Department of Marketing

Marketing Investment Selection and Effectiveness in Growth-Oriented Private Firms

Source of Capital and Market-Based Assets as Contingencies

Mitch Tolo

Aalto University

DOCTORAL DISSERTATIONS

Aalto University publication series
DOCTORAL DISSERTATIONS 72/2014

Marketing Investment Selection and Effectiveness in Growth-Oriented Private Firms: Source of Capital and Market-Based Assets as Contingencies

Mitch Tolo

Aalto University
School of Business
Department of Marketing

Supervising professor
Professor Jaakko Aspara

Opponent
Professor Arvid Hoffmann, Maastricht University, the Netherlands

Aalto University publication series
DOCTORAL DISSERTATIONS 72/2014

ISBN 978-952-60-5694-4
ISBN 978-952-60-5695-1 (pdf)
ISSN-L 1799-4934
ISSN 1799-4934 (printed)
ISSN 1799-4942 (pdf)
http://urn.fi/URN:ISBN:978-952-60-5695-1

Unigrafia Oy
Helsinki 2014

Finland

Publication orders (printed book):
Unigrafia Bookstore Helsinki
http://kirjakauppa.unigrafia.fi/
books@unigrafia.fi

441 697
Printed matter

Author
Mitch Tolo

Name of the doctoral dissertation
Marketing Investment Selection and Effectiveness in Growth-Oriented Private Firms: Source of Capital and Market-Based Assets as Contingencies

Publisher School of Business

Unit Department of Marketing

Series Aalto University publication series DOCTORAL DISSERTATIONS 72/2014

Field of research Strategic marketing

Date of the defence 2 June 2014

☒ **Monograph** ☐ **Article dissertation** ☐ **Essay dissertation**

Abstract

Despite increasing attention to the financial implications of marketing investments in marketing literature, several aspects of the topic remain underresearched. Building on theories related to marketing investment effectiveness (i.e., corporate goal attainment through marketing investments), sources of capital (used to fund the investments), and market-based assets (e.g., brand equity, customer relationships), the present thesis empirically examines the marketing investments of privately-held firms whose main corporate goal is on business growth. Specifically, the present research addresses both (1) the selection of marketing activities by such firms, and (2) the effectiveness of the selected investment in terms of attaining the business growth goal.

The specific research questions are: (1a) What kind of marketing activities do privately-held growth-oriented firms select to invest their external funding in?; (1b) How do (i) the source of funding and (ii) strategic factors such as market-based assets affect the selection of marketing investments?; and (2) What configurations of marketing investments, sources of funding, and strategic factors such as market-based assets are effective in attaining the business growth goal? The research questions are examined with a sample of 200 growth-oriented private firms, merging survey data on their marketing investment selection, and objective data on their financial business performance.

The findings reveal how the source of capital and market-based assets as well as other strategic factors (e.g., business-to-consumer [B2C] vs. business-to-business [B2B] profile; business model) affect the selection of marketing investments, and the effectiveness of those investments for growth. Considering the effectiveness, the study indicates, for instance, that a combination of product development (PDM) investment, mass-produced product, debt funding, and extensive stocks of market-based assets was consistently associated with high growth in B2B context, while a combination of PDM investment, customized product, other equity funding (than entrepreneur herself), and modest stocks of domestic assets and assets abroad was associated with high growth in B2C context. Taken together, the findings further advance marketing science and practice by increasing understanding of the financial implications of marketing investments and, specifically, the roles of source of capital and market-based assets in marketing investment selection and effectiveness.

Keywords investment, marketing activities, market-based assets, capital structure, marketing effectiveness

ISBN (printed) 978-952-60-5694-4 **ISBN (pdf)** 978-952-60-5695-1

ISSN-L 1799-4934 **ISSN (printed)** 1799-4934 **ISSN (pdf)** 1799-4942

Location of publisher Helsinki **Location of printing** Helsinki **Year** 2014

Pages 236 **urn** http://urn.fi/URN:ISBN:978-952-60-5695-1

Acknowledgements

This dissertation is an outcome of joint efforts of countless individuals. First, Professor Jaakko Aspara, the supervisor of this thesis, has dedicated enormous amount of time for giving his ideas and challenging my thinking thourghout the process. Second, Professor Henrikki Tikkanen has given a great deal of encouragement during different phases of writing the dissertation. Third, Professors Petri Parvinen and Ashish Kumar have provided constructive criticism at several occasions.

To continue with, Matti Jaakkola and Iiro Vainiala made an important contribution questioning some of the solutions made in the work-in-process manuscript helping to develop the dissertation to where it stands today. Jukka Luoma has given sound methodological advice that has been of great help. Antti Vassinen also provided ideas on which I have been able to build on in writing the dissertation.

Everybody who has been part of the Department of Marketing at Aalto School of Business, thank you for having made the department such a great place to work. There are dozens of you who have given valuable comments or provided other professional support during my dissertation process. Thank you all! Pre-examiners, Professors Arvid Hoffmann and Kalle Pajunen, thank you for making the effort of going through the dissertation and giving some important suggestions that have increased the quality of the thesis.

Regarding funding of the thesis, I greatly appreciate the support from StratMark, GloStra and Next Media research projects as well as from the Department of Marketing at Aalto. There are also several foundations that have facilitated writing the dissertation. These include TeliaSonera Foundation, Furniture Foundation, Marcus Wallenberg Foundation, Finnish Foundation for Economic Education, Small Business Center Foundation, Yrjö Uitto Foundation, Jenny and Antti Wihuri Foundation and Helsinki School of Economics Foundation.

Finnvera, thank you for providing access to a rich set of data without which writing this study would not have been possible. Last, thank you for my friends and family for showing interest in my dissertation project as well as giving some other things to think about beyond the thesis.

Helsinki, May 2014

Mitch Tolo

Table of contents

1. Introduction

"Marketing investments" have attracted increasing attention in the marketing literature in the last decades. For instance, Luo (2008), Palmatier, Gopalakrishna and Houston (2006), and Rust, Lemon and Zeithaml (2004) have recently studied "return on marketing investment" by focusing on the links between companies' monetary inputs in marketing vis-à-vis marketing outcomes such as sales and profits (i.e., efficiency of marketing investments). Essentially the same financial links between marketing inputs and outcomes have also been analyzed and studied under the labels of "marketing productivity" (e.g., Low and Mohr 2001; Luo and Donthu 2006; Rust et al. 2004), and "marketing effectiveness" (e.g., Baidya and Basu 2008; Palmatier et al. 2008; Van Heerde, Helsen and Dekimpe 2007). In broader terms, the studies on marketing investments reflect a growing interest in marketing-finance interface in general (i.e., the finance implications of marketing strategies) (see review by e.g., Srinivasan and Hanssens 2009), and in the role of marketing vis-à-vis the financial assets and performance of the firm in particular (e.g., Srivastava, Shervani and Fahey 1998, 1999; Srivastava, Fahey and Christensen 2001).

However, despite the increasing interest in this topic, several aspects of marketing investments remain underresearched. Firstly, while there has been much focus on marketing investments from the "input-output" perspective regarding the *efficiency* of certain key marketing investments (e.g., the sales/profit/cash-flow responses of advertising expenditures), much less attention has been paid to the questions of which marketing activities firms *select* to invest in, in the first place, and what the *effectiveness*

of selected marketing investments is, in terms of firm goal attainment (cf. Kahn and Myers 2005). With the *selection* of marketing investments, I refer to managerial judgment of which marketing activities are worth substantial investments in the first place, given the firm's overall goals (e.g., fast business growth; see below). *Effectiveness*, in turn, refers to the actual effectiveness of those investments, a posteriori, in terms of goal attainment. Both these two, interrelated aspects of marketing investment effectiveness, have received much less attention in prior research than the input-output efficiency of individual marketing investments such as advertising or sales.

Second, while studies have focused on the financial performance outcomes of marketing investments, they have largely ignored the role that *sources of financing* play in influencing the selection of investments and/or their performance effectiveness. Moreover, beyond the source of financial assets, the role played by strategic*, market-based assets* (e.g., customer relationships or brand equity; Srivastava, Fahey and Christensen 2001) has also been overlooked, as a determimant of marketing investments and effectiveness. Indeed, while market-based assets as well as financial assets have been studied both as an outcome as such, and as a determinant of financial performance (see Srinivasan and Hanssens 2009; Brav 2009; Olowoniyi and Ojenike 2013; Stahl et al. 2012), their contingency role in shaping marketing investment selection and their outcome effectiveness has not been much studied. This lack of attention to the contingency factors of the source of capital and market-based assets constitutes a significant short-coming, since there is some preliminary conceptual work (Srivastava, Shervani and Fahey 1998; Franck and Huyghebaert 2004; cf. Matsa 2010) indicating that

capital sources and structure as well as market-based assets are among contingent variables that may significantly influence marketing investments.

Third, and finally, most of the extant studies on marketing investments have concentrated on studying incumbent, stock-exchange listed companies. Consequently, firms where marketing investments potentially play an even bigger, highly strategic role—growth-oriented private firms not listed on the stock market (cf. Asker, Farre-Mensa and Ljungqvist 2012; Eisenmann 2006)—have been understudied when it comes to marketing investments. The importance of private firms for national economies is significant: in the U.S., for example, private firms accounted for 67.1 per cent of private-sector employment and 57.6 per cent of sales in 2007, whereas only .08 per cent of U.S. firms were stock-exchange-listed in 2007 (Asker, Farre-Mensa and Ljungqvist 2012). Even more importantly, the *growth* goal of privately-held firms often directly calls for heavy investments in marketing, because these investments play a remarkable role in achieving growth targets (Eisenmann 2006). At the same time, growth-oriented private firms may be forced to be rather selective about which marketing activities they invest in, because they have limited resources, as well as often need to acquire external financing to fund larger investments. These aspects make growth-oriented private firms all the more important to study when it comes to marketing investment selection and effectiveness (in terms of achieving growth) as well as the role played by the source of capital and market-based assets therein.

Against this backdrop, the present dissertation addresses the aforementioned research gaps by investigating the following research questions:

1 a (Marketing investment selection:) What kind of marketing activities do privately-held growth-oriented firms select to invest their external funding in?

1 b (Marketing investment selection:) How do (*i*) the source of funding and (*ii*) extant market-based assets affect the selection of marketing investments?

2 (Marketing investment effectiveness:) What configurations of marketing investments, sources of funding, and strategic factors such as market-based assets are effective in attaining the goal of firm business growth?

As apparent in the above research questions, I adopt a configurational research approach, focusing on the combinations of a number of contingency factors (e.g.. Fiss 2007; Meyer, Tsui and Hinings 1993; Ragin 2008), in determining (1) marketing investment selections and (2) their effectiveness in terms of growth. Regarding the different marketing investments, I adopt a broad definition of marketing activities, not focusing merely on sales, advertising, and promotion investments, but rather the key activities of marketing in broad: product development management (PDM) activities, supply chain management (SCM) activities, and customer relationships management (CRM) activities (of which the sales, advertising and promotion activities are part; Srivastava, Shervani and Fahey 1999). In examining the research questions, I utilize (a) survey data on marketing investment selection and (b) objective data on financial performance measures of 200 growth-oriented, privately-held firms. The analysis methods include statistical analyses such as linear and logistic regression analyses, as well as a novel set-theoretic configurational method—fuzzy-set qualitative comparative analysis (FSQCA) (cf. Fiss 2007; Ragin 2008). The FSQCA, especially, enables studying

how several variables interact with each other and combine, in configurations, to produce a specific outcome—in the present case, high business growth.

The empirical analysis supports the notion that combinations of several variables rather than individual independent variables determine marketing investment selection as well as their effectiveness (cf. Fiss 2007). The analysis reveals, for example, that the impact of capital structure (or source of capital) on CRM spending is less straightforward than the relationship found by Grullon, Kanatas and Kumar (2006). Grullon and colleagues find a negative correlation between debt funding and advertising spending. According to the results of this dissertation the relationship depends on strategic factors such as market-based assets. In business-to-business (B2B) context, a combination of no product or service on offer and entrepreneur herself as main funder is associated with higher likelihood to invest in CRM. In business-to-consumer (B2C) setting, on the other hand, a combination of extensive stocks of market-based assets abroad and either entrepreneur herself as main funder or other equity funding is associated with higher likelihood to invest in CRM.

Also, the analysis shows that the impact of PDM spending on business growth depends on source of funding and market-based assets. Thus, this impact should perhaps not be examined in isolation (cf. Erickson and Jacobson 1992). As specific findings, I find, for example, that the combination of PDM investment, extensive stocks of market-based assets, debt funding, and a business-model of mass-produced product consistently leads to high business growth in B2B context. Alternatively, in B2C context, the combination of PDM investment, modest stocks of domestic assets and assets abroad, other equity funding, and customized product, for example, is consistently associated

with high business growth. Taken together, my efforts yield a contingent view of marketing investments. That is, marketing investment selection and the effectiveness of selected marketing investments are conditional on source of capital, market-based assets, and product-market profile. Essentially, the findings of this thesis further advance marketing science and practice by providing more understanding of and insights to different types of marketing investment and their effectiveness in growth-oriented private firms.

2. Theoretical Background and Literature Review

2.1. Monetary investments in marketing: literature review

The essential focus of this dissertation is on firms' investments in marketing—as measured in monetary or financial terms (as opposed to e.g., certain investments' managerially perceived importance). Therefore, I start the conceptual development in this part by reviewing extant research that touches on monetary investments in marketing. This research has been conducted in various, partly overlapping and partly distinct streams of literature, including literature on "marketing effectiveness", but also literatures on "marketing efficiency", "return on marketing investment (ROMI)", and "marketing productivity". As outlined in the Introduction, this study contributes primarily to "marketing effectiveness" stream, focusing on (a) marketing investment selection and (b) attainment of the firm's goals with the selected investments, especially sales and profitability growth. However, the other streams are briefly reviewed as well, due to their partly overlapping nature.

Conceptually, marketing "effectiveness" is a fundamental determinant of overall performance of an organization and it is traditionally viewed as a construct predicated on *attainment* of the firm's ultimate (marketing) *goals* (Kahn and Myers 2005). This effectiveness contrasts with (marketing) "efficiency", which refers rather to the transformation ratio between a certain level of marketing input and a certain level of sales/profit output or response (see marketing "efficiency" below). Clark (2000) implies that ultimate goal-effectiveness is ultimately a more important concern for managers in evaluating performance of marketing than efficiency (i.e., input/output relationships). He also finds that effectiveness has a strong direct effect on performance and that it mediates

the effects of a number of other variables (e.g., efficiency, priority of program, adaptability). Regarding the assessment of marketing effectiveness, the dominant focus in recent research is on financial indicators instead of non-financial indicators (e.g., brand equity, customer satisfaction) (see review by Baidya and Basu 2008).[1] This is the case also in this dissertation. In this sense, this thesis adopts the aforementioned view, focusing on the attainment of corporate marketing goals of sales and profitability growth, in growth-oriented firms.

As effectiveness essentially refers to ”doing right things” (rather than the efficiency of “doing things right”, see Sheth and Sisodia 2002) in pursuit of certain goal(s), the effectiveness of marketing investments as a study topic raises two questions: (1) What marketing activities firms/managers select to invest in (i.e., what they presume to be the right things to make substantial investments in) and (2) to what degree those selected investments actually lead to goal attainment (e.g., business growth). These questions essentially reflect the main research questions of the present study. Thus, in the section that follows, I briefly first review (1) what things or activities in principle constitute potential “marketing activities” in which managers can invest in the first place (i.e., from among which they select their marketing investments).

Thereafter, I move to review the literature related to (2a) the effectiveness of marketing investments in terms of goal attainment. In the same context, I also briefly review (2b) other related literatures concerning the outcome side of marketing investments (i.e., ROMI and marketing productivity), even if those literatures mostly

1 Conceptualized in certain ways, brand equity can also be a financial indicator. Mirzaei, Gray and Baumann (2011), for example, have brand sales among the variables determining brand equity in their conceptual study within marketing effectiveness stream.

focus on the input-output efficiency of investments rather than effectiveness. Regarding these adjacent literatures, I mostly focus on their arguments concerning marketing goal attainment and, specifically, the outcome measure of sales/profitability growth. This is due to the focus of the present study on privately-held, growth-oriented firms, whose marketing investment effectiveness should mostly be assessed vis-à-vis the ultimate goal of growth. Finally, I conclude the literature review and conceptual development by reviewing literature and theories related to (3) the potential roles that the source of capital for (marketing) investments as well as market-based assets play, in explaining the marketing investment selection and the effectiveness of marketing investments.

2.1.1. Potential marketing activities to be invested in

In line with the conceptualization of Srivastava, Shervani and Fahey (1999), marketing activities are conceptualized in this dissertation to include customer relationship management (CRM) activities, product development management (PDM) activities, and supply chain management (SCM) activities. This reflects a broad conceptualization of marketing as the activity domain that creates (PDM), communicates (CRM), and delivers (SCM) valuable offerings to customers (American Marketing Association AMA 2007). Obviously, this conceptualization of marketing is much broader in nature than some conceptualizations sometimes used at firms, which view marketing to constitute merely of advertising and PR activities, for instance.

More specifically, PDM activities include activities such as technological R&D and new product development (Peterson and Jeong 2010) as well as market research which product development is based on (Cooper and Little 1977). SCM activities, in turn, include activities such as the operation of product logistics or distribution (Robinson

1986) and the production of products to stock for effective delivery (Bush and Underwood III 2007). Lastly, CRM activities include, most notably, the activities of the sales function or organization (Palmatier et al. 2008), as well as marketing communications activities such as advertising (Baidya and Basu 2008) and public relations (PR) (Low and Mohr 2001). In any case, and "broadly speaking, all marketing activities have the purpose of generating revenue through creating value to customers in product and service markets" (Bush and Underwood III 2007). Investments in any of these marketing-related activities can therefore have significant effects on the firm's business performance (Lee et al. 2006) in terms of growth for instance. Notably, I will give a more detailed outline of specific marketing activities, in which firm managers can select to invest in, in the Research Methodology part of this dissertation, when introducing the survey instruments utilized.

In general, firms often make heavy investments in one or more of these marketing activities (e.g., Palmatier, Gopalakrishna and Houston 2006). However, the extant academic research on monetary investments in marketing focuses mostly on firms' investments in just two of the aforementioned marketing activities: (1) marketing communications (Low and Mohr 2001; Luo and Donthu 2006), particularly advertising (Erickson and Jacobson 1992; Van Heerde, Helsen and Dekimpe 2007); and (2) technology-oriented research and development (R&D) (e.g., Balasubramanian and Kumar 1990; Erickson and Jacobson 1992; Metwally 1997; Peterson and Jeong 2010). At the same time, what has been much less studied are the monetary investments done in the other relevant marketing activities—such as customer relationship management (CRM) activities *other than* advertising and communications (e.g., personal selling and salesforce

[cf. Albers, Mantrala and Sridhar 2010; Baidya and Basu 2008; Clark, Rocco and Bush 2007]); product development management (PDM) activities *other than* technological R&D (e.g., market research [cf. Cooper and Little 1977]); and supply chain management (SCM) activities altogether (e.g., distribution channels [cf. Koku 2011]). Of course, surveys on the relative importance (as perceived by managers) of a wider set of marketing activities related to CRM do exist (e.g., Palmatier, Gopalakrishna and Houston 2006), but marketing investments done, in monetary terms, still remain understudied when it comes to other marketing activities than advertising and R&D. Thus, an examination of selected monetary investments done according to a broad conceptualization of marketing (as consisting of a wide variety of PDM, SCM, and CRM activities) is, as such, one contribution of the present study.

Similarly as marketing investment research in general, research on marketing investment *effectiveness* in particular has also been mostly limited to the effectiveness of just advertising. For example, Van Heerde, Helsen and Dekimpe (2007) refer to "marketing effectiveness", but still focus merely on the effectiveness of advertising investments (plus pricing). In a similar vein, studies in ROMI and marketing productivity research streams also tend to neglect inputs in other marketing activities than advertising, sales, and promotion. For example, within marketing productivity stream, Donthu, Hershberger and Osmonbekov (2005) operationalize marketing input as "advertising and promotion expenses". At any rate, in this dissertation, marketing effectiveness refers to effectiveness of marketing activities in broad (cf. Srivastava, Shervani and Fahey 1999), including also the other important marketing activities than advertising, promotion, and sales—that is, all the relevant PDM, SCM, and (other) CRM activities.

2.1.2. Effectiveness of selected marketing investments

As the commonplace notion goes, effectiveness is concerned with doing the right things, rather than doing things right (Drucker 1986). Therefore, the selection of which marketing activities ("things") to invest in, in the first place, is paramount for any consideration of marketing investment effectiveness. Correspondingly, which marketing activities managers of (growth-oriented private) firms select to make substantial investments in, is the first research question of this dissertation, as outlined in the Introduction.

The second aspect—and research question—about marketing effectiveness deals with the actual, realized effectiveness of the (selected) marketing investments, vis-à-vis the *goals* of the firm in question. The conceptualization of marketing effectiveness vis-à-vis certain goals is, indeed, the second commonplace aspect in literature definitions of marketing effectiveness—besides the question of which marketing activities to invest in, in the first place. In her summary of definitions of key concepts related to marketing performance, Gao (2010) for instance, defines marketing effectiveness as "comparisons of performance to the goals formulated from market strategy". Kahn and Myers (2005) also note that marketing effectiveness is traditionally viewed as an output variable predicated on the attainment of marketing goals such as market share growth, sales growth, and market position.[2]

In their study, Baidya and Basu (2008) argue that to assess the effectiveness of marketing expenditures, their effectiveness needs to be assessed against both financial

2 Likewise, Clark (2000) defines marketing effectiveness as the distance between what was expected to result from a marketing program and results as returned.

goals/indicators (e.g., sales, profits, ROI) and non-financial goals/indicators (e.g., customer satisfaction index, brand awareness, customers' purchase intentions)[3]. However, since this study is expressly focused on the marketing *investment* effectiveness (rather than just marketing [content] effectiveness), and since the focal firms—growth-oriented private firms—have sales and profitability growth as their primary marketing goal, the present focus is merely on these key financial goals of sales and profitability growth. This is in line with the conceptual study of Mirzaei, Gray and Baumann (2011), who propose that marketing effectiveness essentially should be measured using objective metrics—of which sales and profitability are the most important. Likewise, Palmatier et al. (2008), who study relationship marketing effectiveness, have as their key outcome the firm's overall sales performance (a composite of sales growth, share expansion, and achieving sales goals).

Notably, the fact that the present study focuses on both the variety of marketing activities which firms select to invest in, and their effectiveness in achieving growth goals, also forges a link between the present study and the classic "marketing audit" concept. Indeed, marketing audit is a concept linked to early studies on marketing effectiveness (see Morgan, Clark and Gooner 2002). These studies described marketing audit as "a systematic, critical, and impartial review of the total marketing operation; of the basic objectives and policies of the operation and assumptions that underlie them; and the methods, procedures, personnel, and organization employed to implement the policies and achieve the objectives" (Shuchman 1959, p.13). Like visible in this definition, the marketing audit concept underlines a focus on both the variety of marketing activities

3 Non-financial indicators of marketing effectiveness also include customer retention rate and web site visits, for instance (Lenskold 2002).

performed ("policies implemented") and their effectiveness in achieving goals or objectives ("to achieve the objectives"). Nevertheless, marketing audit, as a concept, is naturally more meant as a step-by-step evaluation process of an individual firm's marketing activities as well as marketing organization, whereas the present study rather pursues an investigation of firms' investments in marketing activities in general, and their generalizable outcome effectiveness across firms.

Regarding the previous literature further, it must also be noted once more, that the operationalizations of marketing effectiveness in previous studies have often been limited, implicitly or explicitly, to the effectiveness of a certain, limited set of marketing activities ―most often advertising and sometimes price promotions (the marketing audit studies constituting notable exceptions). As mentioned above, Van Heerde, Helsen and Dekimpe (2007), for instance, actually study the effectiveness of just advertising spending and pricing even if they refer to "marketing effectiveness" in broad. Certain other "marketing effectiveness" studies, in turn, do examine a wider variety of marketing mix variables including product lines and (price) promotions (e.g., Ataman, van Heerde, and Mela 2010; Bezawada and Pauwels 2013; Nijs et al. 2001; Pauwels, Hanssens and Siddarth 2002) but do not focus on *monetary* or financial investments in those marketing mix components―but instead, on simple numbers/volumes of promotion actions or product lines. Moreover, despite referring to marketing "effectiveness", these studies in fact focus on marketing "efficiency" in the sense of studying the shape of how brand or product level sales responds to the marketing mix components, rather than on marketing effectiveness in terms of the firm's ultimate growth goals, which is the present study's key focus.

At any rate, the aforementioned studies (e.g, Baidya and Basu 2008; Mirzaei, Gray and Baumann 2011; Van Heerde, Helsen and Dekimpe 2007) are the key recent studies that literally and explicitly deal with the "effectiveness" of marketing investments, and imply that marketing effectiveness is concerned with (*i*) the selection of right marketing activities to invest in and the (*ii*) performance outcomes of those investments vis-à-vis firm goals (presently sales and profitability goals). However, part of the same issues are also dealt with in literature streams that do not refer explicitly or literally to marketing "effectiveness", but rather to "return on marketing investments (ROMI)" or "marketing productivity". Although these streams, in fact, primarily deal with the input-output *efficiency* of marketing investments (and not on effectiveness in the present sense of selection of marketing investments and their outcomes vis-à-vis goals), I briefly review these literatures next as well, to relevant parts[4]. I also indicate how the present conceptualization of and focus on marketing effectiveness relates to the views of these adjacent literatures.

2.1.3. Other related literatures on marketing investments

Return on marketing investment (ROMI). Studies on ROMI generally focus on the links between companies' monetary inputs in marketing vis-à-vis the marketing outcomes/outputs—the general issue which this study also deals with. At the same time, the philosophy and view mostly adopted in the ROMI literature is one that focuses on firms' *efficiency* in transforming certain level of marketing inputs (e.g., advertising investments) into certain level of outputs such as sales and profits. In other words, does a

4 The brief review of these literatures is warranted also because the literatures partly overlap with the marketing effectiveness literature. For example, Rust et al. (2004) actually use term "marketing effectiveness" interchangeably with term "marketing productivity".

certain marketing investment create a change in outcome measures such as sales or profitability, how large a change, and what shape of a change (e.g., Erickson and Jacobson 1992)? This literature, having some of its roots in the traditional "sales-response" studies of advertising (i.e., what level and form of response in sales does advertising create? e.g., Marquardt and Murdock 1984) and of other marketing mix actions (e.g., the aforementioned studies: Ataman, van Heerde, and Mela 2010; Bezawada and Pauwels 2013; Nijs et al. 2001), does not therefore directly deal with the marketing *effectiveness* issue on which the present study focuses: What marketing activities are selected for investment in the first place, and do those selected investments serve to realize the firm's goals, especially sales and profitability growth? Rather, the focus of ROMI studies is on the *degree* and *shape* in which certain levels of particular investments in marketing (usually in one particular marketing activity such as advertising) change the firm's sales or profitability performance.

Nevertheless, since the ROMI studies in any case deal with marketing investments and outcomes at the general level, it is illustrative to provide a brief review of these studies as well, despite their primary focus on efficiency instead of effectiveness. Regarding monetary marketing investment *inputs*, the majority of studies in ROMI stream focus, once again, on investments in advertising and/or selling. Different variations of this measure of course exist. Luo (2008), for instance, measures the firm's selling, general and administrative expenses (SG&A expense), with technological research-and-development expenses (R&D expense) subtracted (i.e., SG&A expense –

R&D expense)[5], and scaled by total assets. Luo (2008) also points out that some prior studies have used also selling, general, and administrative expenses to measure the marketing investments/spendings.

In terms of the *outcomes/outputs*, in turn, ROMI studies indeed focus on marketing outcomes in monetary terms, since any return of investment calculations would not be possible otherwise. For instance, Lenskold (2002) concentrated on return in terms of firm-level profits, and Streukens, Van Hoesel and De Ruyter (2011) took a similar approach focusing on returns in terms of profitability percentages. In turn, Palmatier, Gopalakrishna and Houston (2006) chose a customer-specific measure for their marketing outcome of interest, namely customer-specific profitability. Other outcome measures have included (changes in) the firm's customer equity (Rust, Lemon and Zeithaml 2004), investor valuation of the firm (Srinivasan and Hanssens 2009), and Initial Public Offering performance (Luo 2008). Finally, in his conceptual ROMI study, Stewart (2008) identifies three broad types of marketing outcomes: short-term changes in sales, longer-term changes in brand equity, and creation of real option. Figure 1 illustrates his argument. Notably, the present study deals mostly with the short-term effects and long-term effects of the selection of marketing investments that firms make (i.e., the two leftmost boxes of Figure 1). First, effectiveness of marketing investment is assessed in short- to medium-term, using incremental sales and profitability growth as key performance measures. Second, market-based assets are examined as a key contingency that influences both investment selection and effectiveness, even if performance effects

5 Note that in the present study, in contrast, product development expenses are seen to be part of marketing investments.

on intangible assets such as brand equity (nor on real options and future opportunities; per the rightmost box in Figure 1) are not in the present focus.

