, E. (2009). The case study as disciplinary convention: Evidence from international business journals. *Organizational Research Methods*, 12(3), 567-589.
- Plehn-dujowich, J. (2010). A theory of serial entrepreneurship. *Small Business Economics*, 35(4), 377-398.
- Podolny, J. M., & Stuart, T. E. (1995). A role-based ecology of technological change. *American Journal of Sociology*, 100(5), 1224-1260.
- Podolny, J. M., Toby, E. S., & Hannan, M. T. (1996). Networks, knowledge, and niches: Competition in the worldwide semiconductor industry, 1984-1991. *American Journal of Sociology*, 102(3), 659-689.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531.
- Porac, J. F., & Rosa, J. A. (1996). Rivalry, industry models, and the cognitive embeddedness of the comparable firm. *Advances in Strategic Management*, 13, 363-388.
- Porac, J. F., & Thomas, H. (2002). Managing cognition and strategy: Issues, trends and future directions. In A. M. Pettigrew, H. Thomas & R. Whittington (Eds.), *Handbook of strategy and management*. London: SAGE Publications.
- Porac, J. F., Thomas, H., & Baden-Fuller, C. (1989). Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers. *Journal of Management Studies*, 26(4), 397-416.
- Porter, M. (1980). *Competitive strategy*. New York: Free Press.
- Porter, M. (1985). *Competitive advantage*. New York: Free Press.

- Porter, M. (1986). Changing patterns of international competition. *California Management Review*, 28(2), 9-40.
- Porter, M., & Heppelmann, J. E. (2014). How smart, connected products are transforming competition. *Harvard Business Review*, 92(11), 64-88.
- Pouder, R., & St. John, C. H. (1996). Hot spots and blind spots: Geographical clusters of firms and innovation. *Academy of Management Review*, 21(4), 1192-1225.
- Poulis, K., Poulis, E., & Plakoyiannaki, E. (2013). The role of context in case study selection: An international business perspective. *International Business Review*, 22(1), 304-314. 10.1016/j.ibusrev.2012.04.003
- Prange, C., & Verdier, S. (2011). Dynamic capabilities, internationalization processes and performance. *Journal of World Business*, 46(1), 126-133.
- Preece, S. B., Miles, G., & Baetz, M. C. (1999). Explaining the international intensity and global diversity of early-stage technology-based firms. *Journal of Business Venturing*, 14(3), 259-281.
- Puig, F., González-Loureiro, M., & Ghauri, P. N. (2014). Internationalisation for survival: The case of new ventures. *Management International Review*, 54(5), 653-673.
- Purdy, J. M., & Gray, B. (2009). Conflicting logics, mechanisms of diffusion, and multilevel dynamics in emerging institutional fields. *Academy of Management Journal*, 52(2), 355-380.
- Rennie, M. W. (1993). Born global. *McKinsey Quarterly*, 4, 45-52.
- Rescher, N. (1996). *Process metaphysics: An introduction to process philosophy*. Albany: State University of New York Press.
- Reynolds, P., & Miller, B. (1992). New firm gestation: Conception, birth and implications for research. *Journal of Business Venturing*, 7(5), 405-417.
- Rialp, A., Rialp, J., & Knight, G. A. (2005a). The phenomenon of early internationalizing firms: What do we know after a decade (1993–2003) of scientific inquiry? *International Business Review*, 14(2), 147-166.
- Rialp, A., Rialp, J., Urbano, D., & Vaillant, Y. (2005b). The born-global phenomenon: A comparative case study research. *Journal of International Entrepreneurship*, 3(2), 133-171.
- Rugman, A. M., Verbeke, A., & Nguyen, Q. T. K. (2011). Fifty years of international business theory and beyond. *Management International Review*, 51(6), 755-786.
- Ryan, A., Tahtinen, J., Vanharanta, M., & Mainela, T. (2012). Putting critical realism to work in the study of business relationship processes. *Industrial Marketing Management*, 41(2), 300-311.
- Salimath, M. S., & Jones, R., III. (2011). Population ecology theory: Implications for sustainability. *Management Decision*, 49(6), 874-910.
- Sandberg, J., & Tsoukas, H. (2011). Grasping the logic of practice: Theorizing through practical rationality. *The Academy of Management Review*, 36(2), 338-360.