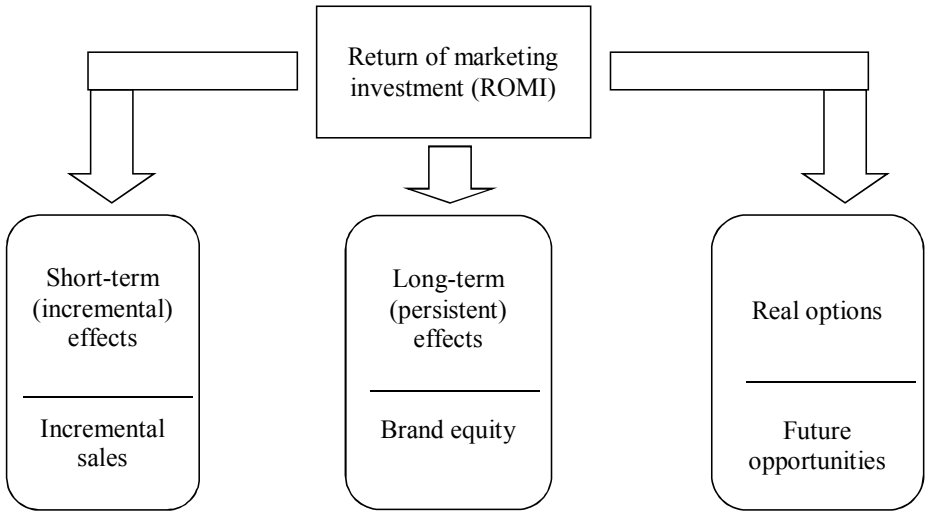


Figure 1 Three types of ROMI (adapted from Stewart (2008, 2009))

With these inputs and outputs, the ROMI studies typically focus on the degree and shape in which certain levels of investments in marketing inputs (especially advertising/sales) change the firm's sales or profitability performance as output. The focus is also on examining factors that might moderate or change that degree and shape. For instance, Gatignon (1984) early demonstrated that competition moderates the degree of effect that advertising investments have on sales/profits. Moreover, another objective in many ROMI studies (e.g., Rust, Lemon and Zeithaml 2004) is to develop and apply new *models or methodologies* for measuring the degree and shape in which marketing spendings generate changes in sales or profitability outcomes, or for selecting optimum

marketing budgets given those likely outcomes (Streukens, Van Hoesel and De Ruyter 2011).

Marketing productivity. Another related, adjacent literature stream is that referring to "marketing productivity". Again, the literatures are overlapping to a certain extent. For example, Palmatier, Gopalakrishna and Houston (2006) use terms "return on marketing investment" and "marketing productivity" interchangeably in their study. At any rate, marketing productivity—like ROMI—is usually also seen or defined as the efficiency-type relationship of marketing outputs to marketing inputs (e.g., Hawkins, Best and Lillis 1987; Luo and Donthu 2006; Sheth and Sisodia 2002; White, Miles and Smith 2001). In fact, Donthu, Hershberger and Osmonbekov (2005), for instance, explicitly refer to "marketing productivity" as "marketing efficiency". Therefore, the outputs and inputs studied in marketing productivity literature are often similar as in the ROMI literature. For instance, in terms of measuring outputs in marketing productivity stream, Bush and Underwood III (2007) propose that the appropriate measure of output is the total dollar contribution margin produced by the marketing effort. In the study of Anderson and Weitz (1986), the outcome of interest is revenues produced by the marketing effort minus the direct costs of engaging in the activity. On the input side, the productivity studies have, again, mostly focused on advertising and sales expenditure/investments (e.g., Donthu, Hershberger, and Osmonbekov 2005; Horsky and Nelson 1996).

While this focus on marketing efficiency is the general picture of marketing productivity literature, it must be noted that in certain instances, scholars' views of

marketing productivity also reflect the present view of marketing *effectiveness*. For instance, Low and Mohr (2001), Sheth and Sisodia (2002), and Clark, Rocco and Bush (2007), conceptualize marketing productivity as a combination of *both* the degree to which marketing goals are achieved (marketing effectiveness i.e., doing the right things) *and* the ratio of marketing outputs to marketing inputs (marketing efficiency i.e., doing things right). To complicate matters further, Ambler et al. (2001; see also Gao 2010) refer to this same marketing productivity as "marketing performance". In turn, as mentioned above, Bezawada and Pauwels (2013) and Ataman, van Heerde and Mela (2010) refer to (long-term) marketing effectiveness, even if they are studying the sales-response type of marketing efficiency, and Rust, Lemon and Zeithaml (2004) use terms "marketing productivity" and "marketing effectiveness" interchangeably, even if they also concentrate on ROMI-type of efficiency. Similarly, in Rust et al.'s (2004) conceptual study, they point out that marketing "effectiveness" ultimately involves projecting the differences in cash flows that occur from implementation of an individual marketing activity, even if this "differences" view clearly reflects the standard input-output/response notion of marketing efficiency.

2.1.4. Summary of marketing effectiveness and adjacent literatures

Table 1 lists the most relevant studies of prior literature on marketing effectiveness, whereas Tables 2 and 3 concentrate on the adjacent literatures on ROMI and marketing productivity, respectively. Additionally, Appendix A presents the data and methods of empirical studies of Tables 1, 2 and 3. Despite the terminological inconsistencies as well as overlaps in the relevant streams of prior literature, a summary of the present study's positioning in the literature can be provided as follows.

First of all, the present study is positioned and aims to contribute primarily to the discourse on marketing effectiveness, in the sense of (*i*) which marketing activities managers of (growth-oriented private) firms select to make significant investments in and (*ii*) what is the actual, realized effectiveness of the (selected) marketing investments, vis-à-vis the ultimate *goals* of the firm in question, especially sales and profitability growth. The focus on selection of (right) investments in the first place as well as their contribution to the firm's goals is in line with the most common notion (e.g, Baidya and Basu 2008; Kahn and Myers 2005; Mirzaei et al. 2011; Van Heerde et al. 2007) of marketing effectiveness as dealing with selecting the "right" things (to invest in) and with examining whether and how they serve the goal[6]. While consistent with this general notion regarding marketing investments, the present study, is to my knowledge among the first to empirically investigate (1) what factors determine the selection of marketing activities in which firm managers make substantial investments out of a large variety of marketing activities (i.e., the broad conceptualization of marketing as PDM, SCM, CRM), and (2) which selected investments, combined with contingency factors, are actually effective in attaining the goal of sales and profitability growth.

At the same time, the present study does *not* aim to primarily contribute to the study of input–output efficiency-type notions, prevalent in the wider marketing productivity and ROMI streams of literature (as well as in literature on marketing mix actions' sales-response functions). This is because as these streams focus on the *degree*

6 Thus, this study also concords with Sheth and Sisodia (2002) in the sense that marketing effectiveness mostly refers to choosing and defining the "right" marketing activities in the first place (while efficiency refers to doing those activities right and with proper resource input-output ratio). However, as a difference to Sheth and Sisodia, the present study is not concerned with what the ''right'' product, pricing, distribution, or communication strategy is (contentwise), but whether the selection of marketing activities in which (most) significant investments are made are "right", in serving the outcome of sales/profit growth.

and shape in which sales and profits (outputs) respond to certain levels of investments (inputs) in individual marketing activities (usually advertising/selling)—rather than on the selection of marketing activities to be invested in, in the first place, and the outcome effectiveness of these. However, the inevitable, partial overlap of these streams and notions means that some notions and findings of the ROMI and marketing productivity streams need to be taken into account, as well, in investigating marketing effectiveness. For instance, Luo and Donthu (2006) find that the effect of input-output efficiency or productivity of marketing communications investments on shareholder value is moderated by the firm's R&D intensity and competitive environment. Thus, even if Luo and Donthu's study focuses on the input-output efficiency of advertising, their results do imply that the simultaneous presence of high R&D investments in combination with efficient marketing communications investments and favorable competitive environment leads to high cash flow growth, i.e., effectiveness of those investments. This is especially relevant for the present research question 2, which asks which combinations of selected investments and contingency factors are effective in leading to high sales/profitability growth. It may also be partly relevant for research question 1, which asks how certain contingency factors will affect the selection of marketing investments in the first place.

Indeed, the examination of the contingency factors affecting (1) marketing investment selection and (2) their effectiveness for sales/growth are the other main contributions of this study. Both the focal marketing effectiveness research stream and the adjacent ROMI and marketing productivity streams have been rather silent on these factors, as further illustrated in Tables 1, 2 and 3. Indeed, a great share of the empirical studies so far (e.g., Baidya and Basu 2008; Erickson and Jacobson 1992; Palmatier et al.

2008; Streukens, Van Hoesel and De Ruyter 2011) treat the performance effects (either in the effectiveness or efficiency sense) of marketing investment as independent or unconditional of any strategy or contextual contingencies. It, however, seems naive to assume that performance effects (and marketing effectiveness) are unvarying or unconditional. Instead, performance effects may be more or less salient, depending on some contingencies. Some of the few contingent variables that are addressed in the previous literature include a firm-specific product-harm crisis (Van Heerde, Helsen and Dekimpe 2007), cost reduction efficiency of a firm (Luo 2008), and firm's R&D investment (Luo and Donthu 2006), as well as number of historical IPOs (Luo 2008) and competition (Gatignon 1984; Luo and Donthu 2006) in the industry of a firm[7]. Obviously, a plethora of firm- and industry-specific contingent variables remain little studied. Most notable of these are the market-based assets of the firm, and the source of capital which constitutes the funding of the significant marketing investments the firm selects to make. Relevant literatures on these factors are reviewed next, in the following section.

7 Additionally, relationship marketing literature has empirically examined customer's relationship orientation (Palmatier et al. 2008), as well as interaction frequency, commitment, experience, ownership interest, and CRM system (Palmatier, Gopalakrishna and Houston 2006) as moderators for performance effects. Moreover, studies focusing on brand- or product category – level effectiveness have addressed product nature, intrinsic value, product storability, marketing intensity, nonprice advertising, competition, new-product introductions, as well as product category nature as moderators for marketing effectiveness.

Table 1 Key studies touching on monetary investments in marketing: marketing effectiveness stream

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Clark	2000	Evaluating the performance of marketing	E	No	No. -	No	No	Effectiveness, efficiency, priority of program, adaptability.	Perceived performance.	PL
Nijs, Dekimpe, Steenkamp and Hanssens	2001	Category-demand effects of price promotions	E	No	Yes. Price promotions, new product introductions.	No	Marketing intensity, nonprice advertising, competition, new-product introductions, product category nature.	Price promotions, new product introductions.	Category-demand.	-
Pauwels, Hanssens and Siddarth	2002	Long-term effect of price promotions on brand sales components	E	No	No. Price promotions.	No	Product storability.	Price promotions.	Components of brand sales.	PG, PL
Miller and Cioffi	2004	Measuring marketing effectiveness	C	No	No. -	No	No	No	No	PL
Kahn and Myers	2005	Marketing effectiveness as a process and an outcome	C	No	No. -	No	Customers, competitors, environmental turbulence, senior management, marketing management, personnel diversity, resistance to change.	No	No	-

Table 1 *Continued*

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Van Heerde, Helsen and Dekimpe	2007	The impact of a product-harm crisis on marketing effectiveness	E	No	Yes. Advertising and pricing.	No	No	Investment level in marketing activities.	Baseline sales.	PL
Baidya and Basu	2008	The effectiveness of individual marketing efforts	E	No	Yes. Sales force, pricing, advertising, promotion, distribution.	No	No	Expenditure per marketing effort, customer's emotional reactions.	Sales, customer satisfaction, ROI.	PL
Palmatier, Scheer, Evans and Arnold	2008	Relationship marketing effectiveness	E	No	No. Relationship marketing.	No	Customer's relationship orientation.	Relationship marketing activities, trust in the salesperson (mediator) and exchange inefficiency (mediator).	Sales performance, share of wallet, prospensity to switch.	PL
Ataman, Van Heerde and Mela	2010	Long-term effects of marketing strategy on brand performance	E	No	Yes. Pricing, advertising, product, distribution.	Yes.	No.	Marketing mix.	Brand sales.	PL
Mirzaei, Gray and Baumann	2011	Brand equity as a measure of marketing effectiveness	C	No	No. -	No	No	No	Brand equity.	PL

Table 1 ***Continued***

Author(s)Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Bezawada 2013 and Pauwels	Marketing organic products	E	No	Yes. Promotion, pricing, assortment.	No	Product nature, intrinsic value.	Marketing activity.	Long-term own- and cross-brand elasticies of sales.	PL

Table 2 Key studies touching on monetary investments in marketing: return on marketing investment stream

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Gatignon	1984	The impact of competition on the sales response	E	No	No. Advertising.	Yes	Competition.	Advertising expenditures.	Consumer price elasticity.	PL
Robinson	1986	Treatment of marketing expenditure as investment	C	Yes	Yes. Promotion, personal selling, distribution, advertising.	Yes	No	Marketing expenditures.	No	-
Erickson and Jacobson	1992	Returns to R&D and advertising	E	Yes	Yes. R&D and advertising.	Yes	No	R&D and advertising expenditures, ROI, debt.	Accounting and stock market returns.	PL
Lenskold	2002	Hierarchy of marketing measurements	C	Yes	No. -	Yes	No	No	Profits.	-
Rust, Lemon and Zeithaml	2004	Trading off competing marketing strategy options	E	Yes	Yes. Advertising, loyalty programs, quality improvements, corporate ethics.	Yes	No	Marketing strategy option expenditure.	Return on marketing investment.	PL

Table 2 ***Continued***

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Palmatier, Gopalakrishna and Houston	2006	Relationship marketing investments	E	Yes	Yes. Social, financial and structural relationship marketing.	Yes	Interaction frequency, commitment, experience, ownership interest, CRM system.	Customer-specific relationship marketing investments.	Customer-specific return.	PL
Seggie, Cavusgil and Phelan	2007	Measurement of the return on marketing	C	No	No. -	Yes	No	No	No	-
Luo	2008	The value of marketing spendings in the context of IPOs	E	No	No. -	Yes	Cost reduction efficiency and historical IPOs in the industry.	Marketing spendings.	IPO underpricing and trading.	PG
Stewart	2008	Types of marketing outcomes	C	Yes	No. -	Yes	No	No	No	PL
Srinivasan and Hanssens	2009	The impact of marketing on firm value	C	No	Yes. Pricing, distribution, new product introduction, promotion, advertising.	No	No	Marketing assets and actions.	Firm value.	PL
Streukens, Van Hoesel and De Ruyter	2011	Optimization and evaluation of marketing investments	E	Yes	No. -	Yes	No	Customer beliefs and attitudes, investment effort.	Marketing investment profitability.	PL

Table 3 Key studies touching on monetary investments in marketing: marketing productivity stream

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Steiner	1978	Measuring marketing productivity	E	No	Yes. Advertising and distribution.	Yes	No	No	No	PG, PL
Anderson and Weitz	1986	Analyzing make-or-buy decisions	C	No	Yes. Sales, distribution and advertising.	Yes	Vertical integration, administrative control, organizational culture.	Company-specific capabilities and scale economies, lack of competition in supplier market (mediator), environmental uncertainty, inability to monitor performance, free-riding potential, potential size or frequency of activity.	Efficiency.	-
Hawkins, Best and Lillis	1987	Benchmarking marketing productivity	E	No	No. -	No	No	Number of competitors, number of immediate customers, importance of auxiliary services to end users etc..	Marketing productivity.	PL
Wind	1987	Improving marketing productivity in financial services industry	C	No	No. -	No	No	No	No	-

Table 3 ***Continued***

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Horsky and Nelson	1996	Salesforce size and productivity	E	No	No. Salesforce.	Yes	No	Number of district salespeople.	Sales and profit response.	PL
Low and Mohr	2001	Marketing communications productivity	E	No	No. Marketing communications.	No	Formalization, the degree of group involvement.	Information quality, rationality of decision style, organization formalization, task complexity, market turbulence, group involvement.	Use of information in assessing marketing communication productivity.	PG, PL
White, Miles and Smith	2001	Marketing productivity in the context of SMEs	C	No	No. Advertising.	Yes	No	Marketing expenditure.	NPV.	PG
Morgan, Clark and Gooner	2002	Marketing performance assessment	C	No	No. -	Yes	No	Marketing strategy, corporate context, task environment, marketing performance assessment characteristics (mediator).	Performance.	PL

Table 3 *Continued*

Author(s)	Year	Focus	Conceptual (C) / Empirical (E)	Marketing Investment Selection	Impact of More than One Activity	Marketing Efficiency (Input Expenditure vs. Output)	Moderator(s)	Predictor(s)	Dependent Variable(s)	Private Growth Firms (PG) / Publicly Listed Firms (PL)
Sheth and Sisodia	2002	Assessing marketing productivity	C	No	No. -	Yes	No	Marketing spendings.	Customer NPV.	PG, PL
Rust, Ambler, Carpenter, Kumar and Srivastava	2004	Assessing marketing productivity	C	No	No. Advertising.	Yes	Environmental and competitive contexts.	Marketing expenditures.	Shareholder value.	PL
Donthu, Hershberger, and Osmonbekov	2005	Benchmarking marketing productivity	E	No	Yes. Advertising and promotion.	Yes	No	Advertising and promotion expenses, manager experience, number of employees.	Efficiency.	PL
Luo and Donthu	2006	Marketing communications productivity	E	No	Yes. Advertising and promotion.	Yes	R&D investment and competitive intensity.	Marketing communication productivity.	Shareholder value.	PL
Bush and Underwood III	2007	Measuring marketing productivity, effectiveness and efficiency	C	No	No. Customer relationship management.	Yes	No	Marketing effort.	Contribution return on marketing.	PL
Bush, Underwood III and Sherrell	2007	Relationship marketing and marketing productivity	C	No	No. Relationship marketing.	No	No	Marketing effort.	Firm value.	PL
Clark, Rocco and Bush	2007	Sales force automation and sales force productivity	C	No	No. Salesforce.	Yes	No	No	Sales force productivity.	-

Finally, there are two further issues to note, regarding the summary of the key literature streams. Firstly, most of the previous empirical studies concentrate on publicly listed firms (e.g., Erickson and Jacobson 1992; Luo and Donthu 2006; Rego, Billett and Morgan 2009), and, in fact, almost everything we know about marketing investment is based on evidence from publicly listed firms. As a notable exception among the key empirical studies, Luo (2008) examines the boundary between privately held and publicly listed firms, studying the value of marketing in the context of IPOs (i.e., when marketing strategy first meets Wall Street). However, and as outlined in the Introduction, little is known about marketing investments of privately-held firms, where in significant marketing investments are often needed to achieve growth goals[8]. This is why the present study focuses on growth-oriented private firms.

Secondly, regarding product profiles of firms, the majority of previous studies examine firms engaged in the product manufacturing (Baidya and Basu 2008; Erickson and Jacobson 1992; Hawkins, Best and Lillis 1987; Palmatier et al. 2008; Steiner 1978; Streukens, Van Hoesel and De Ruyter 2011; Van Heerde, Helsen and Dekimpe 2007) whereas only some analyze both product and service firms (Karantinou and Hogg 2007; Rust, Lemon and Zeithaml 2004) or concentrate on service firms (Donthu, Hershberger and Osmonbekov 2005). In contrast to many of these previous studies, I take the product profile (or business model) of the firm explicitly into account as one contingency factor.

Beyond product profile (and the B2C vs B2B nature of the firm), however, as specified in the Introduction, the key contingency variables in the focus of this dissertation are (a) the source of capital and (b) market-based assets —and their influence

8 In terms of conceptual studies, White, Miles and Smith (2001) study marketing productivity in the context of small and medium-sized enterprises (SMEs).

on marketing investment selection and effectiveness of growth-oriented private firms. Consequently, I move next to review pieces of evidence from extant research in marketing and related disciplines (especially finance) that suggest that marketing investment selection and effectiveness may be dependent on these contingencies.

2.1.5. Contingency roles of source of capital and market-based assets

Source of capital. The question of whether and how the source of capital that is allocated as a marketing investment can explain the marketing investment selection and effectiveness, remain largely unaddressed in extant research. Thus, this sub-section discusses pieces of evidence, mostly from *finance* literature, implying that capital structure (and consequently source of capital) may partly explain the marketing investment selection and effectiveness.

Regarding marketing investment *selection*, finance literature widely acknowledges that capital structure can influence firms' investment decisions (e.g., Dotan and Ravid 1985; Kovenock and Phillips 1997). Specifically, in the general framework of Franck and Huyghebaert (2004), capital structure is among the contingent variables that affect intangible investments such as R&D and advertising. This is essentially because equity holders and debt holders[9] may disagree on the investment decisions the firm should take as their payoffs differ (Franck and Huyghebaert 2004). Equity holders receive residual payoffs from successful risky investments whereas debt holders are only entitled to fixed debt servicing payments and thus prefer less risky investment projects (Franck

9 Even though finance theory indicates only two key stakeholders (i.e., equity holders and debt holders) for the investor perspective (Rego, Billett and Morgan 2009), this thesis examines also a third key stakeholder, that is government. This is because governments in several countries, such as in Finland and in France, finance firms' innovation activity with public subsidies (Hewitt-Dundas and Roper 2010).

and Huyghebaert 2004). In turn, perceived risk between different types of marketing investment may, indeed, vary. For example, R&D outcomes have high degree of uncertainty (e.g., Kotler et al. 2012: 618) and thus R&D investment may have added risk (Shi 2003) in comparison to some other types of marketing investments. For investments in other marketing activities (e.g., CRM, SCM), the effect of capital structure or source of capital remains, however, mostly unknown ―and is therefore treated as an empirical question and is subject to examination in the present study. At any rate, the preferences of the capital-holders or investors may, hence, affect the *selection* of certain marketing activities as investment targets, as managers will generally want and/or need to cater to investors' preferences in allocating capital to marketing actions (e.g., Chakravarty and Grewal 2011; Chapman and Steenburgh 2011; Markovitch, Steckel, and Yeung 2005).[10]

In terms of marketing investment *effectiveness*, the above argument allows the logical extension that the capital holders and structure may also affect the quality of marketing activity in which capital is invested (e.g., the content of a product or service concept or distribution channel structure) and, thereby, its outcomes―that is, the eventual effectiveness of the activity. Furthermore, Franck and Huyghebaert (2004) propose that the capital structure of a firm may even affect the behavior of firm's non-financial stakeholders such as customers. Thus, even the responsiveness of customers to marketing efforts (and subsequently marketing effectiveness) of a firm could depend on the firm's capital structure (and consequently source of capital allocated as a marketing investment).

10 Notice that also independent of the exact preferences of investors or capital holders, managers of growth-oriented private firms may lean towards selecting investment projects that have added risk and neglect projects with low risk. This is because often managers are rewarded for the gains but not penalized for the losses (Mizik and Jacobson 2007). Additionally, managers may be able to move on to new jobs before negative consequences transpire (Mizik and Jacobson 2007).

To sum up, pieces of evidence in extant research suggest that both marketing investment selection and effectiveness may indeed depend on the source of capital allocated as a marketing investment. However, the exact directions of such contingency effects are not clear based on the previous theory and findings. Therefore, the present study approaches these effects as an empirical question.

Market-based assets. Over and above financial assets (and their source of capital), market-based assets[11] are assets that arise from the commingling of the firm with entities in its external environment (Srivastava, Shervani and Fahey 1998). Such assets do not generally appear on the balance sheet, and are largely intangible. Yet, any firm has a certain stock of such assets, and the stocks of these assets can be developed, accumulated, augmented, and leveraged (Srivastava, Shervani and Fahey 1998). Examples of market-based assets include customer relationships (Karantinou and Hogg 2007; Rego Billett and Morgan 2009; Srivastava, Shervani and Fahey 1998), channel relationships (Rego, Billett and Morgan 2009; Srivastava, Shervani and Fahey 1998), other partner relationships (Srivastava, Shervani and Fahey 1998), market knowledge (Rego, Billett and Morgan 2009), brands (Hanssens, Rust and Srivastava 2009; Rego, Billett and Morgan 2009), and innovations (Hanssens, Rust and Srivastava 2009).

Market-based assets are principally of two related types: intellectual assets and relational assets (Srivastava, Fahey and Christensen 2001; Srivastava, Shervani and

11 Term "marketing assets" (e.g., Rust et al. 2004) is often used interchangeably with term "market- based assets".

Fahey 1998, 1999). Intellectual market-based assets[12] are intangible knowledge assets "residing within the firm's boundaries" (Srivastava, Fahey and Christensen 2001: 782). These include "many classes and types of knowledge about both the external and the internal environment" (Srivastava, Fahey and Christensen 2001: 782), such as market knowledge (Rego, Billett and Morgan 2009) and product-domain expertise (Fang, Palmatier and Grewal 2011), as well as "know-how embedded in individuals' or units' skills (e.g., sales force ability to cross-sell products and services)" and "process-based capabilities (e.g., new product introduction know-how or customer relationship management skills)" (Srivastava, Fahey and Christensen 2001: 782). Thus, intellectual market-based assets are, in essence, "know-what and know-how embedded in individuals and processes" (Srivastava, Fahey and Christensen 2001: 782).

Relational market-based assets, in turn, are "intangible assets associated with external organizations that are not owned or fully controlled by the firm", constituted of "relationships with and perceptions held by external stakeholders" (Srivastava, Fahey and Christensen 2001: 782). Specifically, relational market-based assets cover assets such as brand image and corporate reputation (Luo 2006; Srivastava, Shervani and Fahey 1998), customer relationships (Karantinou and Hogg 2007; Rego, Billett and Morgan 2009; Srivastava, Shervani and Fahey 1998), customer satisfaction (Luo 2006; Rust et al. 2004), customer loyalty, preference and purchase intentions (Rust et al. 2004), and extant sales and distribution channels (Hanssens, Rust and Srivastava 2009; Srivastava, Fahey and Christensen 2001; Srivastava, Shervani and Fahey 1998), as well as relationships to

12 Some studies refer to intellectual market-based assets with term "knowledge assets" (e.g., Ling-yee 2007).

strategic partners, providers of complementary goods and services, suppliers, and network and eco-system players (Srivastava, Fahey and Christensen 2001).

Regarding marketing investment *selection*, there is little direct evidence in extant research that marketing investment selection, in particular, would be affected by market-based assets. However, general management literature suggests that many of the firm's strategic choices will be affected by such assets. For instance, Hambrick and Lei (1985) argue that a firm's extant product quality (as perceived by customers)—which is one market-based asset—is a contingent variable of primary importance for many business strategy and investment decisions (see also Hofer 1975). As business strategy choices, in turn, largely determine the types of marketing activities in which firms invest (i.e., firms choose to invest in specific types of marketing activities to execute their business strategies), it is reasonable to assume that the firm's extant products in the market or some other market-based assets[13], should affect the selection of marketing investments as well. At the same time, rather than only focusing on individual market-based assets, it is realistic to expect that the *overall market-based asset structure or level* of the firm affects marketing investment selection. This assumption is consistent with the general framework of Franck and Huyghebaert (2004), which identifies contingencies that affect product market decisions. In their framework, asset structure as a whole is among the contingent variables that have effects on intangible investments such as R&D and

13 Hambrick (1983) notes that brand image, patents, and number of customers can be considered as contingent variables, and Birkinshaw, Nobel and Ridderstrale (2002) treat knowledge assets including technology, patents, brands, organizational routines, and human capital as a contingent variable. Furthermore, Kallapur and Trombley (1999) argue that a firm's investment opportunity set depends on knowledge assets such as human capital in place.

advertising. In the present empirical analysis, the focus is also on the market-based asset structure as a whole, rather than on individual assets.

Further, in terms of marketing investment *effectiveness*, it is logical to expect that market-based assets are also among the firm-specific factors which may moderate the performance outcomes of selected marketing investments. On the one hand, if a firm has a high degree of extant, accumulated market-based assets, it may be able to leverage those assets for higher firm performance, through the assets' ability to generate and sustain customer value (Srivastava, Fahey and Christensen 2001). In fact, several studies suggest that individual market-based assets have a positive impact on the effectiveness or efficiency of investments in individual marketing activities. Keller (1993) argues that broad brand recognition and strong brand image can increase effectiveness of marketing communications. Regarding marketing productivity, Hawkins, Best and Lillis (1987) as well as Smith and Park (1992) argue that the higher a firm's product quality (as perceived by customers), the more productive the marketing effort should be. Moreover, Luo and Homburg (2007) note that customer satisfaction boosts the productivity of advertising and promotion investments, and Rust et al. (2004) claim that marketing efforts such as advertising related to strong brands are productive. Still, Srivastava, Shervani and Fahey (1998) note that good relationships to customers as well as retailers and channel partners lead to higher sales force productivity.

On the other hand, it is also possible to argue the opposite: that is, a firm *without* extant, accumulated market-based assets could have more effective marketing efforts than a firm with accumulated stocks of market-based assets. This is mainly because early marketing efforts (e.g., advertising) of a firm with few market-based assets could actually

help to build up market-based assets, such as customer base, and thereby greater sales and profits (Robinson 1986). Later marketing efforts of a firm with accumulated stocks of market-based assets, in turn, may have less marginal effect in creating market-based assets such as new customers (Robinson 1986) and subsequently could be expected to have less impact on sales and profitability. Consistent with this argument, Hawkins, Best and Lillis (1987) argue that firms with accumulated market-based assets (e.g., large customer base) are characterized by low levels of marketing impact.

In sum, there is evidence that over and beyond the source of capital (of financial assets), the intangible market-based assets of the firm may shape both marketing investment selection and effectiveness. However, again, since the direction of such contingency effects is not established and opposing theoretical arguments exist regarding the matter, the present study approaches these contingency effects, too, as an empirical question.

Additional contingency: product profile. Besides the main contingent variables, source of capital and market-based assets, the present dissertation empirically investigates the contingency role of firm's product profile in explaining marketing investment selection and effectiveness as well. As product firms and service firms are different in many respects (e.g., tangibility of output [Miller and Foust 2003], production on demand or for inventory [Small Business 2013]), there are likely differences in the marketing investment selection and effectiveness between product firms and service firms. Consequently, whether the market offering of a firm is a product or a service could explain, as such, the marketing investment selection and effectiveness of the firm.

Moreover, it could be expected that also some other aspects of the product profile—notably the degree of product/service customization—could also affect the marketing investment selection and effectiveness. Indeed, as a general contingency to business strategy choices and investments, Hambrick and Lei (1985), argue that product customization is one of the important contingent variables. In the general framework of Franck and Huyghebaert (2004), product customization is also among the contingent variables that affect intangible marketing investments such as R&D and advertising.[14] Also, in terms of marketing productivity, Hawkins, Best and Lillis (1987), for instance, state that a firm with a customized offering will have higher marketing productivity than a firm with a mass-produced offering.

To continue with, even the distinctions between "product" and "service", or "mass-produced" vs. "customized" products/services, may not adequately capture the broad array of offerings that firms today are providing in the marketplace. For instance, revenue can be earned from complementary products or services, where primary unit of the offering is sold at lower price in the interest of making profits on another, complementary part of the offering (McGrath 2010). A classic example along these lines is elevator manufacturers who often accept low margins on new elevator installations in the expectation of revenues from on-going servicing contracts later on (cf. McGrath 2010). McGrath (2010) suggests that whether a firm has adopted this complementary product/service model affects the choice of marketing activities that the firm employs to sell its offering. Thus, the complementarity aspect of the product profile should also be

14 Consistent with the traditional view (cf. Chase and Garvin 1989) on customer solutions (i.e., customized combinations of products and services) (Tuli, Kohli & Bharadwaj 2007), I view customer solutions as customized extensions of stand-alone tangible products. Thus, in this dissertation, term "customized product" refers also to customized solutions/mechanisms consting of both products and services.

taken into account as a potential contingency to marketing investment selection and effectiveness.

Finally, a simple fact or dimension in which growth-oriented private firms differ from incumbent companies is that some growth-oriented private firms simply do not have any product or service at offer in the markets yet. This is because many growth firms are just in the process of developing their first product or service, and do not have one in the market yet. Consequently, it is logical to expect that firms only developing their products (to get income from it in the future) may select to make different marketing investments (and with different outcomes) than firms that already have a product on offer. In the context of this dissertation (i.e., growth-oriented private firms), it is thus reasonable to also examine the impact of this aspect of product profile on the marketing investment selection and effectiveness, as well.

To summarize, the aspects of the product profile (product vs. service; customized vs. not; complementarity-based vs. not; product in the market vs. not) may also affect the selection of marketing activities to invest in, as well as their later effectiveness. This is why I include these contingencies, as well, to the empirical examination of the determinants of marketing investment selection and effectiveness. Figure 2 summarizes the approach proposed in this dissertation.

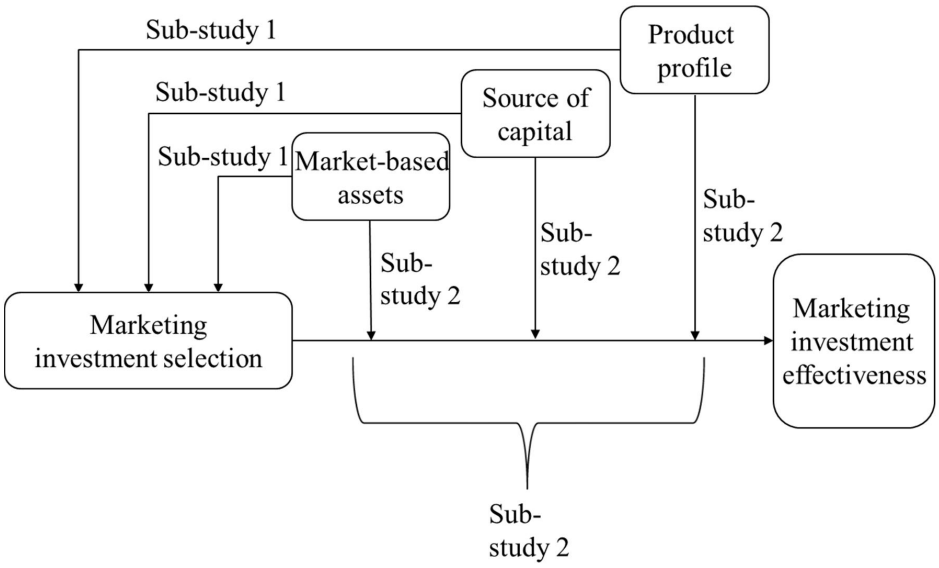


Figure 2 Marketing investment selection and effectiveness: contingency perspective

In summary, this dissertation investigates the influence of the contingent variables on marketing investment selection and effectiveness in growth-oriented private firms in two sub-studies. Sub-study 1 examines (1) in what kind of marketing activities privately-held growth-oriented firms invest their external funding as well as (2) how configurations of the source of funding, market-based assets, and product profile affect the selection of marketing investments. Thus, sub-study 1 focuses on the first research question of this dissertation. Sub-study 2, in turn, investigates what configurations of marketing investments, sources of funding, market-based assets, and product profile are effective in terms of advancing the firm goal of sales and profitability growth. In other words, sub-study 2 concentrates on the second research question of this thesis. Given the systematic differences in the characteristics between business and consumer markets (e.g., Dwyer

and Tanner 2008) both sub-study 1 and sub-study 2 investigate firms operating in business markets separately from firms operating in consumer markets.[15]

15 Separate investigations for firms operating in business markets and firms operating in consumer markets also enable comparability between the findings of this dissertation and the findings of extant marketing literature that typically focuses on either firms operating in business markets or firms operating in consumer markets.

3. Method

3.1. Research approach

3.1.1. Overview of the empirical study

The present empirical study is, essentially, a combination of (i) survey study and (ii) study of objective archival data. The sub-study 1—focusing on the research question of which marketing activities the growth-oriented private firms select to make significant investments in—is based on (i) data from a survey conducted with managers of a sample of firms (n=200). The sub-study 2—focusing on the question of which configurations of those marketing activities and other strategic factors are effective in terms of the firm business growth—merge the (i) survey data regarding the investment selection with (ii) objective archival data on the firms' business performance over a number of years.

In the survey (i), the most central question item asked the firm managers to report, which investment targets their firm had invested most money into, out of the most recent "external capital injection" of their firm. Thus, the focus was on a lump sum of capital the firm had recently raised and obtained from external financiers—and the investment targets in which this capital was then invested. The investment targets listed included both marketing activities (PDM, SCM, CRM) and other investment targets (e.g., physical/fixed investments in plant and equipment, in personnel development, or in M&As). The archival data (ii), in turn, comprised the firm's financial statements, allowing for calculation of business performance metrics, especially sales and profitability growth. These data were merged with data on firm investments (as obtained from the survey) to investigate the second research question regarding the effectiveness of the marketing investments in terms of the sales and profitability growth.

3.1.2. Philosophical assumptions

Epistemology refers to the theory of knowledge (Sayer 1992), reflecting our view on what we can know about the world (Fleetwood 2005) and, therefore, the nature of science. According to critical realist perspective, no theory is considered to represent an absolute truth, as perceptions may change according to new research findings and some perceptions are thus considered to be closer to the truth than others (Hunt 1990). According to Sayer (1992), "A crucial role of social science must be to monitor and restructure the casual patterns of associations or sense-relations of unexamined knowledge so that differences between necessary and contingent relations, and between warranted and unwarranted associations, are understood". Thus, the role of science is to improve our perceptual processes and thereby generate knowledge of the world that would be as close to the truth as possible (Hunt 1990; 1994; Sayer 1992).

The epistemological stances underlying this research further affect the methods and research techniques that are appropriate (Fleetwood 2005). According to the critical realist approach that this thesis adopts, scientific knowledge about reality can be acquired through construction and testing of theories (Tsang and Kwan 1999). In this dissertation I especially concentrate on constructing theories about the world (of growth firms' marketing and other investments) based on existing knowledge combined with empirical observations, and look for evidence stemming from empirical data. However, as the approach of this dissertation is explorative in nature, testing of these theories —or full confirmation thereof—remains beyond the present scope. The analysis methods adopted in this dissertation are further discussed in the last section of this Chapter.

To continue with, critical realism has become a popular alternative to positivism in marketing (Easton 2010). Compared to positivistic view, critical realists aim to explain

phenomena (e.g., marketing investment selection of private growth firms) while understanding that identifying fully predictable patterns might be a non-achievable task (Alvesson and Sköldberg 2010; Potter and Lopez 2001; Tsang and Kwan 1999). Also, unlike positivists, critical realists are interested in context-dependencies (e.g., B2B vs. B2C) that lead to the linkages between observed phenomena (Easton 2002; Mir and Watson 2001).

3.2. Data

3.2.1. Sample of firms

As a sampling frame of firms studied, a listing of "growth-oriented and internationalizing firms" by a Finnish organization Finnvera was employed, with approximately 600 firms enlisted. Finnvera is a Finnish Government-owned credit and funding agency, which focuses on providing credit funding to small and medium-sized firms. The "growth-oriented and internationalizing firms" are small or medium-sized firms that have a growth strategy based on internationalization or increasing exports. As the main corporate goal of these firms is strong or rapid business growth, they were ideal candidates for studying marketing investment effectiveness in terms vis-à-vis the corporate goal of sales/profitability growth. Moreover, given their growth (as well as internationalization) focus, these firms could be expected to emphasize marketing investments. In contrast, private firms that do not at all aim at growth and/or internationalization, could have had little emphasis on growth investments in the first place (or focused their investments merely on production capacity, for instance, at the expense of marketing activities), and such firms would therefore have been less interesting for purposes of this dissertation.

3.2.2. Survey data

The survey was implemented as an online survey, and the invitation to respond was sent to the managing director of all the 635 firms in the Finnvera list in September 2010. 200 responded to the survey[16]. Thus, the response rate was 31 per cent. This rate can be considered fairly high given that studies with top management as the respondents typically achieve response rates of around 20 per cent (cf. Kemper, Engelen and Brettel 2011).

To further explore the issue of nonresponse bias, I tested for differences between early and late respondents (Amstrong and Overton 1977). The extrapolation procedure proposed by Amstrong and Overton (1977) is based on the contention that, unlike early respondents, late respondents are more likely to be similar to non-respondents. Following Weiss and Heide, (1993) early responses were defined as the first 75 per cent of returned questionnaires. The last 25 per cent of respondents were considered late responses and were considered representative of firms that did not respond to the survey. These proportions approximated the actual way in which the present questionnaires were returned; that is, approximately 75 per cent were filled well before the last 25 per cent. Also, the latter 25 per cent did not answer until a second or third reminder to participate in the survey.[17] In order to assess the possibility of nonresponse bias, following Armstrong and Overton's (1977) approach, I compared these two groups on the basis of several variables including total sales volume, the size of the capital injection, the

16 In fact I received 201 responses but two of them were from the same firm. I deleted the response from data that was from a financial director/controller of the firm whereas I kept the response of the chief executive officer of the firm in my data for analysis.

17 The average response time for early respondents was September 29th, 2010 and for late respondents December 31st, 2010. The median response time for early respondents was September 24th, 2010 and for late respondents December 29th, 2010.

situation of the firm when the capital was injected in the firm, other firms as end users, consumers as end users, and source of capital percentages. No significant differences were found. Accordingly, it can be concluded that nonresponse bias is not a significant issue in this study.

The responses to the survey were gathered between September 2010 and January 2011. Before sending the final questionnaire to the firms, the questionnaire was tested with 30 firm managers. Also, in the development phase of the questionnaire, several managers, industry representatives and entrepreneurs commented on the questionnaire in general, and its wordings in particular. Still, venture capital professionals and representatives from credit agencies were involved in development work of the questionnaire to represent different source of capital types. The questionnaire translated from original language (i.e., Finnish) into English is presented in detail as Appendix B.

Regarding the survey data, Table 4 presents the positions of the respondents in their firms.

Table 4 Roles of respondents

Role in the Firm	N	%
Owner-chief executive officer (CEO) or entrepreneur	121	60.5
CEO (but not entrepreneur or main owner)	43	21.5
Owner or entrepreneur, not involved in the operational management (e.g., chairman of the board)	14	7.0
Executive vice president	2	1.0
Director of a business area or unit	1	.5
Financial director or controller	9	4.5
Other position	10	5.0

Table 5 shows the most central goals of the firms, as surveyed in the questionnaire[18]. The figures confirm that the logic of sampling the firms from Finnvera listing was appropriate: Most firms in the sample had business (sales) growth as a central corporate goal (i.e., either the most central or second most central). When both most central goal and the second most central goals are considered, almost every firm in the sample (89 per cent of all firms, that is 178 firms out of 200) had either strong increase of sales in general or strong increase of sales abroad in particular (or both of them) among the two most central goals.

Table 5 Most central goals of the firms

	Most Central		Second Most Central	
Goal of the Firm	**N**	**%**	**N**	**%**
Strong increase of sales in general (on the home front and/or abroad)	75	37.5	39	19.5
Strong increase of sales especially abroad	43	21.5	39	19.5
Having a certain technology/product ready or a significant increase in the level of technology	51	25.5	65	32.5
Concentration on improvement in cost-profit structure (e.g., profitability-%, profit margins)	6	3.0	23	11.5
Downsizing potential fluctuation risk in sales, profit and/or cash flows	11	5.5	18	9.0
Avoiding threatening liquidation or bankruptcy	6	3.0	6	3.0
Finding one's way to reorganization or liquidation in the near future	0	.0	1	.5
Selling the firm in the near future or going public	1	.5	0	.0
Implementing a significant strategic organizational restructuring or alliance	7	3.5	9	4.5

3.2.3. Archival data: financial statements

To match and merge the survey data, the financial statements of the 200 firms that answered the survey were obtained from the archives of Finnvera. The financial

18 To survey the goals, the managers were asked. "Thinking about the time when your firm received the Earlier capital injection to its use, what were the most central goals of your firm at that time? "

statements covered fiscal years 2007, 2008, 2009, 2010, and 2011. I used this objective data in calculating performance measures for the second research question of the present dissertation: the effectiveness of selected marketing investments (as indicated by the survey data) in advancing the sales and profitability growth of the companies.

3.3. Measures

3.3.1. Survey

Possible investment targets – and investment selection. In the survey, the most central question item asked the firm managers to report, which investment targets their firm had actually invested most money into, out of their firm's most recent "external capital injection" (obtained from external financiers). For this question, an exhaustive list of investment targets—(a) marketing activities as well as (b) possible other investment targets—needed to be developed.

The list of (a) marketing activities was built based on the framework of Srivastava, Shervani and Fahey (1999), which defines marketing activities as embedded in three core business processes that generate value for customers. The core marketing processes include Product Development Management (PDM), Supply Chain Management (SCM), and Customer Relationship Management (CRM). Consequently, for the survey, I classified marketing activities identified in prior marketing and business studies in these three broad categories. Note that these three categories also have intuitive links to components of the traditional 4P marketing mix (McCarthy 1960): PDM falls close to "Product" (i.e., offering), SCM close to "Place" (i.e., channels), and CRM close to "Promotion" (i.e., marketing/customer communication, selling, and interacting with customers). The fourth 4P component, "Price", is not represented as an investment

category, simply because setting the price is not a similar activity as the other three, in terms of needing actual monetary investments to be realized.

Tables from 6 to 8 present the focal marketing actitivies in the three categories: *Offering&PDM*, *Channels&SCM*, and *Selling&CRM*. The Tables also indicate references to marketing literature and other business literature, suggesting that the activities in question are relevant marketing activities.

Over and beyond the three core categories of (a) marketing activities in which firms may invest their funding, I outlined (b) two categories of other possible investment targets: investments in *Other(-than-Marketing) Development Projects* (Table 9) and investments in *Fixed Capacity* (Table 10). The lists of these other possible investment targets were developed between managers, venture capitalists and professors.

Table 6 Marketing activities within the Offering & PDM category

Activities (i.e., possible investment targets)	Marketing Literature	Other Business Literatures
Market research related to product and service development		
Implementation of market research	Sheth and Sisodia 2002	
Implementation of competitor analyses or analyses of competitors' products/services	Sheth and Sisodia 2002	
Product and service development projects		
Development project of a product/service that was new both to the market and to the firm	Luo 2008	
Development project of a product/service that was new to the firm but existed in the target market	Luo 2008	
Improvement projects (functionality, quality, etc.) of the firm's earlier products/services	Luo 2008	
Test projects of a new product (with users or on the market)	Srivastava Shervani and Fahey 1998	
Development projects of service processes	Sheth and Sisodia 2002	

Table 7 Marketing activities within Channels & SCM category

Activities (i.e., possible investment targets)	Marketing Literature	Other Business Literatures
Sales and distribution premises		
Establishment or development of physical sales offices, stores or service points	Robinson 1986	
Establishment or development of electronic commerce channels	Samiee 2008	
Establishment or maintenance of distribution centers or distribution warehouses (excluding producing products to stock)	Robinson 1986	
Development projects of product packages or display materials	Palmatier, Gopalakrishna and Houston 2006	
Production processes and warehouses		
Development projects of production process (rationalization of production, reduction of production costs, improvement of quality for instance)		Horngren, Datar and Foster 2003
Advance oriented acquisition of components or raw materials to stock	Bush and Underwood III 2007	
Advance oriented production of products to stock	Bush and Underwood III 2007	
Supplier, subcontractor and partnership relationships		
Advance oriented costs of employees needed in acquisition work of new subcontractors, suppliers and partners		Horngren, Datar and Foster 2003
Special investments in developing relationships to firm's earlier subcontractors, suppliers or partners		Horngren, Datar and Foster 2003

Table 8 Marketing activities within Selling & CRM category

Activities (i.e., possible investment targets)	Marketing Literature	Other Business Literatures
Advance oriented sales work (in channels or directly)		
Advance oriented hiring of salespersons needed in acquisition of new retailers and other expenses (e.g., person, travel and representation expenses etc.)	Palmatier et al. 2008	
Advance oriented hiring of salespersons needed in acquisition of new end-customers and other expenses (e.g., person, travel and representation expenses)	Palmatier et al. 2008	
Special investments in sales/delivery projects (in the form of price reductions, extra workforce or resource allocation for instance) that were important references to the firm	Baidya and Basu 2008	
Delivery of products or samples that have reduced price (that are unprofitable) to acquire customerships or to generate market penetration	Robinson 1986	
Special investments in our existing customers to deepen customer relationships	Sheth and Sisodia 2002	
Marketing communications		
Creation of brochures or catalogues	Baidya and Basu 2008	
Creation of interactive or multimedia presentation materials (video production for instance)	Baidya and Basu 2008	
Participation in fairs or trade shows, or organizing other communication events	Baidya and Basu 2008	
Implementation of mass communications campaigns (television, newspaper, magazine, radio, brochure, outdoor ad for instance)	Baidya and Basu 2008	
Implementation of targeted direct marketing campaigns (letter, e-mail, SMS message for instance)	Baidya and Basu 2008	
Establishment or renewal of a website (other than electronic commerce)	Samiee 2008	
Implementation of social media communications campaigns	Baidya and Basu 2008	
Advance oriented PR and lobbying		
PR campaigning and creation of media relationships	Low and Mohr 2001	
Lobbying towards the authorities	Low and Mohr 2001	

Table 9 Marketing-related activities within Other Development Projects category

Activities (i.e., possible investment targets)
Organizational restructuring and juridical operations
Completing an acquisition
Acquisition of licenses or other IPR rights from other firms
Foundation costs of a technology or a marketing alliance with another firm
Patenting costs of own inventions and innovations (law and application processes)
Personnel development and premises
Training personnel or managers
Acquisition, renewal, or maintenance of premises or work premises
IT/data systems
Acquisition and development of activity control data systems (ERP for instance)
Acquisition and development of data systems that support customer acquisition or managing customer relationships
Acquisition and development of other data systems or IT tools

Table 10 Fixed Capacity investment

Investments in Fixed Capacity
Acquisition of facilities, plant, equipment, or machines that increase production capacity (or service capacity)
Acquisition or renewal of facilities, vehicles, or devices that increase delivery/distribution capacity

Providing the respondents a list of all the aforementioned investment targets (i.e., the aforementioned 41 items in Tables from 6 to 10), the eventual question for measuring the firm's investment selection asked the respondents *in which of these activities their firm had invested most of the money that they have obtained from the most recent external capital injection of their firm* (see below, Source of Capital, for explanation of the external capital injection). To recognize that the money of the external capital injection might have been invested in more than one investment target, the same question was repeated for the investment target in which "most" money had been invested, and the

investment target in which "second most" money had been invested. Considering the possibility that the list of investment targets was not fully exhaustive, a response option of "Other investment target" was made available to the respondents, in addition to the targets listed in Tables 6-10. However, no respondent answered with this option, indicating that the investment target list was adequately comprehensive.

For purposes of linking the investments with performance measures in sub-study 2, a further question asked in which year(s) the firm had invested funds in the activities. Table 11 summarizes the measurement items for investment selection and year(s) of investment.

Table 11 Measurement items: investment selection

Construct	Source	Item
Investment selection[a]	Survey	In which target has your firm invested (1) most and (2) second most of those funds (as measured in Euros) that your firm received in the recent external capital injection. Please select from the below list. • [List of the investment targets indicated in Tables 6-10]
Year(s) of investment		In which year(s) your firm invested (or has invested) funds in the aforementioned target?
	Survey	before 2007
	Survey	in 2007
	Survey	in 2008
	Survey	in 2009
	Survey	in 2010

Notes: [a] In the analyses of sub-study 1, the value of a specific investment selection is "yes" (or 1) if either most or second most of the funds was invested in the indicated investment target. For instance, if the firm had invested most or second most of the funds in an activity related to Offering & PDM, the "value" of Offering & PDM investment selection would be "yes" (or 1).

Source of capital. As explained above, the most central survey item asked the firm managers to report, which of the enlisted investment targets their firm had invested most money into, out of their firm's most recent "external capital injection". With this

concept, the focus was on a lump of capital the firm had recently raised and obtained from external financiers (and the investment targets in which this capital was then investment). The questions were focused on the recent capital injection and their source of capital, rather than the overall capital structure of the firm, because this would enable a close linking of the particular investments made and the exact source of capital behind those investments.

For the source of capital, the respondents were hence asked, which financing sources the firm had obtained its most recent capital injection from. Table 12 presents the potential sources listed in the survey instrument. These source of capital items were developed in close co-operation with practitioners, namely venture capitalist, and creditors. First, an extensive internet search was conducted in order to identify different types of equity, debt, and public subsidy items that are used in financing growth-oriented private firms. In-depth discussion with venture capitalists followed and the constructs were further developed based on the feedback from the discussion. Last, the constructs received input from creditors, and subsequently, the constructs were finalized. Appendix C presents characteristics of different items in the source of capital constructs.

Table 12 Measurement items: source of capital

Construct[a]	Source	Item
Entrepreneur[b]		*What was the share of...*
	Survey	entrepreneur's or entrepreneurs' own funds
		...in the capital injection into your firm?
Other equity[b]		*What was the share of...*
	Survey	funds invested by friends/relatives
	Survey	funds invested by outside private investors (e.g, business angels)
	Survey	venture capital (VC) investment from Veraventure[c]
	Survey	VC investment from other VC firm (than Veraventure)
	Survey	funds from an issue directed at other institutional investors (than VC firms)
		...in the capital injection into your firm
Debt[b]		*What was the share of...*
	Survey	funds from a convertible bond subscribed by private investors
	Survey	funds from a convertible bond subscribed by Veraventure
	Survey	funds from a convertible bond subscribed by other VC firm (than Veraventure)
	Survey	loan from a friend/relative
	Survey	loan from private investors
	Survey	loan from a bank
	Survey	loan from Finnvera
	Survey	loan from other public creditor (than Finnvera)
	Survey	loan from Veraventure
	Survey	loan from other VC firm (than Veraventure)
	Survey	any other loan (or debt money)
		...in the capital injection into your firm
Public subsidy[b]		*What was the share of...*
	Survey	product development subsidy (e.g., from Tekes[d])
	Survey	any other subsidy (e.g., from TE-keskus[e])
		...in the capital injection into your firm

Notes: [a] Unless otherwise noted, construct is used in analyses of both B2B and B2C firms, in sub-studies 1 and 2.
[b] All items for construct employ four-point scales – "1-33%", "33-66%", "66-99%", "100%" – with a "fifth point" for a respondent having left a row in the question blank, that indicates "0%".
[c] Veraventure is a Finnish venture capital firm.
[d] Tekes is the Finnish funding agency for technology and innovation.
[e] TE-keskus is a center for economic development in Finland.

Market-based assets. Regarding market-based assets, the survey was to measure the situation in which the firm was, in terms of various individual market-based assets, when it received the external capital injection in question, to its use. Therefore, the

respondents were asked to indicate to what degree their firm had a number of market-based assets in place at that time.

The market-based asset items were retrieved from marketing and management literatures (see Table 13). The idea was to have an extensive list of relevant market-based asset items, including both intellectual and relational market-based assets (Srivastava, Fahey and Christensen 2001). Whenever applicable, the market-based asset items in the survey instrument were classified to domestic market-based assets and market-based assets abroad. This is because the firms in the sample were growth-oriented internationalizing firms, meaning that different firms could be in very different stages regarding the degree to which they possessed market-based assets in domestic markets vs. markets abroad . Due to the nature of companies that were empirically examined in this dissertation (i.e., growth-oriented private firms), I also included an item not discussed in prior studies, that pertained to the simple issue of whether the firm had a product/service readily available in the market, in the first place (i.e., "certain product/service in production/on offer"). This item was added because unlike publicly listed companies, which basically all have several products or services at offer in markets, privately-held growth companies may not even always have any product or service in place yet in markets.

Table 13 Market-based assets

Market-Based Asset (Intellectual = I, Relational = R)	Enquired both about Finland and Abroad	Marketing Literature	Management Literature
Certain product/service in production/on offer (I)	No	-	-
Broad (brand) recognition (R)	Yes		Birkinshaw, Nobel and Ridderstråle 2002
Strong brand image and credibility in the firm's industry (R)	Yes		Birkinshaw, Nobel and Ridderstråle 2002
High quality level of products/services (according to the customers) (R)	Yes	Aaker and Jacobson 1994	
Extensive sales and distribution channels (R)	Yes	Srivastava, Shervani and Fahey 1998	
Good relationships to retailers and channel partners (R)	Yes	Srivastava, Shervani and Fahey 1998	
Numerous earlier (reference) customers (R)	Yes	Rust et al. 2004	
Extensive installed base (R)	Yes	Srivastava, Shervani and Fahey 1998	
Strong relationships to key customers (R)	Yes	Srivastava, Shervani and Fahey 1998	
Cost efficient production (I)	No	Srivastava, Shervani and Fahey 1998	
Close to world leading technological level in products/services (I)	No		Birkinshaw, Nobel and Ridderstråle 2002
Extensive patents and copyrights (I)	Yes		Birkinshaw, Nobel and Ridderstråle 2002
Extensive understanding of customers' needs and preferences (I)	Yes		Srivastava, Fahey and Christensen 2001
Good subcontractor and supplier relationships (R)	Yes	Srivastava, Shervani and Fahey 1998	
Wide network of firms offering complementary products or services (R)	Yes	Srivastava, Shervani and Fahey 1998	
Extensive access to markets through strategic partners or alliances (R)	Yes	Srivastava, Shervani and Fahey 1998	
Extensive access to technological skills and know-how of strategic partners (R)	Yes	Srivastava, Shervani and Fahey 1998	

Following Srivastava, Fahey, and Christensen (2001), the interest in this dissertation is not on single market-based asset that a firm possesses, but on the overall structure and amount of market-based assets within the firm. The configuration of market-based assets help a firm create value (Srivastava, Fahey and Christensen 2001) and the constraints inherent in the firm's market-based asset configuration limit the levels of profits the firm can realize (Wernerfelt 1984). Therefore, the responses to the individual market-based asset items were subjected to factor and cluster analysis, and the scores from these analyses—reflecting firms' overall market-based asset structures—were used as the final variables in the analyses. These factor and cluster analyses are described in the next sub-chapter, after the description of rest of the survey-based and objective measures utilized in the study.

Product-market profile. Regarding product profile, the firm managers were asked which business model best described the main nature of a firm's business. The product profile construct in Table 14 stems from a variety of sources. Miller and Foust (2003), among others, make the basic distinction between product and service. Elsewhere, Hambrick and Lei (1985) discuss product customization. Furthermore, McGrath (2010) notes that revenue can be earned from complementary products or services. Outside the features identified in prior literature, a future product aspect (i.e., not having a ready product in the market yet) was again added to the constructs to reflect the situation of some less established private growth firms.

Table 14 Measurement item: product profile

Item[a]	Source	Survey Response Options[d]
Product profile[b]	Survey	*Which one of the following best describes the main nature of your firm's business?*
Mass-produced product		We produce and sell tangible products
Mass-produced service		We produce and sell intangible services
Customized product[c]		We sell and produce tangible products that are tailored customer-specifically We sell and produce systems/solutions that are tailored customer-specifically
Customized service		We sell and produce intangible services that are tailored customer-specifically
Complementary product		We produce and sell tangible products but primarily we make profits on selling *complementary* products related to the product (e.g., razors + *razor blades*)
Complementary service		We produce and sell tangible products but primarily we make profits on selling *complementary* services related to the product (e.g., elevators + *maintenances*)
Future product		We develop technologies/products of whose sales we will probably get income in the future

Notes: [a] Unless otherwise noted, construct is used in analyses of both B2B and B2C firms, in sub-studies 1 and 2.
[b] The item employs a nominal scale.
[c] Consistent with my conceptualization, customized products include both tailored stand-alone products and tailored systems/solutions.
[d] One response option (i.e., advertiment-based model [e.g., Rappa 2010]) has been left out. This is because the option did not describe the main nature of any B2B/B2C firm's business in the sample.

In addition to the product-market profile above, the respondents were inquired about the business-to-consumer (B2C) vs. (B2B) nature of their firms. Specifically, the question dealt with the end users of the firm's products/services. A firm was classified as a B2B firm if the manager reported the firm to have more other firms as end users of company's products/services than consumers. In other cases, a firm was classified as a B2C firm if its manager reported it to have at least some consumers as its end users. This classification resulted in having a final sample size of 137 B2B firms and 60 B2C firms. The managers of the remaining three firms did not report their firm to have any other

firms or consumers as end users of firm's products/services (instead end users may have been public sector actors for instance) and, consequently, these firms were left out from the analysis.

Control: environmental turbulence. In terms of environmental turbulence, the survey asked whether the respondent agreed or disagreed with statements characterizing the main industry of the firm. Environmental turbulence items of my survey instrument were retrieved from marketing literature (see Table 15) and included four items on technological turbulence and four items on market turbulence. In this dissertation, factor analysis provides the empirical basis for assessing the environmental turbulence in the industry of the company and creating simplified composite measures (cf. Hair et al. 2010: 99) for further analysis.

Table 15 Environmental turbulence

Environmental Turbulence	**Marketing Literature**
Technological turbulence	
Technology changes fast in the industry	Jaworski and Kohli 1993
Technological changes offer great opportunities in the industry	Jaworski and Kohli 1993
Technological breakthroughs have made possible many new product ideas in the industry	Jaworski and Kohli 1993
Technological development in the industry is pretty insignificant	Jaworski and Kohli 1993
Market turbulence	
It is difficult to predict how customer needs and demands will develop in the market	Sethi and Iqbal 2008
It is difficult to predict actions of competitors	Sethi and Iqbal 2008
There is a lot of insecurity in the market	Sethi and Iqbal 2008
Generally speaking, it is difficult to understand, how the market will change	Sethi and Iqbal 2008

3.3.2. Objective archive data

Performance outcomes. For the sub-study 2 of this dissertation, focusing on the effectiveness of the selected marketing investments, the business growth measures were based on the objective financial statements of the surveyed firms, as retrived from the Finnvera archives. Sales growth and profitability growth[19] are the main measures of business growth, that are both considered as traditional performance measures (e.g., Huang, Lee and Kao 2006; Lim, Acito and Rusetski 2006). Table 16 presents the final measurement items for performance outcomes.