- Sapienza, H. J., Autio, E., George, G., & Zahra, S. A. (2006). A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review*, 31(4), 914-933.
- Sarason, Y., Dean, T., & Dillard, J. F. (2006). Entrepreneurship as the nexus of individual and opportunity: A structuration view. *Journal of Business Venturing*, 21(3), 286-305.
- Sarasvathy, S. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *The Academy of Management Review*, 26(2), 243-263.
- Sarasvathy, S., Kumar, K., York, J. G., & Bhagavatula, S. (2014). An effectual approach to international entrepreneurship: Overlaps, challenges, and provocative possibilities. *Entrepreneurship Theory and Practice*, 38(1), 71-93.
- Sasi, V., & Arenius, P. (2008). International new ventures and social networks: Advantage or liability? *European Management Journal*, 26(6), 400-411.
- Sayer, A. (1992). *Method in social science*. London: Routledge.
- Sayer, A. (2000). *Realism and social science*. London: SAGE Publications.
- Sayer, A. (2004). Why critical realism? In S. Fleetwood & S. Ackroyd (Eds.), *Critical realist applications in organisation and management studies*. London: Routledge.
- Schumpeter, J. (1934). *The theory of economic development*. New Brunswick: Transaction.

- Schwens, C., & Kabst, R. (2009). How early opposed to late internationalizers learn: Experience of others and paradigms of interpretation. *International Business Review*, 18(5), 509-522. 10.1016/j.ibusrev.2009.06.001
- Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (3rd ed.). Thousand Oaks: SAGE Publications.
- Seo, M.-G., & Creed, W. E. D. (2002). Institutional contradictions, praxis, and institutional change: A dialectical perspective. *Academy of Management Review*, 27(2), 222-247.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Shipilov, A. V. (2008). Firm scope experience, historic multimarket contact with partners, centrality, and the relationship between structural holes and performance. *Organization Science*, 20(1), 85-106.
- Short, J. C., McKelvie, A., Ketchen, D. J., & Chandler, G. N. (2009). Firm and industry effects on firm performance: A generalization and extension for new ventures. *Strategic Entrepreneurship Journal*, 3(1), 47-65.
- Shrader, R. C. (2001). Collaboration and performance in foreign markets: The case of young high-technology manufacturing firms. *Academy of Management Journal*, 44(1), 45-60.
- Shrader, R. C., Oviatt, B. M., & McDougall, P. P. (2000). How new ventures exploit tradeoffs among international risk factors: Lessons for the accelerated internationalization of the 21st century. *Academy of Management Journal*, 43(6), 1227-1247.
- Sirmon, D. G., Gove, S., & Hitt, M. A. (2008). Resource management in dyadic competitive rivalry: The effects of resource bundling and deployment. *Academy of Management Journal*, 51(5), 919-935.
- Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1), 273-292.
- Sleuwaegen, L., & Onkelinx, J. (2014). International commitment, post-entry growth and survival of international new ventures. *Journal of Business Venturing*, 29(1), 106-120.
- Smets, M., Jarzabkowski, P., Burke, G. T., & Spee, P. (2015). Reinsurance trading in Lloyd's of London: Balancing conflicting-yet-complementary logics in practice. *Academy of Management Journal*, 58(3), 932-970.
- Sommer, L. (2010). Internationalization processes of small- and medium-sized enterprises - a matter of attitude? *Journal of International Entrepreneurship*, 8(3), 288-317. 10.1007/s10843-010-0052-z
- Sonenshein, S. (2014). How organizations foster the creative use of resources. *Academy of Management Journal*, 57(3), 814-848.
- Stachowski, C. A. (2012). The niche marketing strategy in internationally-oriented small and medium enterprises: A literature review and lessons for New Zealand. *Small Enterprise Research*, 19(2), 96-112.
- Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of Organizations* (pp. 142-193). Chicago: Rand McNally.
- Storbacka, K., & Nenonen, S. (2011). Markets as configurations. *European Journal of Marketing*, 45(1/2), 241-258.
- Suarez, F. F., Grodal, S., & Gotsopoulos, A. (2015). Perfect timing? Dominant category, dominant design, and the window of opportunity for firm entry. *Strategic Management Journal*, 36(3), 437-448. 10.1002/smj.2225
- Suarez, F. F., & Utterback, J. M. (1995). Dominant designs and the survival of firms. *Strategic Management Journal*, 16(6), 415-431.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571-610.