Table 16 Measurement items: business growth performance outcomes

Construct	Source	Item
Sales growth after one year		Average of the objective sales growths from year(s) n (i.e., the year[s] of the investment) to year(s) n+1
	Archive	Sales in 2007, 2008, 2009, 2010, and 2011
Sales growth after two years		Average of the objective sales growths from year(s) n to year(s) n+2
	Archive	Sales in 2007, 2008, 2009, 2010, and 2011
Profitability growth after one year		Average of the profitability growths from year(s) n to year(s) n+1
	Archive	Profit in 2007, 2008, 2009, 2010, and 2011
	Archive	Sales in 2007, 2008, 2009, 2010, and 2011
Profitability growth after two years		Average of the profitability growths from year(s) n to year(s) n+2
	Archive	Profit in 2007, 2008, 2009, 2010, and 2011
	Archive	Sales in 2007, 2008, 2009, 2010, and 2011

In matching growth figures, the year of investment as reported by manager was matched with the sales and profit figures from archive. For instance, if a manager of a firm reported that the firm made an investment in target in 2008, respective sales growth after one year was the sales in 2008 subtracted from sales in 2009, divided by sales in

19 Sales may grow due to an upswing in the economy (Sheth and Sisodia 2002). It is thus useful to consider multiple indicators of effectiveness (Sheth and Sisodia 2002).

2008. For the same firm with an investment in target in 2008, respective profitability growth after one year, on the other hand, was the profit in 2008 divided by sales in 2008 (i.e., profitability in 2008) subtracted from the profit in 2009 divided by sales in 2009 (i.e., profitability in 2009). In case a manager reported multiple years of investment, an average business growth was calculated.

The one-year- / two-year-operationalization[20], suffers from one limitation. It focuses on the impact of marketing expenditures as occurring in the short- to medium term, within one or two years, and ignores longer-term effects.[21] Cumulative and lagged carryover effects mean that heavy current marketing expenditures may not be reflected in the effectiveness measures until some future time period. The choice of operational measures in this dissertation attempts to minimize these problems by using average sales and profitability growths from multiple years (when appropriate) instead of, for example, measuring merely the initial sales and profitability growth, from the initial investment to years n+1 and n+2 respectively.

In my analysis, I focus on funds ("external capital injection") received prior to September 2008 (inquired in the survey), and how the spending of these funds impacted

20 My operationalization is an extension of the one presented by Boulding and Staelin (1995). They used a one-year-lag in their research on the effects of strategic activities on firm performance.

21 In terms of (i) R&D investment, for example, estimates of the mean lag time between the outlay of R&D expenditures and the beginning of the associated revenue range between 1.2 and 2.5 years (Pakes and Schankerman 1984 in Erickson and Jacobson 1992). Erickson and Jacobson (1992) argue that lag times less than one year do exist as well. They note that one of the explanations that the Financial Accounting Standard Boards (FASB) offers for the "generally accepted accounting principle" of expensing R&D expenditures is that the returns to R&D are short term. They report the FASB code citing a study by Gellein and Newman (1973) indicating that over 90 percent of the respondents in a survey reported that their company's philosophy is that R&D expenditures are intended to be recovered through current-period revenues. In terms of (ii) advertising, as another example, the traditional notion is that investment in advertising is often seen in short-run terms (Dhalla 1978). As White, Miles and Smith (2001) argue, the effects of advertising campaign on future sales no doubt decline over time. This is because advertising campaigns, slogans and jingles are forgotten over time and get displaced by more recent advertisements (White, Miles and Smith 2001).

performance outcomes (in the financial statements archived). These performance impacts have taken place from 2007 to 2011. Varying accounting standards among the firms in the sample added additional complexity to calculating the performance measures. Appendix D illustrates the procedure for calculating performance measures in detail. As a result of the calculation, 105 B2B firms with average sales growth after one year, 99 B2B firms with average sales growth after two years, 105 B2B firms with average profitability growth after one year, and 99 B2B firms with average profitability growth after two years remained in the sample. I had more "after one year" firms in my sample than "after two years" firms as for firms that invested in marketing activity in 2010 and not in 2007, 2008 or 2009, I was not able to calculate "after two years" measures due to the data ending at 2011. In terms of B2C firms, 50 B2C firms with average sales growth after one year, 43 B2C firms with average sales growth after two years, 49 B2C firms with average profitability growth after one year, and 43 B2C firms with average profitability growth after two years remained in my sample. For purposes of simplicity, I refer to average sales growth as sales growth and average profitability growth as profitability growth in the remaining sections of this dissertation.

Before undertaking any (conventional) analysis, the extreme outliers among the performance measures were detected. As the number of analyzable cases was above 80 for all the performance measures for B2B firms, I defined outliers as cases with standard scores of 4 or greater (cf. Hair et al. 2010: 67). Standard scores have a mean of 0 and a standard deviation of 1. The procedure resulted in detection of 2 outliers for sales growth after one year leaving me with 103 B2B firms. For other three performance measures, the respective figures from outlier detection and deletion were: (*i*) 1 outlier for profitability

growth after one year (104 firms remain after deletion of the outlier), (*ii*) 1 outlier for sales growth after two years (98 firms remain), and (*iii*) 1 outlier for profitability growth after two years (98 firms remain).

Similar to B2B firms, the extreme outliers among the performance measures were detected before undertaking any (conventional) analysis with B2C firms. I defined outliers as cases with standard scores of 2.5 or greater (cf. Hair et al. 2010: 67). This is because the number of analyzable cases was below 80 for all the performance measures (cf. Hair et al. 2010: 67). The procedure resulted in detection of 1 outlier for sales growth after one year leaving me with 49 B2C firms. For other three performance measures, the respective figures from outlier detection and deletion were: (*i*) 2 outliers for profitability growth after one year (47 firms remain after deletion of the outliers), (*ii*) 1 outlier for sales growth after two years (42 firms remain), and (*iii*) 3 outliers for profitability growth after two years (40 firms remain).

Control: size of the firm. As another key control for sub-study 2, firm size was measured as the simple turnover of the firm (Suh, Yi and Houston 2011), obtained from the objective financial statements. As I focus on funds received prior to September 2008, sales in 2008 is a logical choice among different years for a measure of firm size. In case sales from 2008 was not available due to missing values in financial statements, I chose sales from 2007, then 2009, 2010 and, if necessary, sales from 2011. Among B2B firms, 130 firms out of 137 firms had sales figure that I could use as a measure for firm size whereas among B2C firms 57 out of 60 firms had sales figure available.

3.3.3. Factorization of the market-based asset measure

As mentioned above, following Srivastava, Fahey, and Christensen (2001), the interest in this dissertation is not on single market-based asset that a firm possesses as a contingency to the marketing investment selection and effectiveness, but on the overall structure and amount of market-based assets of the firm. Therefore, the responses to the individual market-based asset items were subjected to factor and cluster analysis, and the scores from these analyses—reflecting firms' overall market-based asset structures—were used as the final variables in the analyses.

Specifically, *factor analysis* provides the empirical basis for assessing the structure of market-based assets and creating simplified composite measures (cf. Hair et al. 2010: 99) of market-based asset structure for further analysis. Through market-based asset structure, individual market-based asset measurement items are considered at a more abstracted level (than the detailed level of the individual market-based asset variables themselves), collectively representing the amount of the firm's market-based assets (cf. Hair et al. 2010: 98). Due to the nature of the firms in my sample (i.e., internationalizing firms), the background assumption for factor analysis was that market-based asset items characterizing assets in the domestic market would be grouped (i.e., factorized) in one factor whereas market-based asset items characterizing assets abroad would be grouped in another factor.

The factor analysis was conducted separately for B2B vs. B2C firms, because the different market profile and conditions of these firms may lead to somewhat differing factorization.

Market-based assets factorization: B2B firms. In creating composite measures of market-based asset structure, the initial items developed for measuring market-based assets and indicated in Table 13 were first submitted to principal axis factor analysis with varimax rotation. Items were discarded and the factor model was respecified (cf. Hair et al. 2010, p. 119-120) until none of the items had loadings less than .55 and cross-loadings greater than .35 (cf. Gruen, Summers and Acito 2000), as well as none of the factors had less than three items (Hair et al. 2010)[22]. This resulted in one factor with six items that characterized the stock of domestic market-based assets and another factor with nine items that characterized the stock of market-based assets abroad. The factorization to domestic vs. foreign market-based assets was as expected.

Subsequently, Amos Version 21.0.0 was used to perform confirmatory factor analysis on the remaining 15 market-based asset items, and each item was assigned to only the market-based asset dimension (i.e., stock of domestic assets or stock of assets abroad) on which it loaded at a significant level in the last step of the exploratory factor analysis (and that it was designed to reflect). Table 17 indicates the final items in the two dimensions. Bentler's (1990) comparative fit index (CFI) was .90 which indicates that the model provides a good overall fit to the sample covariance matrix. Standardized loading estimates for the 15 market-based asset items were at least .65. The correlation between the two market-based asset dimensions was .45. Cronbach's coefficient alpha was .93 for domestic market-based assets and, equally, .93 for market-based assets abroad, which exceeds Nunnally's (1978) recommended minimum level of .70.

22 Hair et al. (2010) discussed item-to-factor ratios, suggesting there should be at least three items per factor.

Evidence for the discriminant validity for this set of scales comes from the square of the correlation between the two market-based asset dimensions being less than average variance extracted (AVE) estimates of the two market-based asset constructs, which were .69 for domestic market-based assets and .62 for market-based assets abroad (e.g., Gruen, Summers and Acito 2000; Hair et al. 2010: 695). In my multivariate data analyses for B2B firms, I used the factor scores obtained from the last step of my exploratory factor analysis to represent the market-based asset constructs. Additionally, I created a third market-based asset construct for my multivariate data analyses of B2B and B2C firms consisting of a single item that characterized whether a firm had a product/service on offer in the first place (see the section on the measurement of the market-based assets, above).

Market-based assets factorization: B2C firms. Similar to B2B firms, the initial 32 items were first submitted to principal axis factor analysis with varimax rotation. The researcher discarded items and respecified the factor model (cf. Hair et al. 2010, p. 119-120) until none of the items had loadings less than .70 and cross-loadings greater than .35,[23] as well as none of the factors had less than three items (Hair et al. 2010). The procedure resulted in one factor with five items characterizing the stock of domestic market-based assets and another factor with six items characterizing the stock of market-based assets abroad.

Subsequently, Amos was again used to run confirmatory factor analysis on the remaining 11 items. Each item was assigned to only the dimension on which it loaded at a

23 Factor loadings considered statistically significant were adjusted for B2C firms because of smaller sample size (cf. Hair et al. 2010: 117).

significant level in the final step of the exploratory factor analysis (see Table 17 for the exact items in the two dimensions). CFI was .90, indicating that the model provides a good overall fit to the sample covariance matrix. Standardized loading estimates for the 11 items were at least .85 and the correlation between the two market-based asset dimensions was .48. Furthermore, Cronbach's coefficient alpha was .95 for domestic market-based assets and .96 for market-based assets abroad. Similar to B2B firms, the alphas exceed the recommended minimum level of .70.

Similarly as above for B2B firms, evidence for the discriminant validity comes from the square of the correlation between the two dimensions being less than AVE estimates of the two constructs, which were .79 for domestic market-based assets and, similarly, .79 for market-based assets abroad (e.g., Gruen, Summers and Acito 2000; Hair et al. 2010: 695). In the multivariate data analyses for B2C firms, I used the factor scores obtained from the final step of exploratory factor analysis to represent the market-based asset constructs.

Table 17 Final measurement items: market-based asset constructs

Construct[a]	Source	Item
Stock of domestic market-based assets[b] (B2B firms) α = .93		What your firm's situation was when you received funds from the capital injection to your use? We had
	Survey	…broad (brand) recognition in Finland
	Survey	…strong brand image and credibility in our industry in Finland
	Survey	…high quality level of products/services in Finland (as perceived by the customers)
	Survey	… numerous earlier (reference) customers in Finland
	Survey	…extensive installed base in Finland
	Survey	…extensive understanding of customers' needs and preferences in Finland
Stock of market-based assets abroad[b] (B2B firms) α = .93		What your firm's situation was when you received funds from the capital injection to your use? We had
	Survey	…broad (brand) recognition in many countries abroad
	Survey	…strong brand image and credibility in our industry in many countries abroad
	Survey	…high quality level of products/services abroad (as perceived by the customers)
	Survey	…extensive sales and distribution channels to many foreign markets
	Survey	…good relationships to retailers and channel partners in many foreign markets
	Survey	… numerous earlier (reference) customers in many countries abroad
	Survey	…extensive installed base abroad
	Survey	…strong relationships to key customers abroad
	Survey	…extensive understanding of customers' needs and preferences in many foreign markets
Stock of domestic market-based assets[b] (B2C firms) α = .95		What your firm's situation was when you received funds from the capital injection to your use? We had
	Survey	…broad (brand) recognition in Finland
	Survey	…strong brand image and credibility in our industry in Finland
	Survey	…extensive sales and distribution channels in Finland
	Survey	…numerous earlier (reference) customers in Finland
	Survey	…extensive installed base in Finland
Stock of market-based assets abroad[b] (B2C firms) α = .96		What your firm's situation was when you received funds from the capital injection to your use? We had
	Survey	…broad (brand) recognition in many countries abroad
	Survey	…strong brand image and credibility in our industry in many countries abroad
	Survey	…extensive sales and distribution channels to many foreign markets
	Survey	…good relationships to retailers and channel partners in many foreign markets
	Survey	… numerous earlier (reference) customers in many countries abroad
	Survey	…strong relationships to key customers abroad
Product/ service on offer[b] α = -		What your firm's situation was when you received funds from the capital injection to your use? We had
	Survey	…certain product/service in production/on offer (in markets)

Notes: [a] Unless otherwise noted, construct is used in analyses of both B2B and B2C firms, in sub-studies 1 and 2.
[b] All items for construct employ four-point Likert scales ranging from "not true" (1) to "fully true" (4).
- Alpha not estimable due to single item.

Cluster analysis. Following the above factor analyses, cluster analysis is applied to profile firms to different clusters depending on the firms' market-based asset structure. This method was used to prepare data for subsequent contingency tables analyses (sub-study 1). Specifically, I used cluster analysis to identify natural groups within the data that have similar firms within them in terms of market-based asset structure. The variables I include in the cluster analysis are the factor scores from the preceding factor analysis for stock of domestic market-based assets and stock of market-based assets abroad, as well as Z score for product/service on offer. Product/service on offer was standardized to have same mean and standard deviation for all clustering variables (Hair et al. 2010: 545). In my cluster analysis, I follow the two-step process suggested by Hair et al. (2010). In the first step, a hierarchical procedure is used to identify a preliminary set of cluster solutions as a basis for determining the appropriate number of clusters (Hair et al. 2010: 546). Appendix E presents details of the hierarchical procedure. In the second step, non-hierarchical procedures are used to "fine-tune" the results and then profile and validate the final cluster solution (Hair et al. 2010: 546).

Cluster analysis: B2B firms. In the second step in the clustering process, I used the results of the hierarchical process to execute nonhierarchical clustering. Specifically, I determined the number of clusters from the hierarchical results and developed an "optimal" cluster solution through nonhierarchical procedure. Thereafter, I compared the cluster solutions, and assessed the "optimal" cluster solution in terms of stability, criterion validity as well as applicability to my further analyses. Appendix E presents details of the stability assessment and validation.

In terms of selection of the method for specifying cluster seeds, I used random selection, where the software (SPSS) identifies random initial seed points to be used as starting points for each cluster (cf. Hair et al. 2010: 554). For the optimizing algorithm, I selected K-Means clustering that allows for reassignment of observations among clusters until a minimum level of heterogeneity is reached (e.g, Hair et al. 2010: 555). To execute the nonhierarchical clustering, I specified the number of clusters as three, based on the results of the hierarchical cluster solution.

Table 18 shows the results from the nonhierarchical three-cluster solution. There is a notable difference between the hierarchical and nonhierarchical results. The nonhierarcahical solution, potentially due to the ability to reassign observations between clusters, has a more even dispersion of observations among the clusters. Specifically, nonhierarchical analysis resulted in cluster sizes of 40, 56, and 41, compared to clusters of 50, 55, and 32 in the hierarchical analysis. Similar to the solution from hierarchical clustering, the results from the nonhierarchical procedure show there are significant differences between the clusters on all three variables. The significant *F* statistics provide initial evidence that each of the three clusters is distinctive.

Next, I interpret the mean values of the three cluster variables. Cluster 1 ("Domestic") contains 40 B2B firms and is best characterized by a high mean on stock of domestic market-based assets. Cluster 2 ("No domestic & no product") contains 56 B2B firms and has the lowest score on stock of domestic market-based assets and product/service on offer. Cluster 3 ("Abroad") has 41 observations and is characterized by a very high mean on stock of market-based assets abroad. These results indicate that each of the three clusters exhibit distinctive characteristics.

Table 18 Means from nonhierarchical cluster analysis for B2B firms

Variable	Cluster Number			*F*-value	Significance
	1	2	3		
Stock of domestic market-based assets	.96	-.74	.08	66.14	.00
Stock of market-based assets abroad	-.58	-.35	1.05	62.71	.00
Product/service on offer	.50	-.92	.77	99.47	.00
Cluster sample size	40	56	41		

Cluster analysis: B2C firms. The second step in clustering B2C firms is processed similar to the second step in the preceding clustering procedure of B2B firms. Thus, I use random selection as the method for specifying cluster seeds, and K-Means clustering as the optimizing algorithm. To execute the nonhierarchical clustering, I specified the number of clusters as three, based on the results of the hierarchical cluster solution for B2C firms.

Table 19 presents the results from the nonhierarchical three-cluster solution for B2C firms. Nonhierarchical analysis resulted in cluster sizes of 9, 38, and 13, in comparison to clusters of 13, 16, and 31 in the hierarchical analysis. Similar to the solution from hierarchical clustering, the results from the nonhierarchical procedure illustrate there are significant differences between the clusters on all three variables. Similar as above for B2B firms, the significant *F* statistics provide initial evidence that each of the three clusters is distinctive.

As to the resulting clusters, Cluster 1 (“No abroad & no product & domestic”) contains 9 B2C firms and is best characterized by a very high mean on stock of domestic market-based assets, as well as a very low mean on both stock of market-based assets

abroad and product/service on offer. Cluster 2 ("No domestic") contains 38 B2C firms and has the lowest score on stock of domestic market-based assets. Cluster 3 ("Abroad & domestic & product") has 13 B2C firms and is characterized by a very high mean on all the three clustering variables. The results indicate that each of the three clusters exhibit distinctive characteristics.

Table 19 Means from nonhierarchical cluster analysis for B2C firms

	Cluster Number				
Variable	1	2	3	***F*-value**	**Significance**
Stock of domestic market-based assets	1.32	-.62	.90	63.81	.00
Stock of market-based assets abroad	-.87	-.23	1.27	29.14	.00
Product/service on offer	-.64	-.17	.95	11.03	.00
Cluster sample size	9	38	13		

3.3.4. Factorization of the enviromental turbulence measures

Of all measured variables, another set of variables that requires factorization (besides market-based assets) pertains to environmental turbulence (see Table 16 for the initial items) . The background assumption for factor analysis here, was that turbulence items characterizing technological turbulence would be grouped in one factor whereas turbulence items characterizing market turbulence would be grouped in another factor.

Environmental turbulence factorization: B2B firms. First, I submitted the initial eight items developed for measuring environmental turbulence to principal axis factor analysis with varimax rotation. Items were discarded and the factor model was

respecified (cf. Hair et al. 2010, p. 119-120) until none of the items had loadings less than .55 and cross-loadings greater than .35 (cf. Gruen, Summers and Acito 2000), as well as none of the factors had less than three items (Hair et al. 2010). This resulted in one factor with four items characterizing the technological turbulence and another factor with three items that characterized the market turbulence (see Table 20 for the exact items in the two dimensions). Cronbach's coefficient alpha was .85 for technological turbulence and .76 for market turbulence. The alphas exceed the recommended minimum level of .70. In the multivariate data analyses for B2B firms, I used the factor scores obtained from the last step of exploratory factor analysis to represent the environmental turbulence constructs.

Environmental turbulence factorization: B2C firms. Similar as above for B2B firms, the initial eight items were first submitted to principal axis factor analysis with varimax rotation. The researcher discarded items and respecified the factor model (cf. Hair et al. 2010, p. 119-120) until all the items had loadings of at least .70 and none of the items had cross-loadings greater than .35, as well as none of the factors had less than three items (Hair et al. 2010). This resulted in one factor with four items that characterized the technological turbulence and another factor with three items characterizing the market turbulence (see Table 20 for the exact items in the two dimensions that were same for both B2B and B2C firms). Cronbach's coefficient alpha was .90 for technological turbulence and .82 for market turbulence. In the multivariate data analyses for B2C firms, again, I used the factor scores obtained from the final step of exploratory factor analysis to represent the environmental turbulence constructs.

Table 20 Final measurement items: environmental turbulence constructs

Construct	Source	Item
Technological turbulence[a] (α = .85 for B2B firms; α = .90 for B2C firms)		Do you agree or disagree with the following statements, what comes to your main industry?
	Survey	Technology changes fast in our industry
	Survey	Technological changes offer great opportunities in our industry
	Survey	Technological breakthroughs have made possible many new product ideas in our industry
	Survey	Technological development in our industry is pretty insignificant
Market turbulence[a] (α = .76 for B2B firms; α = .82 for B2C firms)		Do you agree or disagree with the following statements, what comes to your main industry?
	Survey	It is difficult to predict how customer needs and demands will develop in our market
	Survey	It is difficult to predict actions of competitors
	Survey	Generally speaking, it is difficult to understand, how our market will change

Notes: [a] All items for construct employ seven-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (7).

3.4. Analysis methods

The analysis methods I apply in this dissertation include conventional statistical analysis methods including contingency tables, logistic regression, analysis of variance, and linear regression, as well as a non-statistical, set-theory-based analysis method: fuzzy-set qualitative comparative analysis (fsQCA). In subsequent sub-chapters, I shortly describe how I use the conventional analysis methods, as well as what the fsQCA method is about, why I use it, as well as how I use it.

3.4.1. Conventional analysis methods

Contingency tables. Contingency tables (Hair et al. 2010: 566) are used in sub-study 1 to identify simple relationships between contingent variables and investment selection, and to provide initial, model-free evidence of the investment selection.

Logistic regression. Stepwise logistic regression analysis is the primary analysis method in sub-study 1, to identify how contingent variables interact in explaining the marketing investment selection.

Analysis of variance (ANOVA). Analysis of variance (Hair et al. 2010) is used in sub-study 2 to initially examine the influence of investment selection on investment effectiveness.

Linear regression. Following Henderson et al. (2003), I apply stepwise linear regression as the primary statistical analysis method in sub-study 2. Specifically, the stepwise linear regression procedure is used to identify how contingent variables and investment selection interact in explaining investment effectiveness.

To complement linear regression analyses as the main statistical analysis method, I utilize fuzzy-set qualitative comparative analysis (FSQCA) as the primary non-statistic, set-theoretic method for sub-study 2. Due to the relatively unconventional nature of FSQCA, I provide a brief review of this method next.

3.4.2. Configurational fuzzy-set analysis method

Research on firm performance (or basically any other output variable) often assumes that causal and linear relationships exist between firm performance and its causes. In reality, these relationships are much more complex and tenuous. In order to take this complexity into account, I employ fuzzy-set qualitative comparative analysis as complementary analysis method in sub-study 2, focusing on the effectiveness of the configurations of marketing investments and other strategic factors in terms of sales and

profitability growth. FSQCA allows me to examine how complex combinations of variables (beyond two-way interactions) interact to produce outcome variable (i.e., high effectiveness in sub-study 2).

Traditional methods such as regression analysis and FSQCA differ in their view of cases with extreme values: they are frequently seen as atypical outliers in regression studies, whereas they are often seen as crucial and highly representative instances of a phenomenon in fuzzy-set studies (Katz, Vom Hau and Mahoney 2005). Additionally, unlike regression, fuzzy-set analysis requires researchers to measure causal factors and outcomes on a scale of 0 to 1 according to their degree of membership in a given qualitative state (Katz, Vom Hau and Mahoney 2005; Kent and Argouslidis 2005; Viswanathan and Childers 1999). Furthermore, in regression research, analysts frequently assume linear causation and attempt to estimate the average effect of a given variable net of all other variables (Katz, Vom Hau and Mahoney 2005). In fuzzy-set research, in contrast, analysts assume necessary and sufficient causation, including combinations of jointly sufficient causes (Katz, Vom Hau and Mahoney 2005).

To empirically accomplish the identification of causal processes, FSQCA proceeds in three steps. After the independent and dependent measures have been transformed into sets, the first step is using these set measures to construct a data matrix known as a truth table with 2^h rows, where h is the number of causal conditions (i.e., independent variables) used in the analysis. In a second step, the number of rows is reduced in line with two conditions: (1) the minimum number of cases required for a solution to be considered and (2) the minimum consistency level of a solution. In a third

step, an algorithm based on Boolean algebra is used to logically reduce the truth table rows to simplified combinations (Fiss 2011).

Consistency refers to the degree to which cases correspond to the set-theoretic relationships expressed in a solution (Järvinen et al. 2009). In other words, consistency measures how often the solution terms and solution as a whole are subsets of the outcome, and they reflect the frequency with which solutions can be considered sufficient conditions for the outcome (Ordanini and Maglio 2009). The value of the consistency score ranges from zero to one. The value of one indicates full consistency, that is, all cases are subsets of the outcome. In general, consistency scores between 0 and .75 indicate the existence of substantial inconsistency (Järvinen et al. 2009). To simplify, in the context of this thesis, consistency of .80, for example, means that 80 per cent of firms with a given combination exhibit high business growth.

In the third step, when the truth table algorithm of FSQCA (in the program) is employed to obtain the final solution, two solutions of interest can be obtained. These are called the complex solution and the parsimonious solution. The parsimonious solution is generated by re-analyzing the truth table with the "remainder" rows (configurations lacking adequate empirical instances) set to "don't care" (i.e., configurations with cases less than the frequency threshold [see below] are considered to be associated with the outcome of interest) (Rihoux and Ragin 2007). I interpret the complex solutions in my analysis[24]. Some researchers argue that many of the parsimonious solutions can be

24 In the present study, there are only very few configurations that fulfill the criteria (frequency threshold 3 for B2B firms and 2 for B2C firms). Thus, the parsimonious solutions can be considered to be "too parsimonious" (cf. Ragin and Sonnett 2004). Consider as an example the FSQCA analysis of B2B firms with outcomes sales growth after one year, sales growth after two years and profitability growth after one year. In the analyses of B2B firms with these outcomes, parsimonious solutions consist of every potential configuration of variables (that is, independent of investment selection, business model, assets and funding source configurations are associated with high effectiveness in parsimonious solutions). With the

considered to be "too parsimonious" (i.e., when assumptions oversimplify) (cf. Ragin and Sonnett 2004) because the simplifying assumptions that are incorporated via counterfactual analysis are untenable (i.e., the rows in the truth table that have no empirical evidence) (Järvinen et al. 2009).

"The fuzzy-set analysis can be done veristically with no tolerance for contradictory outcomes, or probabilistically with the researcher defining the level of probability to be tolerated (e.g., 0.80 for "almost always" necessary)" (Kent and Argouslidis 2005: 651). In this dissertation, I will complete my analysis probabilistically and, following Fiss (2011), the level of probability to be tolerated is .80. Hence, sets with levels above the consistency threshold (i.e. .80) will be identified as consistent sufficient conditions for the outcome (1), and the remaining sets will be codified accordingly (0). Following Fiss (2011), the minimum number of cases required for a solution to be considered in my empirical analysis (i.e., frequency threshold) was 3 for B2B firms. Due to smaller sample size, the frequency threshold was relaxed to 2 for my analysis with B2C firms. To simplify, these selected figures mean that for a certain configuration of factors (i.e., investment, market-based assets, source of capital etc.) to qualify as a solution leading to a "high" outcome (of sales or profitability growth), 80% of firms exhibiting that configuration are needed to exhibit the high (sales/profitability growth)

---

aforementioned frequency threshold 3 after "delete and code" command of FSQCA program (the command removes paths without adequate empirical evidence and sorts the remaining paths in order of the consistency) only 2 paths (3 for sales growth after two years) remain in the truth table. Both these paths (or all 3 paths for sales growth after two years) are associated with the favorable outcome, that is high effectiveness. Thus, when there are no paths in the truth table that are not associated with high effectiveness, parsimonious solution results table would be empty (see reporting of Fiss 2011), with all conditions "don't care". For the aforementioned analyses of B2B firms, the FSQCA program does not show any parsimonious solution, instead it returns an error message "Error (Quine-McCluskey): The 1 Matrix Contains All Configurations". Due to the above reasoning, parsimonious solutions have been left out from reporting of the present dissertation.

outcome—and additionally, there needs to be two firms in the sample that exhibited that configuration of factors (three in the case of B2B firms).

FSQCA, thus, enables us to study the influence of configurations of several contingent variables on the marketing investment effectiveness. Essentially, the configurational approach rests on the assumption that organizational phenomena can be best understood by identifying distinct, internally consistent sets of firms rather than universal relationships that hold across all firms (Ketchen et al. 1997). Organizational configurations can be defined as any multidimensional constellations of conceptually distinct but interdependent characteristics that commonly occur together, falling into coherent patterns (Meyer et al. 1993). In the context of this dissertation, these configurations consist of source of capital, market-based asset structure, and product profile, as well as investment selection, that occur together.

The configurational approach acknowledges that there are usually more than one configuration associated with the outcome of interest (Meyer et al. 1993): so called equifinality. Thus, in the context of this analysis, it is possible that there are various combinations of contingent variables that explain a specific performance outcome (i.e., sales/profitability growth).

4. Results

4.1. Marketing investment selection

4.1.1. Contingency table analyses of investment selection

To provide descriptive statistics and simple, model-free evidence, I start below by reporting contingency table analyses of the bivariate relationships between the key independent and contingency variables (source of capital, market-based assets, and product profile) and the marketing activities the firms made significant investments in (of funds obtained as an external capital injection). Specifically, I report what percentage of firms selected to invest in each investment target (i.e., PDM, SCM, CRM, Other Development Projects, Fixed Capacity), out of firms characterized by a particular level (or category) of a contingent variable (e.g., "mass-produced product" product profile). As explained above, the contingency analyses, like all the further analyses below, are conducted separately for B2B and B2C firms.

Results. Table 21 presents a summary of the contingency table analyses for B2B firms. For reasons of conciseness, Table 21 reports all the results of 15 separate contingency table analyses in one table: whether a firm made its substantial investment in each of the 5 investment targets (i.e., PDM, SCM, CRM, Other Development Projects, Fixed Capacity) as analyzed by each of the 3 main contingency variables (product profile, primary source of capital, market-based asset structure).

Note that the 5 different investment targets were analyzed in separate contingency analyses because each firm could report to have made a substantial investment (i.e., 1st or

2nd most money used, of the external capital injection) in more than one investment target (e.g., primarily to PDM and secondarily to SCM), meaning that the selection of any one investment target did not entirely exclude an investment in another target. Therefore, each investment target warranted its own contingency table.

Table 21 B2B firm's marketing investment selection: summary of contingency table analyses

Variable	*Substantial investment in*					N
	Offering & PDM = Yes (%)	**Channels & SCM = Yes (%)**	**Selling & CRM = Yes (%)**	**Other Development Projects = Yes (%)**	**Fixed Capacity= Yes (%)**	**Total**
Investment made – % of B2B firms in total	70.8	20.4	30.7	15.3	11.7	137
Product profile: *Investment made – % of B2B firms whose product profile is…*	n.s.	n.s.	n.s.	n.s.	n.s.	137
Mass-produced product	73.6	22.6	34.0	13.2	11.3	53
Mass-produced service	73.3	20.0	33.3	13.3	6.7	15
Customized product	66.7	22.2	27.8	18.5	9.3	54
Customized service	40.0	20.0	40.0	20.0	40.0	5
Complementary product[a]	100.0	.0	.0	.0	.0	2
Complementary service[b]	75.0	.0	25.0	25.0	25.0	4
Future product[c]	100.0	.0	25.0	0.0	25.0	4
Primary source of capital[d]**:** *Investment made – % of B2B firms whose investment funds were primarily from…*	*	n.s.	n.s.	n.s.	n.s.	137
Entrepreneur	75.0	16.7	41.7	4.2	8.3	24
Other equity	84.6	.0	38.5	15.4	15.4	13
Debt	62.7	25.3	29.3	18.7	13.3	75
Public subsidy	100.0	25.0	16.7	.0	.0	12
Multiple sources	69.2	15.4	23.1	30.8	15.4	13
Market-based assets – cluster: *Investment made – % of B2B firms whose market-based assets were…*	**	**	n.s.	n.s.	n.s.	137
Domestic	55.0	35.0	30.0	22.5	20.0	40
No domestic & no product	80.4	12.5	25.0	12.5	7.1	56
Abroad	73.2	17.1	39.0	12.2	9.8	41

Note: Table summarizes the results of 15 contingency tables (five different investment targets by three contingent variables).

[a] Company sells tangible products but primarily makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).

[b] Company sells tangible products but primarily makes its profits on selling *services complementary* to the product (e.g., elevators + *elevator maintenances*).

[c] Company develops products of whose sales it expects to get income in the future.

[d] Appendix F illustrates the calculation of the primary source of capital.

Chi-square test: **significant at $p < .05$; *significant at $p < .10$; n.s. not significant at the .10 level.

The contingency tables indicate, first of all, that there is a statistically significant relationship between the primary source of capital of an external capital injection and whether or not B2B invest that capital in Offering & PDM (chi square = 8.77, df 4, $p < .06$). Specifically, firms with debt as the primary source of capital invest somewhat less often (62.7 %) in Offering & PDM than firms with other types of funding as primary source of capital or B2B firms in general (70.8%). Moreover, the Table confirms that intuition that firms with public subsidy as the primary source of capital invest more often in Offering & PDM (100.0%) than others—which is intuitively logical since many public subsidies (e.g., by Finnish Funding Agency for Technology and Innovation *Tekes*) are expressly product development subsidies.

Second, the contingency tables reveal that in addition to the source of capital, the investment in Offering & PDM significantly depends on market-based asset structure, too (chi square = 7.42, df 2, $p < .02$): B2B firms with only modest stocks of market-based assets and no product (yet) at offer in the markets invest more often (80.4%) in Offering & PDM than firms with extensive stocks of market-based assets domestically (55.0%) or abroad (73.2%). Third, the contingency table analysis indicates that another investment target, Channels & SCM, also has a statistically significant relationship with market-based assets (chi square = 7.67, df 2, $p < .02$). Namely, firms with extensive stock of domestic market-based assets invest more in Channels & SCM (35%) than firms with extensive stock of market-based assets abroad (17.1%) and with scarce market-based assets (12.5%). It is somewhat surprising that among the firms with internationalization focus firms with scarce market-based assets and thus no channels abroad do not heavily

invest in Channels & SCM. On the other hand, firms with some existing business in Finland seem to want to internationalize with Channels & SCM investment.

Over and beyond these statistical dependencies of Offering & PDM investment with the primary source of capital and market-based assets, and Channels & SCM investments and market-based assets, the contingency table analyses do not reveal other simple, statistically significant bivariate dependencies between the investment targets and the contingency variables (e.g., product profile).

Similar as for B2B firms, Table 22 summarizes contingency table analyses for B2C firms.

Table 22 B2C firm's marketing investment selection: summary of contingency table analyses

Variable	Investment in (%)					N
	Offering & PDM = Yes (%)	Channels & SCM = Yes (%)	Selling & CRM = Yes (%)	Other Development Projects = Yes (%)	Fixed Capacity= Yes (%)	
Investment made – % of B2C firms in total	76.7	25.0	23.3	13.3	21.7	60
Product profile: *Investment made – % of B2C firms whose product profile is…*	n.s.	n.s.	n.s.	n.s.	n.s.	60
Mass-produced product	65.5	37.9	27.6	17.2	24.1	29
Mass-produced service	100.0	0.0	25.0	.0	.0	4
Customized product	76.5	17.6	23.5	17.6	35.3	17
Customized service	100.0	25.0	.0	.0	.0	4
Complementary product[a]	–	–	–	–	–	0
Complementary service[b]	100.0	.0	.0	.0	.0	1
Future product[c]	100.0	.0	20.0	.0	.0	5
Primary source of capital[d]**:** *Investment made – % of B2C firms whose investment funds were primarily from…*	n.s.	n.s.	n.s.	n.s.	*	60
Entrepreneur	88.9	11.1	44.4	.0	.0	9
Other equity	66.7	11.1	22.2	11.1	22.2	9
Debt	72.4	31.0	20.7	17.2	27.6	29
Public subsidy	100.0	28.6	14.3	14.3	.0	7
Multiple sources	66.7	33.3	16.7	16.7	50.0	6
Market-based assets – cluster: *Investment made – % of B2C firms whose market-based assets were…*	*	n.s.	n.s.	n.s.	n.s.	60
No abroad & no product & domestic	77.8	22.2	33.3	11.1	22.2	9
No domestic	84.2	18.4	18.4	15.8	15.8	38
Abroad & domestic & product	53.8	46.2	30.8	7.7	38.5	13

Note: Table summarizes the results of 15 contingency tables (five different investment targets by three contingent variables).

[a] Company sells tangible products but primarily makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).

[b] Company sells tangible products but primarily makes its profits on selling *services complementary* to the product (e.g., elevators + *elevator maintenances*).

[c] Company develops products of whose sales it expects to get income in the future.

[d] Appendix F illustrates the calculation of the primary source of capital.

Chi-square test: *significant at $p < .10$; n.s. not significant at the .10 level; – proportion not estimable.

The contingency tables show that the investment in Offering & PDM significantly depends on market-based asset structure (chi square = 5.00, df 2, $p < .09$). B2C firms with only modest stocks of market-based assets invest more often (77.8 % and 84.2 %) in Offering & PDM than firms with extensive stocks of market-based assets (53.8 %). Second, the contingency tables indicate that Fixed Capacity investment has a statistically significant relationship with primary source of capital (chi square = 7.86, df 4, $p < .10$). Namely, firms with entrepreneur's own money (.0 %) or public subsidies (.0 %) as primary source of capital invest less in Fixed Capacity than firms with alternative primary funding sources such as other equity (22.2 %) or debt (27.6 %). Thus, it seems that it is easier to raise external funding to capacity investments (due to perceived lower risk perhaps) than to intangible investments.

Over and beyond the statistical dependencies of Offering & PDM investment with market-based assets and Fixed Capacity investment with primary source of capital, the contingency table analyses do not show other statistically significant bivariate dependencies between the investment targets and the contingency variables.

4.1.2. Investment selection and the interactions of the contingency variables

The above contingency tables provided descriptive analyses of whether there are simple bivariate relationships of individual contingency variables (source of capital, market-based assets, product profile), on one hand, and marketing investment selection, on the other. Rather few statistically significant dependencies were revealed by the contingency variables, as such, and the investment selection. This is likely to depend on the fact that individual contingency variables *alone* do not tend to determine or predict

investment selection—but investment selection is rather likely to be dependent on a *combination* or configuration of interacting contingency variables. This combinatory effect of the contingency variables is, in essence, the issue in research question 1b of this study: How do combinations of (i) the source of funding and (ii) existing strategic factors such as market-based assets affect the selection of marketing investments? Moreover, as the sample size is limited, simple bivariate dependencies may not appear significant, if the interactions between the contingency variables are not accounted for.

To move towards analyzing how the *interactions* of the key contingency variables, together or in combination, can lead to the selection of certain marketing investments, binary logistic regression analyses were conducted in a stepwise prodecure. The stepwise binary logistic regression models were run separately for each investment type (i.e., PDM, SCM, CRM, Other Development Projects, Fixed Capacity) as dependent variable (e.g., with PDM "1" indicates investment in PDM and "0" indicates no investment in PDM). The approach of separate binary logistic regression analyses was chosen over an alternative approach of one multinomial logistic regression model, due to the relative simplicity of the interpretation of former over the latter, as well as the fact that a multinomial logistic regression would also be, in essence, based on a series of binary logistic regression conducted simultaneously (Dessens et al. 2003).

The stepwise procedure was as follows. First, the main effects representing the main contingent variables and control variables were entered in the model as a baseline. Then, two-way interactions between contingent variables were added in a stepwise procedure. The goal of this analysis was to reveal the significance of each two-way interaction between contingent variables in predicting investment selection. Following

Abdul-Muhmin and Umar (2007), among others, Wald's method of the forward stepwise procedure was used, with probabilities of entry and removal set, respectively, at .05 and .1. Due to sample size considerations (Hair et al. 2010) as well as the difficulties in interpreting higher than two-way interactions, the procedure was limited to the inclusion of two-way interaction terms of the contingency variables (45 in number in total). Of the specific variables entered, product profile was originally a categorical variable, and it was recoded into a set of dummy variables. The variables indicating the source of capital of the external capital injection subject to investments, were percentages (See Appendix F for calculation procedure), which were standardized. Market-based asset variables were the variable 'product on offer' standardized, the factor score for stock of domestic assets, and the factor score for stock of assets abroad.[25] Control variables included firm size standardized as well as a factor for technological turbulence and a factor for market turbulence. Continuous variables in the analysis were standardized (mean zero, standard deviation one) to put them on the same scale except for factors that already have a mean of zero and standard deviation of one (e.g., product on offer variable, public subsidy variable). The analyses were, again, conducted separately for B2B firms and B2C firms.

B2B firms. Table 23 presents the results of the logistic regression analyses for B2B firms, in terms of the model coefficients and standard errors from the final step of the stepwise procedure.

25 Increasing the number of categorical variables could have lead to an overload of dummies, which is a computational burden (Bose and Chen 2009). Thus, factor scores were chosen to represent market-based asset variables instead of cluster memberships from contingency tables analyses.

Table 23 B2B firm's marketing investment selection: logistic regression model coefficients (standard errors in parentheses)

Variable	Offering & PDM		Channels & SCM		Selling & CRM	
Intercept	1.26	(.39)***	-1.63	(.43)***	-.67	(.33)**
Product profile						
Mass–produced product (base)	0		0		0	
Mass–produced service	-.31	(.80)	.50	(.86)	-.22	(.72)
Customized product	-.36	(.50)	-.06	(.54)	-.50	(.49)
Customized service	-1.81	(1.06)*	.39	(1.30)	-.84	(1.08)
Complementary product[a]	6.19	(42.62)	-6.36	(69.29)	-6.81	(25.66)
Complementary service[b]	1.88	(2.54)	-12.15	(37.23)	-.75	(1.36)
Future product[c]	8.87	(29.20)	-8.77	(48.58)	-.93	(2.03)
Source of capital						
Debt (base)	0		0		0	
Entrepreneur	-.08	(.24)	-.08	(.27)	.01	(.25)
Other equity	.12	(.25)	-.81	(.52)	.20	(.23)
Public subsidy	.72	(.37)*	-.17	(.27)	-.28	(.23)
Market–based assets						
Product/service on offer	.13	(.26)	.26	(.28)	.61	(.29)**
Stock of assets abroad	-.06	(.24)	-.47	(.31)	.06	(.24)
Stock of domestic assets	-.51	(.24)**	.18	(.26)	-.48	(.26)*
Control variables						
Firm size	-.73	(.30)**	.98	(.37)***	-.48	(.31)
Technological turbulence	.05	(.23)	-.25	(.26)	.04	(.22)
Market turbulence	.08	(.22)	.17	(.24)	-.13	(.21)
Interaction effects						
Mass-produced service x assets abroad	1.74	(.97)*	–		–	
Entrepreneur x product on offer	–		–		-.69	(.29)**

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model.

Table 23 ***Continued***

Variable	Other Development Projects	Fixed Capacity
Intercept	-2.93 (.66)***	-2.47 (.57)***
Product profile		
Mass–produced product (base)	0	0
Mass–produced service	1.04 (1.06)	-.43 (1.45)
Customized product	.87 (.66)	-.51 (.77)
Customized service	1.62 (1.47)	2.36 (1.23)*
Complementary product[a]	-6.39 (38.41)	-3.75 (25.68)
Complementary service[b]	-.54 (1.91)	-1.67 (2.63)
Future product[c]	-7.09 (31.12)	-.44 (2.58)
Source of capital		
Debt (base)	0	0
Entrepreneur	.06 (.32)	.14 (.42)
Other equity	.58 (.32)*	.21 (.33)
Public subsidy	-.85 (.65)	-.12 (.46)
Market–based assets		
Product/service on offer	-.57 (.35)	-.58 (.40)
Stock of assets abroad	-.35 (.32)	.34 (.35)
Stock of domestic assets	1.01 (.36)***	.70 (.35)**
Control variables		
Firm size	.57 (.31)*	.97 (.33)***
Technological turbulence	.29 (.33)	-.39 (.39)
Market turbulence	-.34 (.34)	.17 (.37)
Interaction effects		
Other equity x domestic assets	-.56 (.31)*	–

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model.

First, looking at the main effects of the contingency variables in explaining the marketing investment selection, Table 23 reveals some of the same relationships between particular contingency variables and investment selection, as the contingency table analyses (Table 21). Especially, in line with the contingency table analyses, public subsidies as a source of capital has a significant positive effect on the likelihood that the firm invests in Offering & PDM (Table 23, Column 1: b = .72, s.e. = .37, $p < .10$), while the amount of domestic market-based assets has a negative effect thereon (Column 1: b = -.51, s.e. = .24, $p < .05$). However, somewhat departing from the contingency tables, the entrepreneur's own money as source of capital does not have a significant main effect on the likelihood to invest in Offering & PDM, nor does the market-based asset structure on the likelihood of investing in Channels & SCM. Also, certain additional main effects emerge: Products on offer have a significant positive effect on the likelihood to invest in Selling & CRM (Column 3: b = .61, s.e. = .29, $p < .05$), while domestic market-based assets have a negative effect thereon (Column 3: b = -.48, s.e. = .26, $p < .10$). Also, a customized service as the firm's product profile, has a negative effect on the likelihood to invest in Offering & PDM (Column 1: b = -1.81, s.e. = 1.06, $p < .10$). Likewise, the control variable of firm size is found to have a negative effect on investment in Offering & PDM (Column 1: b = -.73, s.e. = .30, $p < .05$) but a positive effect on investment in Channels & SCM (Column 2: b = .98, s.e. = .37, $p < .01$).

Briefly considering the non-marketing investments, simple main effects emerge, as well: many of the contingency variables have significant effects on the likelihood to invest in Other Development Projects (e.g., domestic market-based assets), while the likelihood to invest in Fixed Capacity is positively affected by variables such as firm size

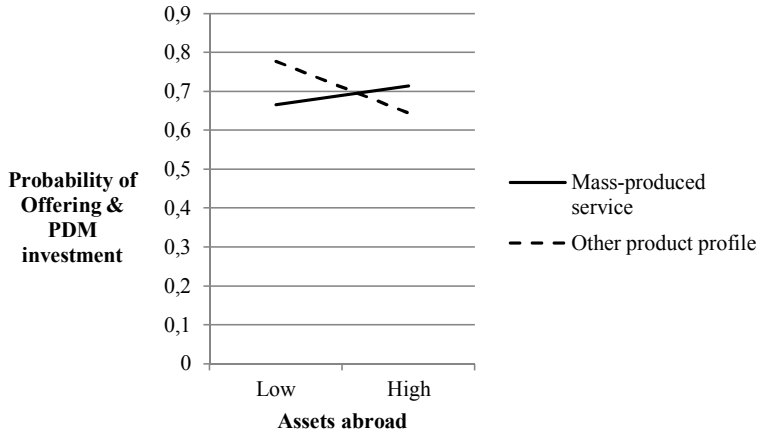
(Table 23, Column 5: b = .97, s.e. = .33, $p < .01$) as well as the amount of domestic market-based assets (Column 5: b = .70, s.e. = .35, $p < .05$), in particular.

When it comes to the main focus of the stepwise logistic regression analyses—that is, the interaction effects of the contingency variables combined (over and beyond the simple main effects of each variable alone)—Table 23 reveals certain significant interaction effects. Figure 3 illustrates these statistically significant interaction effects. Most notably, regarding the marketing investments, the coefficient of the interaction term of the mass-produced service as a product profile and the 'market-based assets abroad' is significantly positive (Table 23, Column 1: b = 1.74, s.e. = .97, p < .10) (see Figure 3a). The positive coefficient suggests that a B2B firm which has mass-produced service as primary offering and which has extensive stocks of market-based assets abroad invests more likely in Offering & PDM than a B2B firm which has other product profile than mass-produced service and has extensive stocks of market-based assets abroad.

Furthermore, in terms of marketing investments, the coefficient of the interaction term of the entrepreneur's own money as a source of capital and the 'product on offer' is significantly negative (Column 3: b = -.69, s.e. = .29, $p < .05$) (see Figure 3b). The negative coefficient suggests that a B2B firm which has *no* ready product on offer in markets and which has a high share of entrepreneur's own money in a capital injection invests more likely in Selling & CRM than a B2B firm which does have a product on offer in markets and has a high share of entrepreneur's own money in the capital injection. Another interpretation of this result is that firms with no product yet in market are more likely to (need to) make their Selling & CRM investments with the

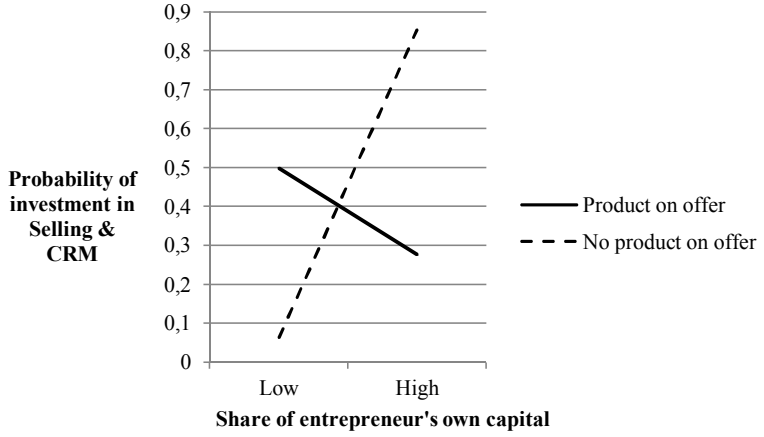
entrepreneur's own money rather than with alternative capital source, while firms that already have products at offer in markets are more likely to be able to raise capital from alternative sources to fund their Selling & CRM investments.

Other significant interaction effects between the contingency variables are not revealed, when it comes to explaining or predicting the marketing investments (Selling & CRM, Offering & PDM, Channels & SCM). Regarding the *non*-marketing investments, a significant interaction term of 'domestic market-based assets' and 'other than the entrepreneur's equity' (e.g., venture capital) as source of capital in explaining Other Development Projets (Table 23, Column 4: b = -.56, s.e. = .31, $p < .10$) (see Figure 3c) suggests that a B2B firm with extensive stocks of domestic market-based assets and a high share of other equity in the capital injection invests less likely in Other Development Projects (e.g., completing an acquisition, training personnel or managers, acquisition and development of activity control data systems) than a firm with modest stocks of domestic market-based assets and a high share of other equity in the capital injection. Another interpretation of this result is, again, that firms with modest stocks of domestic market-based assets are more likely to enable their Other Development Project investments with equity capital such as venture capital, instead of other capital sources.



Notes: Firms whose assets abroad factor was above median represented firms with "High" Assets abroad whereas firms whose assets abroad factor was less than median represented firms with "Low" Assets abroad.

Figure 3a B2B firm's predicted probability of investment in Offering & PDM by market-based assets and product profile



Notes: Firms whose standardized product on offer was at least standard deviation above mean represented firms with "Product on offer" whereas firms whose standardized product on offer was less than standard deviation below mean represented firms with "No product on offer". Likewise, firms whose standardized entrepreneur's own money was at least standard deviation above mean represented firms with a "High" Share of entrepreneur's own capital whereas firms without entrepreneur's own money in the capital injection represented firms with "Low" Share of entrepreneur's own capital.

Figure 3b B2B firm's predicted probability of investment in Selling & CRM by source of capital and market-based assets

B2C firms. Table 24 presents model coefficients and standard errors from the final step of the stepwise logistic regression analysis for B2C firms.

Table 24 B2C firm's marketing investment selection: logistic regression model coefficients (standard errors in parentheses)

Variable	Offering & PDM		Channels & SCM		Selling & CRM	
Intercept	1.39	(.87)	-1.42	(.62)**	-14.05	(7.23)*
Product profile						
Mass–produced product (base)		0		0		0
Mass–produced service	13.27	(61.97)	-8.29	(76.38)	-18.14	(11.45)
Customized product	.96	(1.15)	-.82	(1.04)	-1.08	(2.64)
Customized service	6.33	(70.04)	.89	(1.84)	-97.97	(152.98)
Complementary product[a]		–		–		–
Complementary service[b]	11.10	(164.27)	-8.08	(164.27)	-5.78	(446.52)
Future product[c]	11.60	(58.63)	-7.87	(64.74)	29.27	(16.15)*
Source of capital						
Debt (base)		0		0		0
Entrepreneur	-.97	(.89)	-1.02	(.60)*	29.58	(15.90)*
Other equity	.09	(.53)	-1.10	(.73)	9.15	(4.67)**
Public subsidy	1.25	(.78)	-.35	(.52)	12.89	(6.57)**
Market–based assets						
Product/service on offer	-.13	(.56)	.04	(.46)	21.57	(12.16)*
Stock of assets abroad	-2.78	(1.14)**	.64	(.50)	-18.73	(10.13)*
Stock of domestic assets	-1.67	(.88)*	.25	(.60)	-11.15	(6.56)*
Control variables						
Firm size	1.53	(.76)**	-.44	(.52)	38.61	(20.76)*
Technological turbulence	1.44	(.82)*	-.92	(.51)*	-.76	(.82)
Market turbulence	-2.24	(.94)**	-.15	(.48)	-.46	(1.38)
Interaction effects						
Entrepreneur x assets abroad	-3.00	(1.43)**		–	35.23	(19.33)*
Other equity x assets abroad		–		–	28.92	(16.77)*

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model (there were no firms in the sample with "complementary product" product profile).

Table 24 ***Continued***

Variable	Other Development Projects		Fixed Capacity	
Intercept	-1.41	(.58)**	-1.66	(.69)**
Product profile				
Mass–produced product (base)	0		0	
Mass–produced service	-9.32	(80.24)	-8.15	(79.06)
Customized product	-.64	(1.07)	-.68	(.95)
Customized service	-9.29	(74.79)	-7.27	(71.43)
Complementary product[a]	–		–	
Complementary service[b]	-10.54	(164.27)	-10.85	(164.27)
Future product[c]	-10.69	(70.41)	-11.16	(63.67)
Source of capital				
Debt (base)	0		0	
Entrepreneur	.04	(.58)	-.61	(.60)
Other equity	-.34	(.57)	-.50	(.46)
Public subsidy	-.52	(.69)	-1.70	(.94)*
Market–based assets				
Product/service on offer	-.13	(.55)	-.06	(.50)
Stock of assets abroad	.06	(.51)	1.20	(.57)**
Stock of domestic assets	.18	(.61)	.71	(.57)
Control variables				
Firm size	-.80	(.86)	-1.84	(1.00)*
Technological turbulence	.49	(.54)	-.24	(.52)
Market turbulence	.78	(.65)	1.32	(.71)*
Interaction effects				

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model (there were no firms in the sample with "complementary product" product profile).

To begin with, regarding the main effects of the contingent variables in explaining marketing investment selection, Table 24 shows again some of the same relationships as the earlier contingency tables (Table 22). Specifically, in line with the contingency tables, the amount of domestic market-based assets (Table 24, Column 1: b = -1.67, s.e. = .88, $p < .10$) and the amount of market-based assets abroad (Column 1: b = -2.78, s.e. = 1.14, $p < .05$) have significant negative effects on the likelihood that the firm invests in Offering & PDM. Furthermore, some additional main effects emerge: Entrepreneur's own money (Column 3: b = 29.58, s.e. = 15.90, $p < .10$), other equity (Column 3: b = 9.15, s.e. = 4.67, $p < .05$) and public subsidies (Column 3: b = 12.89, s.e. = 6.57, $p < .05$) as source of capital all have significant positive effects on the likelihood to invest in Selling & CRM, while entrepreneur's own money has a negative effect on the likelihood to invest in Channels & SCM (Column 2: b = -1.02, s.e. = .60, $p < .10$).

Also, a future product as the firm's product profile, has a positive effect on the likelihood to invest in Selling & CRM (Column 3: b = 29.27, s.e. = 16.15, $p < .10$). This is somewhat surprising as one could reason that firms that are only developing an offering from which to get income in the future would focus on PDM activities. Moreover, regarding market-based assets, products on offer has a significant positive effect on the likelihood to invest in Selling & CRM (Column 3: b = 21.57, s.e. = 12.16, $p < .10$), while domestic market-based assets (Column 3: b = -11.15, s.e. = 6.56, $p < .10$) and market-based assets abroad (Column 3: b = -18.73, s.e. = 10.13, $p < .10$) have negative effects thereon. Likewise, firm size is found to have positive effects on investments in Offering & PDM (Column 1: b = 1.53, s.e. = .76, $p < .05$) and Selling & CRM (Column 3: b = 38.61, s.e. = 20.76, $p < .10$). Last, technological turbulence has a

significant positive effect on the likelihood to invest in Offering & PDM (Column 1: b = 1.44, s.e. = .82, $p < .10$) and a significant negative effect on the likelihood to invest in Channels & SCM (Column 2: b = -.92, s.e. = .51, $p < .10$), whereas market turbulence has a significant negative effect on the likelihood to invest in Offering & PDM (Column 1: b = -2.24, s.e. = .94, $p < .05$).

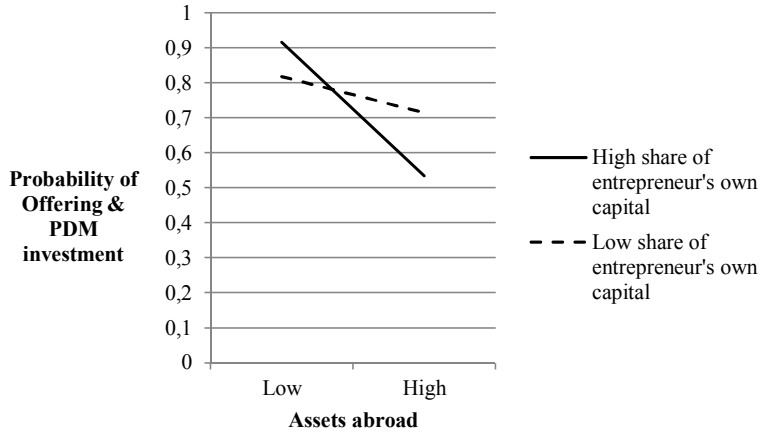
To continue with a brief consideration of the non-marketing investments, simple main effects emerge, also. Especially, in line with the contingency tables, public subsidies as a source of capital has a significant negative effect on the likelihood that the firm invests in Fixed Capacity (Table 24, Column 5: b = -1.70, s.e. = .94, $p < .10$). In addition, the likehood to invest in Fixed Capacity is positively affected by the amount of market-based assets abroad (Column 5: b = 1.20, s.e. = .57, $p < .05$) and market turbulence (Column 5: b = 1.32, s.e. = .71, $p < .10$) as well as negatively affected by firm size (Column 5: b = -1.84, s.e. = 1.00, $p < .10$). On the other hand, the likelihood to invest in Other Development Projects is not significantly affected by any of the contingent variables.