- Sui, S., & Baum, M. (2014). Internationalization strategy, firm resources and the survival of SMEs in the export market. *Journal of International Business Studies*, 45(7), 821-841.
- Sui, S., Baum, M., & Malhotra, S. (2016). *The peer effect: Home-peer entry density, internationalization strategies and the export market exit of SMEs*. Paper presented at the Annual meeting of the Academy of International Business, New Orleans

- Swaminathan, A. (1996). Environmental conditions at founding and organizational mortality: A trial-by-fire model. *Academy of Management Journal*, 39(5), 1350-1378.
- Sydow, J., Schreyogg, G., & Koch, J. (2009). Organizational path dependence: Opening the black box. *Academy of Management Review*, 34(4), 689-709.
- Tang, M.-J., & Thomas, H. (1992). The concept of strategic groups: Theoretical construct or analytical convenience. *Managerial & Decision Economics*, 13(4), 323-329.
- Tavory, I., & Timmermans, S. (2013). A pragmatist approach to causality in ethnography. *American Journal of Sociology*, 119(3), 682-714.
- Technology Investment Network. (2011). TIN 100 report. Retrieved from <http://www.tinetwork.co.nz/TIN100+Report.html>
- Terlaak, A., & Gong, Y. (2008). Vicarious learning and inferential accuracy in adoption processes. *Academy of Management Review*, 33(4), 846-868.
- Terlaak, A., & King, A. A. (2007). Follow the small? Information-revealing adoption bandwagons when observers expect larger firms to benefit more from adoption. *Strategic Management Journal*, 28(12), 1167-1185.
- Thornton, P. H., & Ocasio, W. (2008). Institutional logics. In R. Greenwood, C. Oliver, R. Suddaby & K. Shalhin (Eds.), *The SAGE Handbook of Organizational Institutionalism*. (pp. 99-129). London: SAGE Publications.
- Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *Institutional logics perspective: A new approach to culture, structure and process*. Oxford: Oxford University Press.
- Timmermans, S., & Tavory, I. (2012). Theory construction in qualitative research: From grounded theory to abductive analysis. *Sociological Theory*, 30(3), 167-186. 10.1177/0735275112457914
- Tolstoy, D. (2014). Differentiation in foreign business relationships: A study on small and medium-sized enterprises after their initial foreign market entry. *International Small Business Journal*, 32(1), 17-35.
- Tsoukas, H. (1989). The validity of idiographic research explanations. *Academy of Management Review*, 14(4), 551-561.
- Tsoukas, H., & Chia, R. (2002). On organizational becoming: Rethinking organizational change. *Organization Science*, 13(5), 567-582.
- Tushman, M. L., & Romanelli, E. (1985). Organizational evolution: A metamorphosis model of convergence and reorientation. *Research in Organizational Behavior*, 7, 171-222.
- United States International Trade Commission. (2010). *Small and medium-sized enterprises: Overview of participation in US exports*. Washington DC: USITC.
- United States Securities and Exchange Commission. (2015). Company Filings. In EDGAR. Retrieved from <http://www.sec.gov/edgar/searchedgar/webusers.htm>
- United States Small Business Administration. (2015). Summary of size standards by business sector. In *About SBA*. Retrieved from <https://www.sba.gov/content/summary-size-standards-industry-sector>
- Upson, J. W., & Ranft, A. L. (2010). When strategies collide: Divergent multipoint strategies within competitive triads. *Business Horizons*, 53(1), 49-57. 10.1016/j.bushor.2009.09.001
- Vahlne, J.-E., & Johanson, J. (2013). The Uppsala model on evolution of the multinational business enterprise - from internalization to coordination of networks. *International Marketing Review*, 30(3), 189-210.
- van de Ven, A. H. (1992). Suggestions for studying strategy process: A research note. *Strategic Management Journal*, 13, 169-191.
- van de Ven, A. H., & Huber, G. P. (1990). Longitudinal field research methods for studying processes of organizational change. *Organization Science*, 1(3), 213-219.
- van de Ven, A. H., & Poole, M. S. (1989). Methods for studying innovation processes. In A. H. van de Ven, H. L. Angle & M. S. Poole (Eds.), *Research on the management of innovation*. New York: Oxford University Press.