When it comes to the main focus of the analysis—the interaction effects of the contingent variables combined—the results in Table 24 reveals some significant interaction effects. Figure 4 illustrates the statistically significant interaction effects. With regard to the marketing investments, the coefficient of the interaction term of the entrepreneur's own money as a source of capital and the 'market-based assets abroad' is significantly negative with the Offering & PDM investment as the dependent variable (Table 24, Column 1: b = -3.00, s.e. = 1.43, $p < .05$) (see Figure 4a). The negative coefficient suggests that a B2C firm which has scarce market-based assets abroad and

which has high share of entrepreneur's own money in a capital injection invests more likely in Offering & PDM than a B2C firm which has extensive stocks of market-based assets abroad and has a high share of entrepreneur's own money in the capital injection. Another interpretation of the result is that firms with only scarce market-based assets abroad are more likely to (need to) make their investment in Offering & PDM with the entrepreneur's own money rather than with alternative capital sources, while firms with already extensive stocks of market-based assets abroad are more likely to be able to raise capital from alternative sources to fund their investment in Offering & PDM.

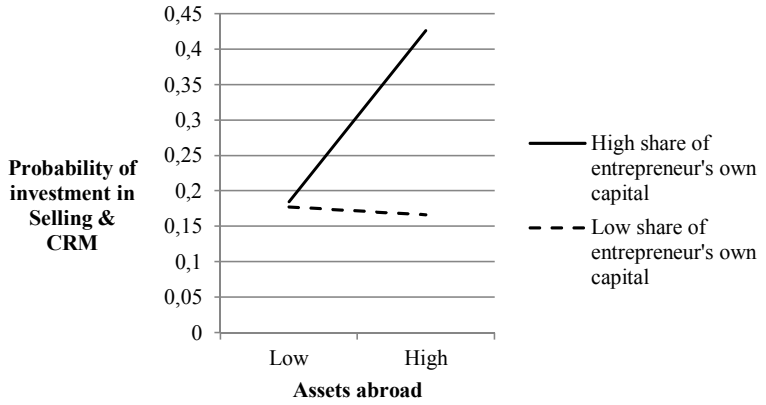
In contrast, the coefficient of the aforementioned interaction term of the entrepreneur's own money as a source of capital and 'market-based assets abroad' is significantly positive with the Selling & CRM investment as the dependent variable (Column 3: b = 35.23, s.e. = 19.33, $p < .10$) (see Figure 4b). The positive coefficient suggests that a B2C firm which has extensive stocks of market-based assets abroad and which has a high share of entrepreneur's own money in a capital injection invests more likely in Selling & CRM than a B2C firm which has only scarce market-based assets abroad and has a high share of entrepreneur's own money in the capital injection. Last, the significant interaction effect of other equity as a source of capital and 'market-based assets abroad' in predicting Selling & CRM investment (Column 3: b = 28.92, s.e. = 16.77, $p < .10$) (see Figure 4c) suggests that a firm with extensive stocks of market-based assets abroad and high share of other than entrepreneur's equity in the capital injection invests more likely in Selling & CRM than a firm with scarce market-based assets abroad and high share of other than entrepreneur's equity in the capital injection. The aforementioned two results can also be interpreted to suggest that firms with extensive

stocks of market-based assets abroad are more likely to enable their Selling & CRM investments with entrepreneur's own money and other equity instead of debt and public subsidies. When it comes to *non*-marketing investments, significant interaction effects between contingent variables are not revealed.



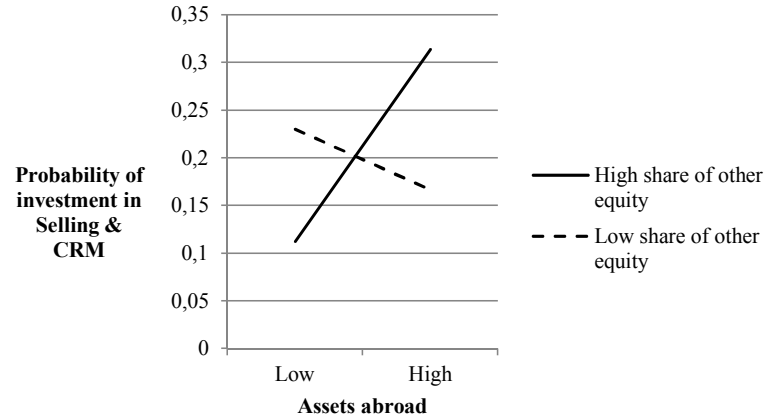
Notes: Firms whose assets abroad factor was less than median represented firms with "Low" Assets abroad whereas firms whose assets abroad factor was more than median represented firms with "High" Assets abroad. Similarly, firms whose standardized entrepreneur's own money was less than median represented firms with "Low share of entrepreneur's own capital" in a capital injection whereas firms whose standardized entrepreneur's own money was more than median represented firms with "High share of entrepreneur's own capital" in the capital injection.

Figure 4a B2C firm's predicted probability of investment in Offering & PDM by market-based assets and source of capital



Notes: Firms whose assets abroad factor was less than median represented firms with "Low" Assets abroad whereas firms whose assets abroad factor was more than median represented firms with "High" Assets abroad. Likewise, firms whose standardized entrepreneur's own money was less than median represented firms with "Low share of entrepreneur's own capital" in a capital injection whereas firms whose standardized entrepreneur's own money was more than median represented firms with "High share of entrepreneur's own capital" in the capital injection.

Figure 4b B2C firm's predicted probability of investment in Selling & CRM by market-based assets and source of capital (entrepreneur)



Notes: Firms whose assets abroad factor was less than median represented firms with "Low" Assets abroad whereas firms whose assets abroad factor was more than median represented firms with "High" Assets abroad. Likewise, firms whose standardized other equity was less than median represented firms with "Low share of other equity" (than entrepreneur's money) in a capital injection whereas firms whose standardized other equity was more than median represented firms with "High share of other equity" in the capital injection.

Figure 4c B2C firm's predicted probability of investment in Selling & CRM by market-based assets and source of capital (other equity)

4.1.3. Summary and discussion of results on marketing investment selection

Table 25 summarizes results on marketing investment selection.

Table 25 Marketing investment selection: summary of results

Sample	Probability of Investment in Offering & PDM	Channels & SCM	Selling & CRM
B2B	• high share of debt, lower likelihood • no assets, higher likelihood • customized service, lower likelihood • high share of public subsidy, higher likelihood • mass-produced service and assets abroad, higher likelihood	• domestic assets, higher likelihood	• product/service on offer, higher likelihood • domestic assets, lower likelihood • no product/service on offer and high share of entrepreneur's own capital, higher likelihood
B2C	• no assets, higher likelihood • no assets abroad and high share of entrepreneur's own capital, higher likelihood	• high share of entrepreneur's own capital, lower likelihood	• high share of entrepreneur's own capital, higher likelihood • high share of other equity, higher likelihood • high share of public subsidy, higher likelihood • product/service on offer, higher likelihood • domestic assets, lower likelihood • assets abroad, lower likelihood • future product, higher likelihood • assets abroad and high share of entrepreneur's own capital, higher likelihood • assets abroad and high share of other equity, higher likelihood

Simple relationships. First, the analysis showed that B2B firms with debt as primary source of capital invest somewhat less in Offering & PDM than B2B firms with other types of funding as primary source of capital. This result is in accordance with the results of the study of Singh and Faircloth (2005) in finance literature that shows that higher leverage leads to lower R&D expenditure. Additionally, the result supports the findings of Hsiang-Lan, Hsu and Huang (2010) in entrepreneurship literature, who find that small and medium-sized enterprises involved in R&D activities tend to have lower debt levels. The study of Erickson and Jacobson (1992) in management literature explains this finding by claiming that a firm with higher debt (and thus pressures to pay interest expense) may be forced to cut back on less pressing expenditures such as R&D to meet the interest expense. On the other hand, Ang and Madsen (2012) in economics literature suggest that low R&D expenditure of a firm with high debt may be due to banks' conservative bias in their lending policies that perhaps favors capacity investment.

Additionally, by logic the risk associated with R&D investment may be high in comparison to other types of investments and the return on R&D investment may not appear until a long period has passed from the initial investment. Thus it is likely more difficult to acquire debt funding to R&D investments than it is to other types of investments and, as a consequence, entrepreneur herself has to fund investment in R&D or, alternatively, find other types of equity for funding. The empirical analysis also showed that B2B firms with public subsidies as primary source of capital invest more in Offering & PDM than B2B firms with other type of funding as primary source of capital. By definition, public R&D subsidies are often used to finance investment in product

development. Thus, the result is obvious and confirms the finding of Aerts and Schmidt (2008) in public policy literature.

The analysis of B2B firms also revealed that firms with only modest stocks of market-based assets and no product on offer (yet) in the market invest more in Offering & PDM than firms with extensive stocks of market-based assets. This is probably because firms that do not have product or service on offer yet may prioritize product development investments to develop an offering for the marketplace. For these firms challenge is to obtain comparative advantage through their PDM investment as they lack asset and skill base that interacts with PDM expenditure to prevent imitation from competitors (Erickson and Jacobson 1992). Additionally, the empirical analysis showed that B2B firms with extensive stock of *domestic* market-based assets invest more in Channels & SCM than B2B firms with extensive stock of market-based assets abroad. This may be because in stock of market-based assets abroad factor there are items such as "extensive sales and distribution channels to many foreign markets" and "good relationships to retailers and channel partners in many foreign markets" whereas in stock of domestic market-based assets factor such items characterizing distribution channel do not exist. Thus, firms with assets abroad already possess distribution channels abroad and consequently do not perhaps need further investments in Channels & SCM.

Regarding B2C firms, the analysis showed that firms with only modest stocks of market-based assets and no product on offer invest more in Offering & PDM than firms with extensive stocks of market-based assets and product on offer. Similar to the analysis of B2B firms, the reasoning behind this is that firms without product or service on offer probably select to invest in product development to develop an offering with which to

compete in the market. Likewise, as B2B firms, these firms may lack sustainable competitive advantage without interaction of asset base and PDM expenditure (Erickson and Jacobson 1992).

Interactions between variables. Second, the empirical analysis showed that a B2B firm with *no* product/service on offer and high share of entrepreneur's own money in the earlier capital injection invests more likely in Selling & CRM than a B2B firm with product/service on offer and a high share of entrepreneur's own money in the capital injection. This is highly surprising as in general firms with product/service on offer might be expected to invest more (instead of less) heavily in Selling & CRM related activities that by nature might not add value for a firm that does not yet have a marketplace offering in the first place. However, in the aforementioned case, the firm may have tried to negotiate some deals with its Selling & CRM activities already prior to having product/service in the market. Thus, customers may act as co-creators of value (Grönroos 2011), which participate in the actual development of the product or offering. This is, indeed, likely as the question is about B2B firms, considering that in B2B business close relationships to key customers are often built to co-create or co-develop the product or offering itself.

For B2C firms, the analysis of interactions revealed that a firm with only modest stocks of market-based assets abroad and high share of entrepreneur's own money in the earlier capital injection invests more likely in Offering & PDM than a firm with extensive stocks of assets abroad and high share of entrepreneur's own money in the capital injection. Initially, the analysis of simple relationships showed that B2C firms with

modest stocks of market-based assets invest more likely in Offering & PDM than B2C firms with extensive stocks of assets. Surprisingly, the aforementioned analysis of the interactions showed that among B2C firms with a low share of entrepreneur's own money in the earlier capital injection, those firms with extensive stocks of market-based assets abroad in fact invest more likely in Offering & PDM than those firms with only modest stocks of assets abroad. Without the entrepreneur's involvement, there are likely professional investors or creditors such as business angels or venture capitalists involved in financing the investment. These actors may be aware of the potential comparative advantage that results from the interaction of strong asset base abroad and PDM expenditure (Erickson and Jacobson 1992).

Analysis of B2C firms also revealed that a firm with extensive stocks of market-based assets abroad and a high share of entrepreneur's own money in the earlier capital injection invests more likely in Selling & CRM than a firm with only modest stocks of assets abroad and high share of entrepreneur's own money in the capital injection. Additionally, the empirical analysis showed that a B2C firm with extensive stocks of market-based assets abroad and high share of other equity in the earlier capital injection invests more likely in Selling & CRM than a B2C firm with only modest stocks of assets abroad and high share of other equity in the capital injection. Analysis of B2C firms suggests that in general, higher market-based assets abroad are associated with lower likelihood to invest in Selling & CRM. Interestingly, for firms with either (*i*) a high share of entrepreneur's own money or (*ii*) a high share of other equity in the earlier capital injection, higher stocks of market-based assets abroad in fact are associated with higher likelihood to invest in Selling & CRM. First, owner-managers of firms with extensive

stocks of market-based assets abroad already have great confidence knowing that CRM programs work and influence bottom-line results (Palmatier, Gopalakrishna and Houston 2006). Thus, entrepreneur herself as main funder of investment and most likely as the key decision-maker regarding the type of investment, may lean the investment decision towards another CRM investment. In addition, managers of firms with high stocks of assets abroad may be able to present documents of economic returns provided by past CRM activities to potential investors (Palmatier, Gopalakrishna and Houston 2006). Thus, these managers may be better able to persuade potential equity investors such as business angels and venture capitalists to fund CRM activities than managers in firms without stocks of assets abroad.

4.2. Marketing investment effectiveness

Over and above the selection of marketing investments by firms, and factors affecting the likelihood of those investments, this Chapter essentially concentrates on the analyses and results concerning the *effectiveness* of those marketing investments. As such, this Chapter focuses on Research question RQ2: *What configurations of marketing investments, sources of funding, and strategic factors such as market-based assets are effective in attaining growth?*

Similarly as in the analyses of marketing investment selection (Section 4.1), I first provide descriptive statistics and simple, model-free evidence of marketing investment effectiveness. Specifically, as the key outcome variables of marketing investment effectiveness presently are sales and profitability growth, I start by reporting simple Analyses of Variance (ANOVAs) of the growth metrics, categorized by the firm's selected investments as well as contingency variables. The ANOVAs are reported here

instead of contingency table analyses, because sales and profitability growth are continuous variables (instead of categorical, like the investment selections in Section 4.1).

After the descriptive analyses and ANOVAs regarding the simple bivariate relationships between the sales/profitability growth and investments and their contingency variables, I turn to modeling the *combinations or configurations* of the selected investments and the contingency variables, in explaining the sales/profitability growth. This is done through a series of regression analyses, where the sales/profitability growth is regressed on the investment selection and contingency variables in a stepwise procedure. Finally, I complement this analysis with the set-theoretic FSQCA method.

4.2.1. Descriptive statistics and ANOVAs of investment effectiveness

One-way ANOVA (B2B firms). Table 26 reports the means, standard deviations, and ranges of all the continuous variables, as well as the bivariate correlations between the continuous variables, for the B2B firms.

Table 26 Variable properties (B2B firms)

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10
1. Entrepreneur (%)	.23	.29	.00	1.00	1									
2. Other equity (%)	.12	.25	.00	1.00	-.20**	1								
3. Debt (%)	.50	.36	.00	1.00	-.53***	-.42***	1							
4. Public subsidy (%)	.15	.25	.00	1.00	-.18**	-.16*	-.43***	1						
5. Product on offer	2.87	1.06	1.00	4.00	-.09	.06	.04	-.02	1					
6. Assets abroad	.00	1.00	-1.56	2.97	-.10	-.06	.11	.02	.22***	1				
7. Domestic assets	.00	1.00	-2.05	2.19	-.10	.00	.12	-.05	.39***	.00	1			
8. Firm size (in 1000s of EURs)	7333.22	13095.93	.00	88631.00	-.13	.04	.13	-.08	.26***	.23***	.29***	1		
9. Technological turbulence	.00	1.00	-2.56	1.79	.07	.06	-.12	.03	-.11	-.10	-.18**	-.21**	1	
10. Market turbulence	.00	1.00	-2.13	3.14	.10	.11	-.14*	-.02	-.10	-.08	-.04	-.07	.00	1

Notes: S.D. = standard deviation. Entries below the diagonal of the correlation matrix are variable correlations. ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$. n = 137 (except 130 for firm size).

To provide an initial analysis of the relationship between the marketing investment selection, as such, and sales/profitability growth, one-way ANOVAs of these performance outcomes or goals were conducted. Thus, the independent variable in the ANOVAs was the investment selection. As dependent variable, four versions of the sales/profitability goal was analyzed: (1) sales growth after one year, (2) sales growth after two years, (3) profitability growth after one year, (4) and profitability growth after two years. All these dependent variables were in (growth) percentages (see Appendix D for the exact procedures of calculating these growth percentages). Table 27 reports the simple means (and standard errors) of these sales/profitability growth metrics, classified by the firm's investment selection (additionally, Appendix G reports the means and standard errors of the sales/profitability growth metrics classified by the firm's product profile, primary source of capital, and market-based assets cluster). Figures from 5a to 5d illustrate these means. Among the four ANOVAs, a visual inspection and statistics in Table 27 show that certain differences exist in the growth outcomes related to firms with different investment selections. Most notably, concerning marketing investments, firms that invested in Offering & PDM seem to have relatively higher sales growth after one year ($M_{sales1yr}$ = .47) and two years ($M_{sales2yr}$= 1.33) than firms that invested in Channels & SCM ($M_{sales1yr}$ = .07; $M_{sales2yr}$ = .14) or Selling & CRM ($M_{sales1yr}$ = .21; $M_{sales2yr}$ = .29). However, these differences are not statistically highly significant in pairwise comparisons, even if the overall, omnibus *F* test is marginally significant for the effect of the investment selection on two-year sales growth (F [4, 93] = 2.28, p = .07). Moreover, in terms of profitability growth, the growth of firms with investment in Offering & PDM ($M_{profitability1yr}$ = .08) is not equally much higher as the sales growth, when compared to

firms with investments in Channels & SCM ($M_{profitability1yr}$ = .00) or Selling & CRM ($M_{profitability1yr}$ = .00). Actually, after two years, firms with investment in Offering & PDM seem to have an even lower—negative—mean profitability growth ($M_{profitability2yr}$ = -.42) than firms with investments in Channels & SCM ($M_{profitability2yr}$ = .05) or Selling & CRM ($M_{profitability2yr}$ = .02). As such, this particular observation may, of course, be due to certain outlier firms (with very large profit drops), which is implied by the fact that the median profitability growth of firms that invested in Offering & PDM is positive after two years.

Regarding the firms with *non*-marketing investments, firms that invested in Other Development Projects have, in visual inspection, higher mean sales growth than other firms after one and two years ($M_{sales1yr}$ = .45; $M_{sales2yr}$ = 5.06), while firms that invested in Fixed Capacity have higher mean profitability growth after two years ($M_{profitability2yr}$ = -.06) than after one year ($M_{profitability1yr}$ = -.72). However, the overall, omnibus *F* tests are not significant for these investments, nor the pairwise comparisons.

Table 27 Performance outcomes by investment selection: descriptive statistics (B2B firms)

	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
Investment Selection	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Offering & PDM	.47	.16	1.33	.60	.08	.12	-.42	.53
Channels & SCM	.07	.19	.14	.17	.00	.05	.05	.05
Selling & CRM	.21	.13	.29	.31	.00	.02	.02	.06
Other Development Projects	.45	.38	5.06	3.33	.03	.08	.10	.08
Fixed Capacity	-.04	.11	-.11	.08	-.72	.73	-.06	.04

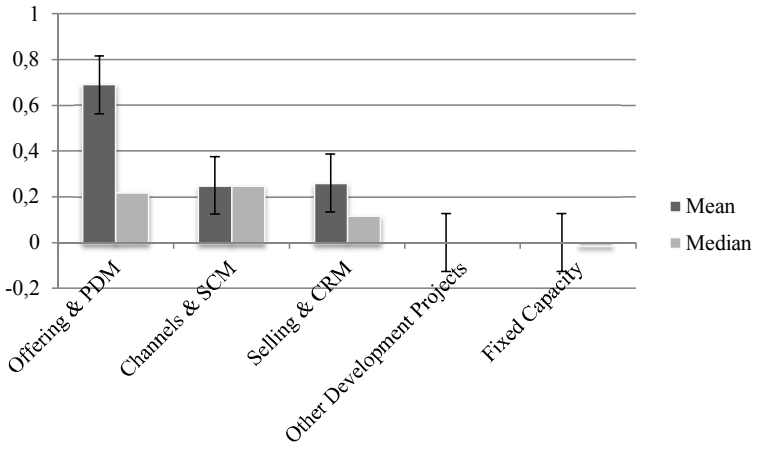


Figure 5a Mean and median sales growth after one year by investment selection for B2B firms

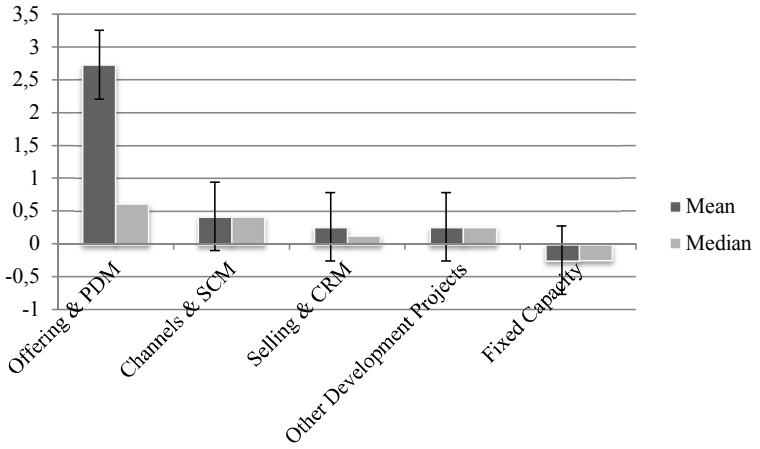


Figure 5b Mean and median sales growth after two years by investment selection for B2B firms

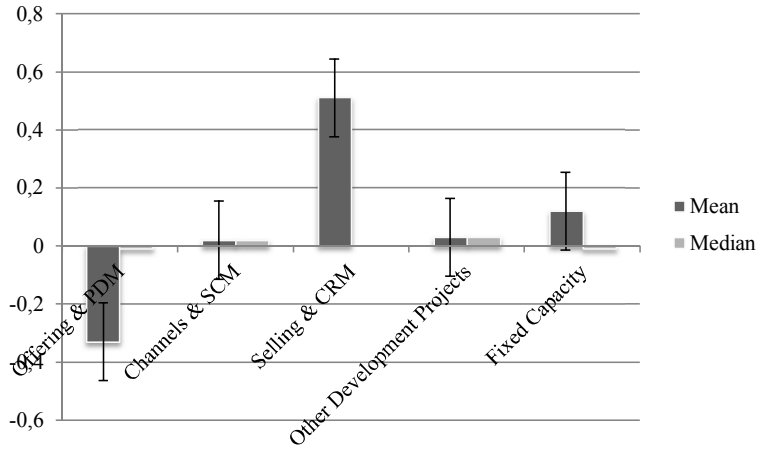


Figure 5c Mean and median profitability growth after one year by investment selection for B2B firms

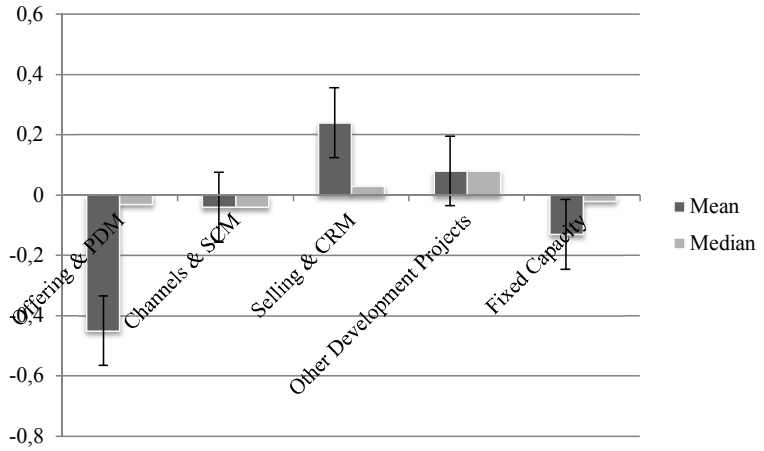


Figure 5d Mean and median profitability growth after two years by investment selection for B2B firms

One-way ANOVA (B2C firms). Similar as for B2B firms, Table 28 reports the means, standard deviations, and ranges of all the continuous variables, as well as the bivariate correlations between the continuous variables, for the B2C firms.

Table 28 Variable properties (B2C firms)

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10
1. Entrepreneur (%)	.21	.29	.00	1.00	1									
2. Other equity (%)	.16	.30	.00	1.00	-.25*	1								
3. Debt (%)	.46	.37	.00	1.00	-.39***	-.46***	1							
4. Public subsidy (%)	.17	.28	.00	1.00	-.24*	-.20	-.43***	1						
5. Product on offer	2.62	1.14	1.00	4.00	-.36***	.11	.12	.09	1					
6. Assets abroad	.00	1.00	-1.28	2.83	-.14	-.23*	.35***	-.09	.32**	1				
7. Domestic assets	.00	1.00	-1.58	2.12	-.21	-.03	.34***	-.21	.30**	.00	1			
8. Firm size (in 1000s of EURs)	6871.83	11984.86	.00	66577.00	-.20	-.19	.48***	-.22	.26**	.41***	.56***	1		
9. Technological turbulence	.00	1.00	-2.10	1.50	-.02	.03	-.14	.16	.02	-.01	.02	-.08	1	
10. Market turbulence	.00	1.00	-2.00	2.01	.13	.02	-.24*	.17	.10	.08	-.09	.18	.00	1

Notes: S.D. = standard deviation. Entries below the diagonal of the correlation matrix are variable correlations. ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$. n = 60 (except 57 for firm size).

Similar as for B2B firms, I conducted one-way ANOVAs of the performance outcomes with the investment selection as the independent variable. Again, Table 29 reports the simple means (and standard errors) of the sales/profitability growth metrics, classified by the firm's investment selection, with Figures from 6a to 6d illustrating the means (in addition, similar to B2B firms, Appendix G reports the means and standard errors of the growth metrics, classified by the firm's product profile, primary source of capital and market-based assets cluster). A visual inspection and statistics in Table 29 show that certain differences exist in the growth outcomes related to firms with different investment selections. Regarding marketing investments, firms that invested in Offering & PDM seem to have higher sales growth after one year ($M_{sales1yr}$ = .69) and two years ($M_{sales2yr}$ = 2.73) than firms that invested in Channels & SCM ($M_{sales1yr}$ = .25; $M_{sales2yr}$ = .42) or Selling & CRM ($M_{sales1yr}$ = .26; $M_{sales2yr}$ = .26). Yet, the profitability growth of firms with investment in Offering & PDM ($M_{profitability1yr}$ = -.33; $M_{profitability2yr}$ = -.45) is lower than the profitability growth of firms with investments in Channels & SCM ($M_{profitability1yr}$ = .02; $M_{profitability2yr}$ = -.04) or, especially, Selling & CRM ($M_{profitability1yr}$ = .51; $M_{profitability2yr}$ = .24). However, the differences in sales/profitability growth are not statistically highly significant in the overall, omnibus F tests or pairwise comparisons. Furthermore, the differences in the means of profitability growth percentages between firms investing in Offering & PDM and firms investing in Selling & CRM may be due to certain outlier firms (with very large profitability drops and rises) as the range of median profitability growths of firms with investment in Offering & PDM and firms with investment in Selling & CRM is from -3 per cent to 3 per cent (i.e., medians are roughly zero).

In terms of the firms with non-marketing investments, firms that invested in Fixed Capacity have higher mean profitability growth after one year ($M_{profitability1yr}$ = .12) than after two years ($M_{profitability2yr}$ = -.13). Among firms that invest in Other Development Projects, the sales/profitability growth means are modest, ranging from 0 per cent in sales growth after one year to 26 per cent in sales growth after two years. The overall, omnibus F tests are not significant for these investments, however, nor are the pairwise comparisons.

Table 29 Performance outcomes by investment selection: descriptive statistics (B2C firms)

	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
Investment Selection	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Offering & PDM	.69	.24	2.73	1.50	-.33	.23	-.45	.49
Channels & SCM	.25	-	.42	-	.02	-	-.04	-
Selling & CRM	.26	.24	.26	.28	.51	.54	.24	.30
Other Development Projects	.00	.03	.26	.37	.03	.06	.08	.14
Fixed Capacity	.00	.08	-.25	.12	.12	.24	-.13	.11

Notes: Investment in Channels & SCM does not have standard errors as there was only one firm in the sample that invested in SCM.