- van de Ven, A. H., & Poole, M. S. (1995). Explaining development and change in organizations. *Academy of Management Review*, 20(3), 510.
- van de Ven, A. H., & Poole, M. S. (2005). Alternative approaches for studying organizational change. *Organization Studies*, 26(9), 1377-1404.

- Värlander, S., Hinds, P., Thomason, B., Pearce, B. M., & Altman, H. (2016). Enacting a constellation of logics: How transferred practices are recontextualized in a global organization. *Academy of Management Discoveries*, 2(1), 79-107. 10.5465/amd.2015.0020
- Venkataraman, S., Sarasvathy, S., Dew, N., & Forster, W. R. (2012). Reflections on the 2010 AMR Decade Award: Whither the promise? Moving forward with entrepreneurship as a science of the artificial. *Academy of Management Review*, 37(1), 21-33.
- von Hippel, E. (1988). *The sources of innovation*. New York: Oxford University Press.
- Voronov, M., & Yorks, L. (2015). "Did you notice that?" Theorizing differences in the capacity to apprehend institutional contradictions. *Academy of Management Review*, 40(4), 563-586. 10.5465/amr.2013.0152
- Walker, K., Schlosser, F., & Deephouse, D. L. (2014). Organizational ingenuity and the paradox of embedded agency: The case of the embryonic Ontario solar energy industry. *Organization Studies*, 35(4), 613-634.
- Weick, K. E. (1969). *The social psychology of organizing*. Reading, MA: Addison-Wesley.
- Welch, C., Piekkari, R., Plakoyiannaki, E., & Paavilainen, E. (2011). Theorising from case studies: Towards a pluralist future for international business research. *Journal of International Business Studies*, 42(5), 740-762.
- Welch, C., Rumyantseva, M., & Hewerdine, L. J. (2016). Using case research to reconstruct concepts. *Organizational Research Methods*, 19(1), 111-130. 10.1177/1094428115596435
- Welch, C., & Welch, L. S. (2009). Re-internationalisation: Exploration and conceptualisation. *International Business Review*, 18(6), 567-577. 10.1016/j.ibusrev.2009.07.003
- Wengraf, T. (2001). Interview 'facts' as evidence to support inferences to eventual theorization/representation models *Qualitative Research Interviewing*. London: SAGE Publications.
- Wennberg, K., & DeTienne, D. R. (2014). What do we really mean when we talk about 'exit'? A critical review of research on entrepreneurial exit. *International Small Business Journal*, 32(1), 4-16.
- Whetten, D. A. (2009). An examination of the interface between context and theory applied to the study of Chinese organizations. *Management and Organization Review*, 5(1), 29-55.
- Witt, M. A., & Redding, S. G. (2009). Culture, meaning, and institutions: Executive rationale in Germany and Japan. *Journal of International Business Studies*, 40(5), 859-885.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks: SAGE Publications.
- Yli-Renko, H., Autio, E., & Sapienza, H. J. (2001). Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic Management Journal*, 22(6/7), 587-613.
- Yu, C.-L., Wang, F., & Brouthers, K. D. (2015). Domestic and foreign competitor identification and firm performance. *European Journal of International Management*, 9(4), 463-483.
- Zaheer, A., & Bell, G. G. (2005). Benefiting from network position: Firm capabilities, structural holes, and performance. *Strategic Management Journal*, 26(9), 809-825.
- Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management Journal*, 38(2), 341-360.
- Zahra, S. A. (2005). A theory of international new ventures: A decade of research. *Journal of International Business Studies*, 36(1), 20-28.
- Zander, U., & Kogut, B. (1995). Knowledge and the speed of the transfer and imitation of organizational capabilities: An empirical test. *Organization Science*, 6(1), 76-92.
- Zettinig, P., & Benson-Rea, M. (2008). What becomes of international new ventures? A coevolutionary approach. *European Management Journal*, 26(6), 354-365.
- Zucchella, A., & Palamara, G. (2006). Niche strategy and export performance. *Advances in International Marketing*, 7(17), 63-87.
- Zucchella, A., Palamara, G., & Denicolai, S. (2007). The drivers of the early internationalization of the firm. *Journal of World Business*, 42(3), 268-280.