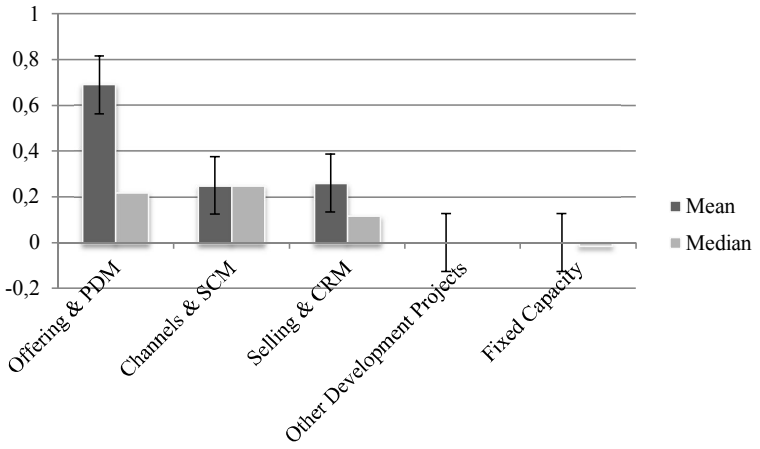


Figure 6a Mean and median sales growth after one year by investment selection for B2C firms

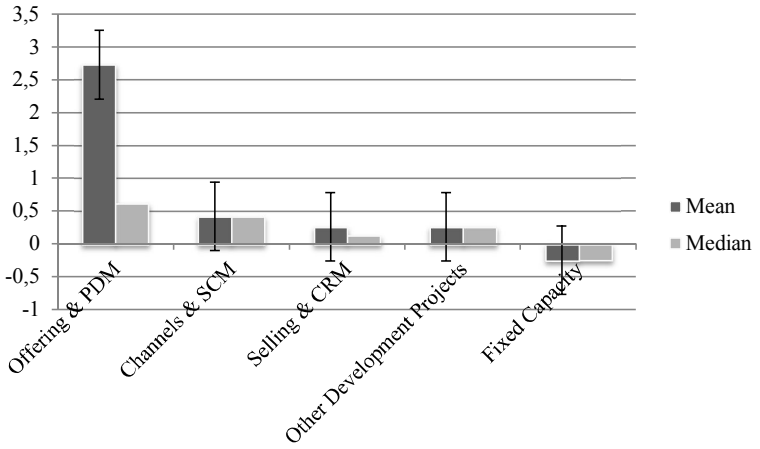


Figure 6b Mean and median sales growth after two years by investment selection for B2C firms

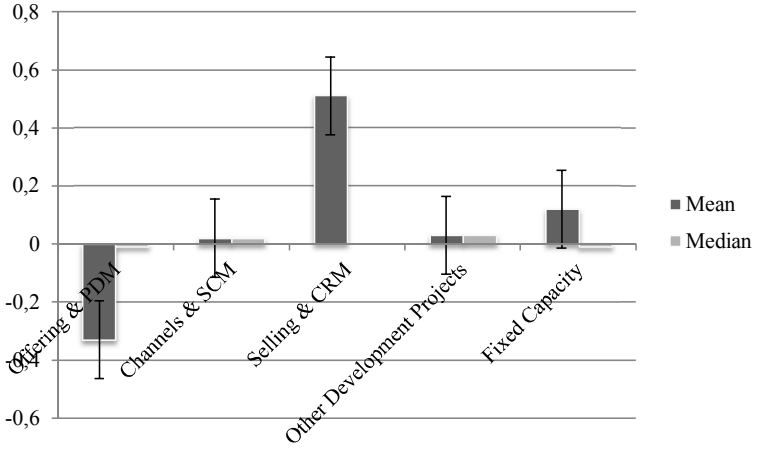


Figure 6c Mean and median profitability growth after one year by investment selection for B2C firms

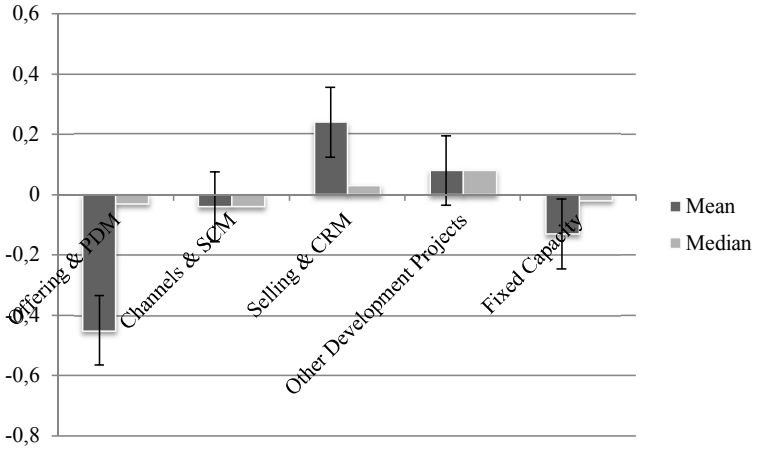


Figure 6d Mean and median profitability growth after two years by investment selection for B2C firms

4.2.2. Sales/profitability growth and the interactions of marketing investments and contingency variables

The above ANOVAs provided initial analyses of whether there are bivariate relationships between firms' marketing investments and their sales/profitability growth. Some indication of differences in sales and profitability growth of firms with different investments was found, albeit that the statistical significance of these simple, bivariate relationships (or, main effects) was, at most, marginal. Like with explaining the investment selections per se (section 4.1.2), the bivariate relationships (main effects) is likely to depend on the fact that the marketing investments *alone* do not tend to determine effects on sales or profitability growth—but rather the effectiveness is dependent or contingent on a *combination* of marketing investment and a number of contingency variables. This combinatory effect of the contingency variables is, in essence, the issue in research question RQ2 of this study: *What configurations of marketing investments, sources of funding, and strategic factors such as market-based assets are effective in attaining growth*? Moreover, again, as the sample size is limited, simple main effects of marketing investments may not appear significant, if their interactions between the contingency variables are not accounted for.

Thus, to analyze how the *interactions* of the investment selections and key contingency variables, in combination, affect sales and profitability growth, linear regression analyses were conducted in a stepwise prodecure. The stepwise procedure was as follows. First, the main effects representing the investment selection, the contingent variables, as well as the control variables were entered in the model. Then, two-way interactions between the investment selection and contingent variables were added in a

stepwise procedure. In the stepwise procedure used, probabilities of entry and removal were respectively set at .05 and .10. Investment selection was a categorical variable recoded into set of dummy variables. Product profile was also a categorical variable recoded into set of dummy variables. Source of capital variables were percentages that were standardized[26]. Market-based asset variables were the product on offer standardized, the factor for stock of domestic assets, and the and factor for stock of assets abroad. Control variables were firm size standardized, as were the factors for technological turbulence and factor for market turbulence. Again, the analyses were run separately for B2B and B2C firms.

Stepwise linear regression: B2B firms. Table 30 presents final step model coefficients and standard errors for B2B firms.

First, regarding the main effects of marketing investments on sales and profitability growth, Table 30 supports some of the simple differences indicated by the ANOVAs of the sales/profitability growth of firms with different investments (Table 27; Figures 5a-5d). Especially, partly in line with the ANOVAs, investments in Offering & PDM is found to have a positive effect on profitability growth after one year (Table 30, Column 3: b = .88, s.e. = .38, $p < .05$). In contrast, the negative effect (Table 27; Figure 5d) of Offering & PDM investment on profitability growth after two years is not significant. Moreover, a linear regression analysis where the variables are Winsorized to account for outliers (see Appendix H), further decreases the negative effect of Offering & PDM investments on profitability growth after two years, implying that any ostensible

26 For purposes of simplicity, standardization was not repeated once the outliers and missing values were deleted in performance outcome calculations. Thus, standardized values here refer to values received when standardizing variables with whole B2B firm sample and whole B2C firm sample.

negative effect there may be caused by few outlier observation (i.e., individual firms with large profitability drops).

In addition to the main effect of Offering & PDM investments, investments in Selling & CRM have a positive effect on profitability growth after one year (Column 3: b = .85, s.e. = .41, $p < .05$). This finding is in line with the somewhat heightened mean profitability growth found for firms with investments in Selling & CRM in the ANOVAs above (Table 27; Figure 5c).

Briefly regarding the non-marketing investments, a main effect—as also implied by the ANOVAs (see Figure 5b above)—is found for investment in Other Development Projects and sales growth after two years (Table 30, Column 2: b = 6.08, s.e. = 1.70, $p < .01$). However, supporting the notion that this main effect may be a product of a few outliers (e.g., firms with significant acquisitions), the effect becomes less significant in an analysis where the variables are Winsorized to account for outliers (Appendix H).

With regard to the main focus of the stepwise regression analyses—the interaction effects of the investment selections and contingency variables—Table 30 reveals several significant interaction effects. Figures 7a and 7b illustrate the statistically significant interaction effects that include marketing investments. Here, the interaction term of the entrepreneur's own money as a source of capital and a substantial investment in Offering & PDM is negative and significant (Table 30, Column 3: b = -.46, s.e. = .19, $p < .05$), for profitability growth after one year (see Figure 7a). The negative coefficient suggests that a B2B firm which makes a substantial investments in Offering & PDM with a high share of entrepreneur's own money, will tend to have weaker profitability growth than firms

making Offering & PDM investments with funding from other sources or firms making other than Offering & PDM investments.

Moreover, another significant interaction effect found for marketing investments also concerns Offering & PDM investment: the interaction effect of such an investment and 'future product' oriented product profile or business model is negative on profitability growth after two years (Column 4: b = -26.86, s.e. = 1.89, $p < .01$; see Figure 7b). The result suggests that firms that focus merely on investing in an innovation project that will be sold later in the markets (or to an industrial buyer) will tend to have poor effectiveness of their Offering & PDM investments in terms of profitability growth. This implies that the development of the innovation/offering by these firms may take an extended time, which leads on average to compromised profitability growth for several years.

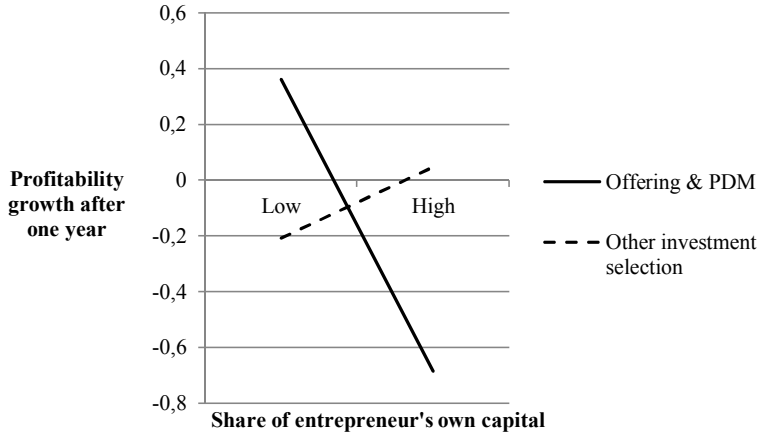
Other significant interaction effects between marketing investment selections and contingency variables are not revealed, when it comes to explaining or predicting effectiveness of the marketing investments (Selling & CRM, Offering & PDM, Channels & SCM) in terms of sales and profitability growth. Regarding the *non*-marketing investments, a significant interaction effect is found for investments in Other Development Projects and the product profile of customized product when it comes to sales growth after one year (Table 30, Column 1: b = 1.71, s.e. = .77, $p < .05$). Also, the interactions of an investment in Other Development Project and market-based assets abroad (Column 2: b = 5.95, s.e. = .85, $p < .01$) and complementary services product profile (Column 2: b = -23.41, s.e. = 4.80, $p < .01$) are significant when it comes to sales growth after two years. It also seems that these results are not explained by a few outlier

observations, as a model wherein the variables are Winsorized, indicates equally significant interactions here (Appendix H).

Table 30 B2B firm's marketing investment effectiveness: linear regression final step model coefficients (standard errors in parentheses)

Variable	Sales Growth after One Year	Sales Growth after Two Years	Profitability Growth after One Year	Profitability Growth after Two Years
Intercept	.65 (.46)	.87 (1.39)	-.58 (.39)	.42 (.56)
Investment selection				
Offering & PDM	.01 (.45)	.39 (1.39)	.88 (.38)**	-.30 (.56)
Channels & SCM	-.30 (.52)	-.73 (1.56)	.57 (.44)	-.24 (.64)
Selling & CRM	-.20 (.48)	.01 (1.46)	.85 (.41)**	-.18 (.59)
Other Development Projects	-.72 (.62)	6.08 (1.70)***	.63 (.45)	-.35 (.67)
Fixed Capacity (base)	0	0	0	0
Product profile				
Mass–produced product (base)	0	0	0	0
Mass–produced service	-.74 (.36)**	-.65 (1.18)	-.25 (.30)	-.16 (.47)
Customized product	-.45 (.24)*	-.68 (.68)	-.28 (.19)	-.39 (.27)
Customized service	-.31 (.55)	-.26 (1.70)	.11 (.47)	.28 (.67)
Complementary product[a]	-1.54 (.99)	–	-.16 (.84)	–
Complementary service[b]	2.34 (.62)***	13.58 (2.18)***	-.10 (.53)	.87 (.76)
Future product[c]	-.52 (.64)	-2.17 (2.46)	-.94 (.55)*	1.09(1.51)
Source of capital				
Debt (base)	0	0	0	0
Entrepreneur	.04 (.11)	-.03 (.38)	.16 (.15)	-.12 (.15)
Other equity	.16 (.11)	.15 (.40)	.11 (.10)	-.34 (.16)**
Public subsidy	.06 (.11)	.15 (.33)	.04 (.09)	-.05 (.13)
Market–based assets				
Product/service on offer	-.17 (.12)	-.51 (.36)	.05 (.10)	-.09 (.14)
Stock of assets abroad	-.00 (.11)	-.14 (.36)	-.11 (.09)	-.07 (.13)
Stock of domestic assets	.00 (.12)	.10 (.37)	.02 (.10)	.04 (.15)
Control variables				
Firm size	-.25 (.12)**	-.20 (.45)	.08 (.10)	-.10 (.15)
Technological turbulence	-.12 (.11)	-.52 (.34)	-.17 (.09)*	.15 (.13)
Market turbulence	-.06 (.10)	.04 (.30)	-.01 (.08)	.03 (.12)
Interaction effects				
Other Development Projects x customized product	1.71 (.77)**	–	–	–
Other Development Projects x assets abroad	–	5.95 (.85)***	–	–
Other Development Projects x complementary service	–	-23.41 (4.80)***	–	–
PDM x entrepreneur	–	–	-.46 (.19)**	–
PDM x future product	–	–	–	-26.86(1.89)***

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model (there were no firms in the two-year-lag samples with "complementary product" product profile).



Notes: Firms whose standardized entrepreneur's money was at least one standard deviation above zero represented firm with "High" Share of entrepreneur's own capital whereas firms without entrepreneur's own money in capital injection represented firms with "Low" Share of entrepreneur's own capital.

Figure 7a B2B firm's predicted profitability growth after one year by investment selection and source of capital

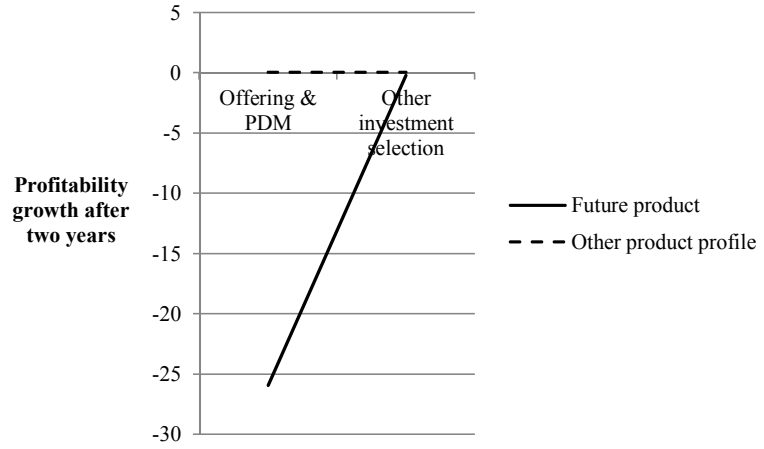


Figure 7b B2B firm's predicted profitability growth after two years by investment selection and product profile

Stepwise linear regression: B2C firms. Table 31 presents final step model coefficients and standard errors for B2C firms.

To begin with, in terms of the main effects of marketing investments on sales and profitability growth, Table 31 does not support any of the simple differences found in the ANOVAs of the sales/profitability growth of firms with different investments (Table 29; Figures 6a-6d). Most notably, the positive effect (Table 29; Figures 6a and 6b) of Offering & PDM investment on sales growth after one year and after two years is not significant. Likewise, the negative effect (Table 29; Figures 6c and 6d) of Offering & PDM investment (and positive effect of Selling & CRM investment) on profitability growth after one year and after two years is not significant. Furthermore, a linear regression analysis where the variables are Winsorized (see Appendix H), further decreases the negative effect of Offering & PDM investments and the positive effect of Selling & CRM investments on profitability growth after one and two years, implying that any ostensible negative and positive effects there may be caused by few outlier observations. Regarding non-marketing investments, none of the main effects in Table 31 are significant.

Finally, with regard to the interaction effects of the investment selections and contingency variables, Table 31 reveals no significant interaction effects. Thus, especially for B2C firms, the linear regression analysis method reveals practically none significant results regarding the effectiveness of the marketing investments in terms of sales/profitability growth. This might be due to a possibility that marketing investment selections simply do not have any (statistically) generalizable effects on sales and profitability growth of firms. Alternatively, it may be due to the limitations of the linear

regression analysis method to detect higher-order interactions between the contingency variables. To investigate further the latter possibility, I utilized the non-parametric, set-theoretic FSQCA method, which is attuned to examining higher-order interactions or configurations of contingency variables and their relationships with the outcomes of interest. The results from the FSQCA are presented in the following sections.

Table 31 B2C firm's marketing investment effectiveness: linear regression final step model coefficients (standard errors in parentheses)

Variable	Sales Growth after One Year	Sales Growth after Two Years	Profitability Growth after One Year	Profitability Growth after Two Years
Intercept	.33 (.54)	1.44 (4.34)	-.10 (.53)	-.30 (1.40)
Investment selection				
Offering & PDM	.11 (.56)	-.29 (4.35)	-.49 (.61)	-.47 (1.62)
Channels & SCM	-.51 (1.82)	.82 (11.83)	1.27 (2.01)	1.72 (4.58)
Selling & CRM	.27 (.77)	-1.24 (5.25)	.27 (.98)	.29 (2.12)
Other Development Projects	-.20 (1.00)	-1.82 (6.55)	-.27 (1.07)	.41 (2.39)
Fixed Capacity (base)	0	0	0	0
Product profile				
Mass–produced product (base)	0	0	0	0
Mass–produced service	.83 (.78)	9.82 (4.98)*	.36 (.82)	.04 (1.75)
Customized product	-.21 (.51)	-.00 (3.60)	.47 (.56)	.96 (1.34)
Customized service	-1.08 (.94)	-2.97 (5.76)	.33 (1.00)	.70 (2.11)
Complementary product[a]	–	–	–	–
Complementary service[b]	.46 (1.41)	-.73 (8.80)	-.84 (1.51)	-1.53 (3.27)
Future product[c]	1.24 (.82)	2.58 (5.13)	-1.11 (.93)	-1.17 (2.02)
Source of capital				
Debt (base)	0	0	0	0
Entrepreneur	-.24 (.24)	.04 (1.61)	-.28 (.28)	.31 (.65)
Other equity	-.09 (.22)	.10 (1.48)	-.25 (.23)	-.49 (.55)
Public subsidy	.27 (.28)	.08 (1.88)	-.23 (.31)	-.29 (.71)
Market–based assets				
Product/service on offer	.06 (.21)	1.75 (1.43)	-.17 (.23)	-.02 (.53)
Stock of assets abroad	-.10 (.23)	-1.85 (1.54)	-.25 (.28)	-.34 (.63)
Stock of domestic assets	-.02 (.28)	-.07 (1.83)	.21 (.31)	.24 (.69)
Control variables				
Firm size	-.09 (.28)	.14 (1.79)	-.66 (.50)	-.75 (1.08)
Technological turbulence	.17 (.20)	.26 (1.37)	-.03 (.24)	-.02 (.58)
Market turbulence	-.21 (.29)	-.56 (1.94)	.56 (.31)*	.77 (.72)
Interaction effects	–	–	–	–

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model (there were no firms in the sample with "complementary product" product profile).

4.2.3. Sales/profitability growth and the higher-order interactions of marketing investments

The linear regression analyses of the previous section only indicated certain interaction effects (for B2B firms) between marketing investments and strategic contingency variables (e.g., the interaction of Offering & PDM investments and entrepreneur's own money as a source of capital), in predicting the marketing investment effectiveness in terms of sales and profitability growth. However, the regression analyses were essentially limited to two-way interaction effects of a marketing investment and one contingency variable at a time. Higher-order than two-way interaction terms were not included in the analyses, partly for the limited sample size (and degrees of freedom) and partly for the fundamental limitation or difficulty in interpreting such interaction terms in linear regression analyses that are higher-order than two-way in nature (e.g., Fiss 2007). Therefore, in this section, an additional analysis method is introduced, in order to explore the higher-order interactions of marketing investments and contingency variables: Fuzzy-set qualitative comparative analysis (FSQCA).

As explained in the Methodology chapter, FSQCA is essentially attuned to identifying higher-order interactions between factors, in leading to certain outcomes. In the language of FSQCA, the factors (e.g., certain marketing investment, certain product profile, certain market-based asset structure) together constitute configurations of conditions, and the FSQCA procedure seeks to identify all the different configurations in the data as well as to analyze which configurations lead sufficiently *consistently* to an outcome condition of interest (e.g., high sales/profitability growth). As such, then, FSQCA accounts for higher-order interactions between the factors (i.e., which factors are

together necessary or sufficient to lead to the outcome). At the same time, it recognizes—unlike regression analyses—that there may be many different configurations of factors that lead consistently to the same outcome (so called equifinality), and that the lack or inverse of some factor does not necessarily lead to an inverse of the outcome (i.e., the effects of factors may be asymmetric, unlike in regression analyses, which assume that effects are linear and symmetric around variable means).

Calibration. As described in section 3.4.2, FSQCA requires that baseline variables are first transformed and calibrated into fuzzy-set conditions and scores, lying between zero and one. Table 32 presents the calibration and coding used in the present FSQCA.

Table 32 Calibration in fuzzy-set qualitative comparative analysis

Variable	Coding
Product profile	
Product (vs. service)	1 = product, 0 = service
Customized	1 = customized, 0 = not customized
Complementary offering[a]	1 = complementary offering, 0 = not complementary offering
Future product[b]	1 = future product, 0 = not future product
Source of capital	
Entrepreneur	Share in the capital injection (%)
Other equity	Share in the capital injection (%)
Debt	Share in the capital injection (%)
Public subsidy	Share in the capital injection (%)
Market-based assets	
Product/service on offer	Product/service in production / on offer (1 = "very true"; .67 = "mostly true"; .33 = "somewhat true"; 0 = "not at all true")
Domestic	Domestic assets factor calibrated following Ragin (2007), setting crossover point 0 (i.e., about the .5 percentile)[c], full membership .9 percentile, non-membership .1 percentile
Abroad	Assests abroad factor calibrated following Ragin (2007), setting crossover point 0 (i.e., about the .5 percentile)[c], full membership .9 percentile, non-membership .1 percentile
Investment selection	
Offering & PDM	Investment in Offering & PDM = 1; investment not in PDM = 0
Channels & SCM	Investment in Channels & SCM = 1; investment not in SCM = 0
Selling & CRM	Investment in Selling & CRM = 1; investment not in CRM = 0
Other Development Projects	Investment in Other Development Projects = 1; investment not in Other Development Projects = 0
Fixed Capacity	Investment in Fixed Capacity = 1; investment not in Fixed Capacity = 0
Outcome variables	
Sales growth after one year	Sales growth after one year calibrated following Ragin (2007), setting crossover point 0 (i.e., about the .5 percentile)[c], full membership .9 percentile, non-membership .1 percentile
Sales growth after two years	Sales growth after two years calibrated following Ragin (2007), setting crossover point 0 (i.e., about the .5 percentile)[c], full membership .9 percentile, non-membership .1 percentile
Profitability growth after one year	Profitability growth after one year calibrated following Ragin (2007), setting crossover point 0 (i.e., about the .5 percentile)[c], full membership .9 percentile, non-membership .1 percentile
Profitability growth after two years	Profitability growth after two years calibrated following Ragin (2007), setting crossover point 0 (i.e., about the .5 percentile)[c], full membership .9 percentile, non-membership .1 percentile

[a] Company sells tangible products but makes its profits on selling products or services *complementary* to the product (e.g., razors + *razor blades*).
[b] Company develops products of whose sales it expects to get income in the future.
[c] Crossover point was set to 0 instead of median for purposes of simplicity of calculations.

B2B firms. The analysis offers several solutions that represent clearly understandable paths leading to high sales growth after one and two years. Table 33

presents complex solutions for B2B firms for sales growth after one year and sales growth after two years.

Table 33 Configurational approach to marketing investment effectiveness: sales growth after one and two years (B2B firms)

	Complex Solution: One Year		Complex Solution: Two Years		
Configuration	**1**	**2**	**1**	**2**	**3**
Investment selection					
Offering & PDM	●	●	●	●	●
Channels & SCM	⊗	⊗	⊗	⊗	⊗
Selling & CRM	⊗	⊗	⊗	⊗	⊗
Other Development Projects	⊗	⊗	⊗	⊗	⊗
Fixed Capacity	⊗	⊗	⊗	⊗	⊗
Product profile					
Product (vs. service)	●	●	●	●	●
Customized	⊗	⊗	⊗	●	⊗
Complementary offering[a]	⊗	⊗	⊗	⊗	⊗
Future product[b]	⊗	⊗	⊗	⊗	⊗
Source of capital					
Entrepreneur	⊗	⊗	⊗	⊗	⊗
Other equity	⊗	⊗	⊗	●	⊗
Debt	⊗	●	⊗	⊗	●
Public subsidy	⊗	⊗	⊗	⊗	⊗
Market-based assets					
Product on offer	⊗	●	⊗	⊗	●
Domestic	⊗	●	⊗	⊗	●
Abroad	⊗	●	⊗	⊗	●
Consistency	.92	.93	.91	.89	.94
Raw coverage	.10	.06	.11	.06	.06
Unique coverage	.09	.04	.09	.06	.05
Overall solution consistency	.92		.91		
Overall solution coverage	.15		.21		

[a] Company sells tangible products but makes its profits on selling products or services *complementary* to the product (e.g., razors + *razor blades*).
[b] Company develops products of whose sales it expects to get income in the future.
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence.

The results for the analysis (complex solution) indicate two paths to sales growth after one year. The consistency of the solution is .92. The overall coverage of the solution is .15. Thus the paths or configurations account, combined, for about 15 per cent of the high growth cases. In sum, overall coverage measures how much of the outcome is explained by the solution as a whole, and it has somewhat analogous meaning to that of magnitude effects (R^2) in regression analyses (Ordanini and Maglio 2009), varying between zero (0%) and one (100%).

In terms of sales growth after two years, the results for the analysis indicate three paths to the performance outcome. The consistency of the solution is .91 and the coverage is .21. Both solutions include the combination of "PDM investment, mass-produced product, no single major funding source and modest stocks of market-based assets" as well as the combination of "PDM investment, mass-produced product, debt funding and extensive stocks of market-based assets". Additionally, the latter solution includes "PDM investment, customized product, other equity funding and modest stocks of market-based assets" configuration.

The analysis also provides multiple solutions leading to profitability growth after one year as well as after two years. Table 34 shows complex solutions for B2B firms.

Table 34 Configurational approach to marketing investment effectiveness: profitability growth after one and two years (B2B firms)

	Complex Solution: One Year		Complex Solution: Two Years	
Configuration	**1**	**2**	**1**	**2**
Investment selection				
Offering & PDM	●	●	●	●
Channels & SCM	⊗	⊗	⊗	⊗
Selling & CRM	⊗	⊗	⊗	⊗
Other Development Projects	⊗	⊗	⊗	⊗
Fixed Capacity	⊗	⊗	⊗	⊗
Product profile				
Product (vs. service)	●	●	●	●
Customized	⊗	⊗	⊗	⊗
Complementary offering[a]	⊗	⊗	⊗	⊗
Future product[b]	⊗	⊗	⊗	⊗
Source of capital				
Entrepreneur	⊗	⊗	⊗	⊗
Other equity	⊗	⊗	⊗	⊗
Debt	⊗	●	⊗	●
Public subsidy	⊗	⊗	⊗	⊗
Market-based assets				
Product on offer	⊗	●	⊗	●
Domestic	⊗	●	⊗	●
Abroad	⊗	●	⊗	●
Consistency	.84	.86	.89	.85
Raw coverage	.10	.06	.11	.06
Unique coverage	.08	.04	.09	.04
Overall solution consistency	.84		.87	
Overall solution coverage	.14		.15	

[a] Company sells tangible products but makes its profits on selling products or services *complementary* to the product (e.g., razors + *razor blades*).
[b] Company develops products of whose sales it expects to get income in the future.
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence.

The results for the analysis (complex solution) show two paths to profitability growth after one year. The consistency of the solution is .84 and the overall coverage of the solution is .14. Similarly, the results indicate two paths to profitability growth after two years. The consistency of the latter solution is .87 and the coverage is .15. Two paths are same in both the solutions. First configuration is "PDM investment, mass-produced product, no single major funding source and modest stocks of market-based assets" and second configuration is "PDM investment, mass-produced product, debt funding and extensive stocks of market-based assets". Both configurations appeared already in complex solutions for sales growth after one year and sales growth after two years.

FSQCA demonstrates that even though Offering & PDM investment as such does not have positive effect on growth outcomes (except for profitability growth after one year) in regression analysis, there are configurations that include PDM investment that are consistently associated with high growth as measured with sales growth after one year and after two years, as well as with profitability growth after one year and after two years. Thus, isolated relationships between investment selection and growth outcomes does not adequately capture the complexity of investment effectiveness phenomenon. In fact, the investment effectiveness seems to depend on the overall configuration of investment selection, product profile, source of funding, and asset structure.

B2C firms. The analysis of B2C firms reveals paths leading to sales growth after one year as well as sales growth after two years. Table 35 presents complex solutions for B2C firms.

Table 35 Configurational approach to marketing investment effectiveness: sales growth after one and two years (B2C firms)

	Complex Solution: One Year		Complex Solution: Two Years
Configuration	**1**	**2**	**1**
Investment selection			
Offering & PDM	⊗	●	●
Channels & SCM	⊗	⊗	⊗
Selling & CRM	⊗	⊗	⊗
Other Development Projects	⊗	⊗	⊗
Fixed Capacity	●	⊗	⊗
Product profile			
Product (vs. service)	●	●	●
Customized	⊗	●	●
Complementary offering[a]	⊗	⊗	⊗
Future product[b]	⊗	⊗	⊗
Source of capital			
Entrepreneur	⊗	⊗	⊗
Other equity	⊗	●	●
Debt	●	⊗	⊗
Public subsidy	⊗	⊗	⊗
Market-based assets			
Product on offer	●	●	●
Domestic	⊗	⊗	⊗
Abroad	⊗	⊗	⊗
Consistency	.88	.80	.92
Raw coverage	.07	.08	.05
Unique coverage	.07	.08	.05
Overall solution consistency	.84		.92
Overall solution coverage	.15		.05

[a] Company sells tangible products but makes its profits on selling products or services *complementary* to the product (e.g., razors + *razor blades*).
[b] Company develops products of whose sales it expects to get income in the future.
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence.

The results for the analysis indicate two paths to sales growth after one year. The consistency of the solution is .84 and the overall coverage of the solution is .15. Additionally, the results for the analysis indicate one path to sales growth after two years. The consistency of the solution is .92. The overall coverage of the solution, on the other hand, is as low as .05. Both solutions include "PDM investment, customized product, other equity funding and modest stocks of domestic assets and assets abroad" configuration. In addition, the former solution includes "Fixed Capacity investment, mass-produced product, debt funding and modest stocks of domestic assets and assets abroad" configuration.

According to the analysis there are paths that consistently lead to profitability growth after one year as well as profitability growth after two years. Table 36 shows complex solutions for B2C firms for profitability growth after one year and after two years.

Table 36 Configurational approach to marketing investment effectiveness: profitability growth after one and two years (B2C firms)

	Complex Solution: One Year			Complex Solution: Two Years
Configuration	**1**	**2**	**3**	**1**
Investment selection				
Offering & PDM	⊗	⊗	●	●
Channels & SCM	⊗	⊗	⊗	⊗
Selling & CRM	⊗	⊗	⊗	⊗
Other Development Projects	⊗	⊗	⊗	⊗
Fixed Capacity	●	●	⊗	⊗
Product profile				
Product (vs. service)	●	●	●	●
Customized	⊗	●	●	●
Complementary offering[a]	⊗	⊗	⊗	⊗
Future product[b]	⊗	⊗	⊗	⊗
Source of capital				
Entrepreneur	⊗	⊗	⊗	⊗
Other equity	⊗	⊗	●	●
Debt	●	●	⊗	⊗
Public subsidy	⊗	⊗	⊗	⊗
Market-based assets				
Product on offer	●	⊗	●	●
Domestic	⊗	⊗	⊗	⊗
Abroad	⊗	●	⊗	⊗
Consistency	.87	.82	.84	1.00
Raw coverage	.08	.06	.09	.06
Unique coverage	.08	.06	.09	.06
Overall solution consistency		.85		1.00
Overall solution coverage		.23		.06

[a] Company sells tangible products but makes its profits on selling products or services *complementary* to the product (e.g., razors + *razor blades*).
[b] Company develops products of whose sales it expects to get income in the future.
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence.

The results for the analysis show three paths to profitability growth after one year. The consistency of the solution is .85 and the overall coverage of the solution is .23. In addition, the results for the analysis reveal one path to profitability growth after two years. The consistency of the solution is 1.00. The overall coverage of the solution is as low as .06. Both the solutions include "PDM investment, customized product, other equity funding and modest stocks of domestic assets and assets abroad" configuration. Sales growth solutions also included this path. Additionally, solution for profitability growth after one year includes "Fixed Capacity investment, mass-produced product, debt funding and modest stocks of domestic assets and assets abroad" configuration that was also present in solution for sales growth after one year. Last, the third path to profitability growth after one year is "Fixed Capacity investment, customized product, debt funding, no product on offer, modest stocks of domestic assets and extensive stocks of assets abroad".

Similar as for analysis of B2B firms, FSQCA illustrates that there are configurations with PDM investment that are associated with high growth outcomes with each of the four performance outcome as outcome variable. This is true even if there are no significant main effects for PDM investment in regression analysis. Thus, it seems that investment effectiveness phenomenon is more complex than can be accounted for with traditional methods and depends on the overall configuration of investment selection, product profile, source of capital, and asset structure.

Furthermore, regarding FSQCA analyses of both B2B and B2C firms, it has to be noted that combinations in the above tables may not causally lead to growth outcomes.

Instead, the combinations may happen to characterize the few cases with (randomly) high sales or profitability growth.

4.2.4. Summary and discussion of results on marketing investment effectiveness

Table 37 presents summary of results on marketing investment effectiveness.

Table 37 Marketing investment effectiveness: summary of results

Sample	Sales Growth after One Year	Sales Growth after Two Years	Profitability Growth after One Year	Profitability Growth after Two Years
B2B	• investment in Other Development Projects and customized product, higher performance • investment in Offering & PDM and mass-produced product and no single major funding source and no assets, higher performance • investment in Offering & PDM and mass-produced product and debt and assets, higher performance	• investment in Selling & CRM, lower performance • investment in Other Development Projects, higher performance • investment in Other Development Projects and complementary service, lower performance • investment in Other Development Projects and assets abroad , higher performance • investment in Offering & PDM and mass-produced product and no single major funding source and no assets, higher performance • investment in Offering & PDM and mass-produced product and debt and assets, higher performance • investment in Offering & PDM and customized product and other equity and no assets, higher performance	• investment in Offering & PDM and no entrepreneur's own capital, higher performance • investment in Offering & PDM and mass-produced product and no single major funding source and no assets, higher performance • investment in Offering & PDM and mass-produced product and debt and assets, higher performance	• investment in Offering & PDM and future product, lower performance • investment in Offering & PDM and mass-produced product and no single major funding source and no assets, higher performance • investment in Offering & PDM and mass-produced product and debt and assets, higher performance

Table 37 ***Continued***

Sample	Sales Growth after One Year	Sales Growth after Two Years	Profitability Growth after One Year	Profitability Growth after Two Years
B2C	• investment in Offering & PDM and customized product and other equity and no domestic assets and no assets abroad, higher performance • investment in Fixed Capacity and mass-produced product and debt and no domestic assets and no assets abroad, higher performance	• investment in Offering & PDM and customized product and other equity and no domestic assets and no assets abroad, higher performance	• investment in Offering & PDM and customized product and other equity and no domestic assets and no assets abroad, higher performance • investment in Fixed Capacity and mass-produced product and debt and no domestic assets and no assets abroad, higher performance • investment in Fixed Capacity and customized product and debt and no product on offer and no domestic assets and assets abroad, higher performance	• investment in Offering & PDM and customized product and other equity and no domestic assets and no assets abroad, higher performance

Interactions between variables. To begin with, for B2B firms investing in Offering & PDM low share of entrepreneur's money as source of capital was more beneficial in terms of achieving high profitability growth after one year than for B2B firms with some other investment selection. The explanation might be that with the absence of entrepreneur in funding R&D there is space for business angels and venture capitalists to fund the investment. According to the study of Maula, Autio and Murray (2005) in finance literature these professional investors may be able to provide guidance and surveillance. This may lead to only high quality investment opportunities being pursued. Thus the selected R&D investment may be associated with higher profitability growth than the ones pursued with entrepreneur as the main funder. On the other hand, the result here is significant especially for growth after one year, and not necessarily for growth after two years, any more. Zimmerer and Scarborough (1996) in entrepreneurship literature argue that often business angels and venture capitalists lack patience. Thus the growth is present especially after short time frame. The result confirms the argument of Sheth and Sisodia (2002) that effective money spending depends on source and purpose.

Furthermore, for B2B firms investing in Offering & PDM, "future product" product profile was less beneficial in terms of achieving high profitability growth after two years than for B2B firms with some other investment selection. It may be that for instance a firm investing in Selling & CRM with "future product" product profile has been able to negotiate some deals even if the firm has not an offering in the market yet. Thus this firm perhaps has been able to increase its profitability whereas a firm investing solely in Offering & PDM still struggles with profits. Dwyer and Tanner (2008) in general business literature note that there is more emphasis on personal selling in

business marketing than in consumer marketing. Thus there is also more emphasis on negotiation and it is then natural that this result appears significant for B2B firms.

Higher-order configurations of investment effectiveness. The (FSQCA) analysis of the higher-order configurations leading to growth revealed that for B2B firms, the configuration of "investment in Offering & PDM, mass-produced product, no single major funding source, and no market-based assets" as well as the configuration of "investment in Offering & PDM, mass-produced product, debt funding and extensive stocks of market-based assets" were consistently associated with both high sales growth after one and two years as well as with both high profitability growth after one and two years. Additionally, the analysis revealed that B2B firms with "investment in Offering & PDM, customized product, debt funding and no assets" configuration consistently achieved high sales growth after two years. These results regarding investment in Offering & PDM extend the findings of Lee and Marvel (2009), among others. They found that product and service development activities have a relationship with financial performance. The present results show, however, that the relationship is conditional on product profile, source of capital, and market-based assets of the firm. In light of this conditionality, the finding of Eusebio, Andreu and Belbeze (2007) should also be re-examined. In their study, they claim that investment in activities related to product and service development as such is the key for explaining performance of businesses. To continue with, the results above regarding profitability growth suggest that previous estimates of substantial returns to R&D, such as the ones in the study of Erickson and Jacobson (1992) in management literature, should be re-examined. It seems that the

profitability growth associated with R&D investment is conditional on the aforementioned contingencies, and the investment-performance relationship should perhaps not be examined in isolation.

Last, analysis of B2C firms showed that the configuration of "investment in Offering & PDM, customized product, other equity funding, and no market-based assets (domestically or abroad)" was consistently associated with high performance for all the four performance measures. This is somewhat in line with the argument of Hawkins, Best and Lillis (1987) who state that a firm with a customized offering will have a higher marketing productivity than a firm with a mass-produced offering. Additionally, empirical analysis revealed that B2C firms with "Fixed Capacity investment, mass-produced product, debt funding and no market-based assets" configuration consistently achieved high sales growth after one year and high profitability growth after one year. The reasoning behind this result may be that B2C firms investing in Fixed Capacity enjoy economies of scale with mass production, or that when firms invest in fixed capacity, they are already quite certain of the forthcoming demand (and thereby growth) of their products or services. Furthermore, analysis with the sample of B2C firms showed that the configuration of "Fixed Capacity investment, customized product, debt funding, no product on offer, modest stocks of domestic market-based assets, and extensive stocks of market-based assets abroad" was consistently associated with high profitability growth after one year. It may be that B2C firms with stocks of assets abroad, and thus, for example, established relationships to key customers have productive capacity investment even with "customized product" product profile without benefits related to economies of scale from mass production. On another note, in only this single configuration for B2C

firms were the extensive stocks of market-based assets present. Thus, it seems that B2C firms with extant stocks of market-based assets have difficulties in achieving high growth outcomes with their investments, or in leveraging their extant market-based assets optimally for higher business growth. For B2B firms, on the other hand, it seems that both high and low assets can lead to high investment effectiveness. This is somewhat in line with the finding of Xiong and Bharadwaj (2011) according to which market-based assets in B2B context such as key customer relationships can lead to greater firm value creation.

5. Discussion

5.1. Contribution

This dissertation has addressed the question of which marketing activities firms select to invest in from a wide variety of PDM, SCM, and CRM activities, not merely focusing on sales and promotion activities. Indeed, extant research has largely neglected product and distribution related activities (Ataman, Van Heerde and Mela 2010). Another question that the present thesis has addressed is what the effectiveness of the selected marketing activities is. In terms of effectiveness, the thesis focuses on two key financial metrics (sales growth and profitability growth) and thus generally adds to the literature on the impact of marketing on financial outcomes (e.g., Rust et al. 2004). Baidya and Basu (2008), for example, have already concluded that the impact on sales is different from one type of marketing effort to another. From factors that might influence the selection of investments and investment effectiveness, the present study has empirically examined the roles of sources of funding, market-based assets, and product profile. In their zest to communicate value to the financial community, marketing researchers have often seeked to examine the value of marketing activities in isolation rather than examining them in the context of other strategic factors (Kalaignanam and Bahadir 2013). The context of this research has been growth-oriented private firms, that have been largely neglected in extant marketing literature (with notable exceptions, e.g., Luo 2008; White, Miles and Smith 2001).

Although the assertion that marketing activities create financial value is well accepted, marketing practitioners historically have found it difficult to measure and

communicate to other functional executives and top management the value created by investments in marketing activities. Prior studies that assess the value of marketing activities typically have addressed the issue by examining simple, isolated relationships between R&D or advertising related activities and firm performance, but relatively little has been said about how combinations of firm-level factors influence investment in marketing activities and their effectiveness in attaining goals such as sales and profitability growth. It is this gap that I have addressed by empirically examining how combinations of firm-level factors influence various types of marketing investments. As such, the current research enthusiastically answers to the call of Luo (2008) for contingency studies and theories of the marketing–finance interface. Indeed, in practice, factors such as source of funding may act as boundary conditions for the linkage between marketing and finance.

In this thesis, hence, I establish new academic understanding of the interplay between source of capital and strategic factors such as market-based assets and product profile in explaining marketing investment selection. To my knowledge, I am the first to demonstrate that stocks of market-based assets in combination with either product profile or source of funding can explain the selection of marketing investment between PDM, SCM and CRM among B2B and B2C firms. These contingency findings are important for the following reason. They uncover managerial judgment of which marketing activities are worth significant investments given the firm's goal of fast business growth. This aspect of marketing investment effectiveness has been largely neglected in extant literature.

Specific to this thesis is that it continues the work of Luo and Bhattacharya (2009) by extending and broadening theories of marketing to include developments in finance (namely capital structure discussion in finance literature)[27], and, as such, helps bridging the knowledge gap between finance and marketing. In the absence of a strong understanding of the marketing-finance interface, marketing professionals cannot but have great difficulty in assessing the value of marketing activities and this, in turn, limits investment in marketing activities, which can restrict the ability of the firm to create shareholder value (Srivastava, Shervani and Fahey 1998). This dissertation increases the understanding of the marketing-finance interface and, specifically, the long-sought understanding of managers on the role and contribution of each core process (i.e., PDM, SCM and CRM), and their broad consequences for financial success (Srivastava, Shervani and Fahey 1999).

Some of the specific results regarding investment effectiveness notably conflict with the some strategic models of capital structure in finance literature. According to the models, debt commits leveraged firms to behave less aggressively in product markets (Kovenock and Phillips 1997). However, there were configurations associated with both high sales and profitability growth within both B2B and B2C firms that included high debt funding, suggesting that these firms have behaved aggressively even though they had high debt levels. As such, this work extends capital structure discussion in finance literature that has concentrated, for example, on predicting capital structure of privately-held firms (Cole 2013). In this thesis, capital structure (or source of funding) has been

27 As Franck and Huyghebaert (2004) point out, most of the papers in finance literature have examined how debt-equity mix drives investment decisions even though theoretical work suggests that other aspects of the financing mix may also matter. This research extends also the capital structure discussion in finance studies by incorporating neglected aspects of the financing mix such as equity mix (i.e., entrepreneur's money vs. other equity) and public subsidies.

studied as a predictor for investment selection and as a moderator for investment effectiveness, in the context of privately-held growth firms.

Regarding product profile, prior marketing literature argues that not customizing any attributes of product may lead to unprofitable price wars (Loginova 2012; Syam, Ruan and Hess 2005). Based on the results of this study regarding investment effectiveness, not customizing may be inferior for firms operating in consumer markets in terms of attaining high profitability growth. However, for firms operating in business markets, it seems that mass production does not hinder attainment of growth in profitability. Mass production might give cost advantages through economies of scale as well as consistent image for the product (Baalbaki and Malhotra 1995). This finding addresses the need identified by Franke, Keinz and Steger (2009) for further research to enhance the understanding of when customization constitutes a viable marketing strategy.

5.2. Limitations and avenues for further research

Although this dissertation advances the understanding of the marketing–finance interface, it also has limitations. Even though I draw my data from companies across multiple industries, all respondents are located in Finland and represent private (not public) companies. Thus, my findings should not be generalized to other cultures and publicly listed firms without caution, and researcher should preferably conduct additional testing in the process.

Moreover, in this dissertation, the focus was on short-term and medium-term effects of marketing investment. Future studies could attempt inclusion of also long-run effects. This is because marketing investment such as advertising and promotion

expenditures have long-term benefits (Graham and Frankerberger 2011). Advertising and promotion, for example, can contribute to earnings for up to three years (Graham and Frankerberger 2011). However, as managers are generally encouraged to invest with short-term goals in mind (Currim, Lim and Kim 2012), it is often more interesting to study the short-run effects of investment. Additionally, it is much harder to determine the long-term effects of investment in promotions and advertising for instance than to assess the short-term effects of such investments (Jedidi, Mela and Gupta 1999) and in fact Pauwels, Hanssens and Siddarth (2002) have found that investment in promotion generally don't have permanent effects on components of sales.

The pressure is on for marketers to contribute to the firm performance (AMA 2009) and senior management is demanding that marketing activities are rendered in terms of financial impact (Seggie, Cavusgil and Phelan 2007). There is also growing belief in the financial community that marketing activities are largely tactical and that they are largely discretionary in nature (Kalaignanam and Bahadir 2013). Thus, further research is required on the financial impact of marketing activities. As the variables that determine marketing effectiveness are very different for a less established private growth company than for a well-established publicly listed firm (Sheth and Sisodia 2002), I further highlight that the influence of market-based assets, source of capital and product profile on performance outcomes of marketing investments should be examined also in the context of publicly listed companies.

Of the dimensions of marketing performance, the focus in this study was on marketing effectiveness. Future studies examining contingency roles of market-based assets, sources of funding and product profile could focus on other dimensions such as

marketing efficiency. However, as Clark (2000) points out, consistent with the goal-oriented view of the firm effectiveness matters most for managers. In terms of measuring effectiveness, as data was available (Nijs et al. 2001) focus was not only on sales growth but also on profitability growth. Unlike traditional studies, the present thesis has not relied solely on survey data in evaluating the effectiveness of company's marketing efforts (Kahn and Myers 2005) but also on objective data on performance outcomes.

To continue with, another limitation of the present study is use of survey instruments in measuring investments. Specifically, the validity of survey in investment measurement can be questioned. On the other hand, with alternative approaches for measuring investments such as use of publicly available Compustat data, the delineation of investments into different marketing activities is not possible (e.g., Kurt and Hulland 2013). Additionally, although I employ multiple methods to enhance the robustness and rigorousness of the empirical analysis, I can only test association, not causation. The growth outcomes associated with investments may be a result of a number of other factors as well than investments.

5.3. Managerial implications

This dissertation showed that the source of capital allocated as a marketing investment influences both the marketing investment selection[28] and the effectiveness of (selected) marketing investment. In addition, the source of capital combines with market-based asset structure and product-market profile of the firm in explaining the marketing

28 As competitors and entrants may wish to predict the firm's investment decisions in order to respond optimally (Franck and Huyghebaert 2004), the firm perhaps should not disclose its capital structure (that can reveal future activities of the firm) to outsiders.

investment selection as well as the effectiveness of (selected) marketing investments. As far as I know, previous literature does not demonstrate these effects, which can reveal the contingent nature of marketing investments. As such, marketers can, and should, think like investors and speak the same language of finance (Luo 2008). By using such language with the source of capital concept, this study not only helps marketers join in the conversation with investors but also provides them with guidance on creating more effective marketing programs that are appealing to the investor community. Essentially, the results also indicate that careful investors (or creditors) may be better able to pick firms with short- and medium-term financial success if they can familiarize themselves with the market-based asset structure of the firm and have information on the short-term marketing program of the firm. As such, this thesis extends the findings of finance literature, according to which firm value maximization must result from a simultaneous determination of production level and capital structure (Dotan and Ravid 1985). Findings of this dissertation suggest that complex combinations of variables are associated with favorable performance outcomes, so that a firm with a given market-based asset structure and product-market profile needs to simultaneously select investment type and source of funding that together with the strategic factors is associated with high growth.

Managers are undoubtedly concerned with the return on marketing investment and the financial impact of investing in marketing activities (Luo, Weineke and Homburg 2012). The results of this dissertation suggest that marketing managers can feel more confident about defending marketing expenditures as an investment. With evidence showing a relationship between certain marketing investments and future growth, managers are in a better position to recommend marketing as an investment. Especially,

managers in both B2B and B2C firms can use the results to defend their investment decisions. With the examination of marketing's direct impact on firm growth and roles of source of capital, market-based assets, and product profile (or business model) therein, the marketing profession can improve managerial activities (Luo, Homburg and Weineke 2010). Specifically, the efforts in this thesis add more empirical evidence to prior theory on the role of marketing investments within the firm.

In terms of market-based assets, using current and potential marketing strategies as a guide, managers should ask what international and domestic assets would be required ideally to attract, win, and retain customers. Such judgments would compel managers to think in terms of market-based assets. Managers then must make assessments about asset stocks (that is, how much of each asset they possess).[29] With the measurement scale for a plethora of market-based asset items, this thesis makes a modest attempt in helping managers to think in terms of market-based assets and assess the stocks of market-based assets their firm possesses.[30] As Srivastava, Shervani and Fahey (1998) point out, some organizations might be unaware of market-based asset parameters they already possess, such as customer and channel surveys, third-parly reports, and managers' own judgments that are contained in their reports of visits to customers, channels, and other strategic partners. Articulating and measuring such parameters (through, for example, use of the measurement scale developed in this thesis) will familiarize managers with the notion of market-based assets.

29 At a minimum, assessing such assets will give managers a greater appreciation of their role and importance in developing and executing marketing strategy.

30 Academic researchers can find the scale and market-based asset items useful as input to further studies where market-based assets are conceptualized/operationalized.

As recommended by Stahl et al. (2012), multi-item measures were used in the operationalizations of market-based asset concepts (i.e., domestic assets and assets abroad). This study also extends arguments from prior research regarding market-based assets. Mizik and Jacobson (2009), for example, argue that the effect of market-based assets such as brands is reflected in sales and profitability. The present thesis demonstrates that overall configuration of market-based assets influences investment effectiveness as measured with sales and profitability growth. Additionally, as the market-based asset constructs include assets such as good relationships to retailers and channel partners, the study addresses the need identified by Fang, Palmatier and Grewal (2011) for studying also other assets than customer and innovation assets such as "relational assets emanating from supplier relationships".

The study also distinguishes implications for policy makers (cf. Bezawada and Pauwels 2013). According to the findings of the present thesis, R&D subsidies are associated with higher likelihood to invest in PDM in B2B context. However, in B2C context such finding does not appear. Thus, government financing activities of B2C firms with R&D subsidies should perhaps pay additional attention in confirming that the funds intended to R&D activities serve the purpose. These findings shed additional light to the results of Thomson and Jensen (2013) who find that government R&D subsidies have a positive effect on R&D expenditures.

5.4. Conclusion

This research illuminates the marketing-finance interface in the context of private firms, by empirically examining the influence of market-based assets, source of capital

allocated as a marketing investment, and product-market profile on different types of marketing investments with a sample of growth-oriented private firms. Given the importance of private firms for economies and the lack of research on private firms in marketing (and the lack of empirical research in general linking financial and marketing activities of a firm), additional scholarly research of this kind should be conducted. It is hoped that in doing so, managers and investors will gain a more complete view of marketing investments in private firms and, thus, more heartily appreciate the value of marketing investment.

6. References

Aaker, D. A., & Jacobson, R. 1994. The financial information content of perceived quality. Journal of Marketing Research, 31 (May): 191-201.

Abdul-Muhmin, A. G., & Umar, Y. A. 2007. Credit card ownership and usage behaviour in Saudi Arabia: The impact of demographics and attitudes toward debt. Journal of Financial Services Marketing, 12: 219-234.

Abor, J. 2007. Debt policy and performance of SMEs. Journal of Risk Finance, 8 (4): 364-379.

Aerts, K., & Schmidt, T. 2008. Two for the price of one? Additionality effects of R&D subsidies: A comparison between Flanders and Germany. Research Policy, 37 (5): 806-822.

Albers, S., Mantrala, M. K., & Sridhar, S. 2010. Personal selling elasticities: A meta-analysis. Journal of Marketing Research, 47 (5): 840-853.

Alvesson, M., & Sköldberg, K. 2010. Reflexive Methodology: New Vistas for Qualitative Research (2nd edition). London: Sage.

AMA. 2009. AMA Marketing Effectiveness Online Seminar Series, Alli Libb American Marketing Association. AMA/NVision Ibcast, June 16.

AMA. 2007. Definition of Marketing. Retrieved September 2, 2013, from http://www.marketingpower.com/AboutAMA/Pages/DefinitionofMarketing.aspx

Ambler, T., Kokkinaki, F., Puntoni, S., & Riley, D. 2001. Assessing market performance: The current state of metrics. London Business School, Centre for Marketing Working Paper 01-903.

Amstrong, J. S., & Overton, T. S. 1977. Estimating nonresponse bias in mail surveys. Journal of Marketing Research, 14 (3): 396-402.

Anderson, E., & Weitz, B. A. 1986. Make-or-buy decisions: Vertical integration and marketing productivity. Sloan Management Review, 27: 3-19.

Ang, J. B., & Madsen, J. B. 2012. Risk capital, private credit, and innovative production. Canadian Journal of Economics, 45 (4): 1608-1639.

Asker, J., Farre-Mensa, J., & Ljungqvist, A. 2012. Comparing the investment behavior of publicly listed and privately held firms. Working Paper, New York University.

Aspelund, A., Madsen, T. K., & Moen, Ø. 2007. A review of the foundation, international marketing strategies, and performance of international new ventures. European Journal of Marketing, 41 (11/12): 1423-1448.

Ataman, M. B., Van Heerde, H. J., & Mela, C. F. 2010. The long-term effect of marketing strategy on brand sales. Journal of Marketing Research (JMR), 47 (5): 866-882.

Baalbaki, I. B., & Malhotra, N. K. 1995. Standardization versus customization in international marketing: An investigation using bridging conjoint analysis. Journal of the Academy of Marketing Science, 23 (3): 182-194.

Baidya, M. K., & Basu, P. 2008. Effectiveness of marketing expenditures: A brand level case study. Journal of Targeting, Measurement & Analysis for Marketing, 16 (3): 181-188.

Balasubramanian, S., & Kumar, V. 1990. Analyzing variations in advertising and promotional expenditures: Key correlates in consumer, industrial, and service markets. Journal of Marketing, 54 (2): 57-68.

Bentler, P. M. 1990. Comparative fit indexes in structural models. Psychological Bulletin, 107 (2): 238-246.

Bezawada, R., & Pauwels, K. 2013. What is special about marketing organic products? How organic assortment, price, and promotions drive retailer performance. Journal of Marketing, 77 (1): 31-51.

Birkinshaw, J., Nobel, R., & Ridderstråle, J. 2002. Knowledge as a contingency variable: Do the characteristics of knowledge predict organization structure? Organization Science, 13 (3): 274-289.

Bose, I., & Chen, X. 2009. Quantitative models for direct marketing: A review from systems perspective. European Journal of Operational Research, 195: 1-16.

Boulding, W., & Staelin, R. 1995. Identifying generalizable effects of strategic actions on firm performance: The case of demand-side returns to R&D spending. Marketing Science, 14 (3): 222-236.

Bozkaya, A., & De La Potterie, B. Van Pottelsberghe. 2008. Who funds technology-based small firms? Evidence from Belgium. Economics of Innovation & New Technology, 17 (1/2): 97-122.

Brav, O. 2009. Access to capital, capital structure, and the funding of the firm. Journal of Finance, 64 (1): 263-308.

Bush, R. P., & Underwood III, J. H. 2007. Using CRM to manage marketing productivity. Journal of Relationship Marketing, 6 (2): 89-116.

Bush, R. P., Underwood III, J. H., & Sherrell, D. L. 2007. Examining the relationship marketing, marketing productivity paradigm: Establishing an agenda for current and future research. Journal of Relationship Marketing, 6 (2): 9-32.

Chakravarty, A., & Grewal, R. 2011. The stock market in the driver's seat! Implications for R&D and marketing. Management Science, 57 (9): 1595-1609.

Chapman, C. J., & Steenburgh, T. J. 2011. An investigation of earnings management through marketing actions. Management Science, 57 (1): 72-92.

Chase, R. B., & Garvin, D. A. 1989. The service factory. Harvard Business Review, 67 (4): 61-69.

Cheng, M-T. 2009. Relative effects of debt and equity on corporate operating performance: A quantile regression study. International Journal of Management, 26 (1): 142-145.

Chintagunta, P. K., & Vilcassim, N. J. 1994. Marketing investment decision in a dynamic duopoly: A model and empirical analysis. International Journal of Research in Marketing, 11 (3): 287-306.

Clark, B. H. 2000. Managerial perception of marketing performance: Efficiency, adaptability, effectiveness and satisfaction. Journal of Strategic Marketing, 8 (1): 3-25.

Clark, P., Rocco, R. A., & Bush, A. J. 2007. Sales force automation systems and sales force productivity: Critical issues and research agenda. Journal of Relationship Marketing, 6 (2): 67-87.

Cole, R. A. 2013. What do we know about the capital structure of privately held US firms? Evidence from the surveys of small business finance. Financial Management (Wiley-Blackwell), 42 (4): 777-813.

Cooper, R. G., & Little, B. T. 1977. Determinants of market research expenditures for new industrial products. Industrial Marketing Management, 6 (1): 103-112.

Coviello, N. E., & Joseph, R. M. 2012. Creating major innovations with customers: Insights from small and young technology firms. Journal of Marketing, 76 (6): 87-104.

Currim, I. S., Lim, J., & Kim, J. W. 2012. You get what you pay for: The effect of top executives' compensation of advertising and R&D spending decisions and stock market return. Journal of Marketing, 76 (5): 33-48.

Daily, C. M., McDougall, P. P., Covin, J. G., & Dalton, D. R. 2002. Governance and strategic leadership in entrepreneurial firms. Journal of Management, 28 (3): 387–412.

Dean, J. 1966. Does advertising belong in the capital budget? Journal of Marketing, 30 (4): 15-21.

Denis, D. J. 2003. Entrepreneurial finance: An overview of the issues and evidence. Journal of Corporate Finance, 10 (2): 301-326.

Dessens, J. A. G., Jansen, W., Ganzeboom, H. B. G., & van der Heijden, P. G. M. 2003. Patterns and trends in oocupational attainment of first jobs in the Netherlands, 1930-1995: Ordinary least squares regression versus conditional multinomial logistic regression. Journal of the Royal Statistical Society. Series A (Statistics in Society), 166 (1): 63-84.

Dhalla, N. K. 1978. Assessing the long-term value of advertising. Harvard Business Review, 56 (1): 87-95.

Dickinson, S., & Ramaseshan, B. 2004. An investigation of the antecedents to cooperative marketing strategy implementation. Journal of Strategic Marketing, 12: 71-95.

Donthu, N., Hershberger, E. K., & Osmonbekov, T. 2005. Benchmarking marketing productivity using data envelopment analysis. Journal of Business Research, 58 (11): 1474-1482.

Dotan, A., & Ravid, S. A. 1985. On the interaction of real and financial decisions of the firm under uncertainty. Journal of Finance, 40 (2): 501-517.

Drucker, P. 1986. Management: Task, Responsibilities, Practices. New York: Truman Talley Books / E.P. Dutton.

Dwyer, F. R., & Tanner, J. F. 2008. Business Marketing: Connecting Strategy, Relationships, and Learning. New York: McGraw-Hill.

Easton, G. 2002. Marketing: A critical realist approach. Journal of Business Research, 55 (2): 103-109.

Easton, G. 2010. Critical realism in case study research. Industrial Marketing Management, 39 (1): 118-128.

Eisenmann, T. 2006. Internet companies' growth strategies: Determinants of investment intensity and long-term performance. Strategic Management Journal, 27 (12): 1183-1204.

Erickson, G., & Jacobson, R. 1992. Gaining comparative advantage through discretionary expenditures: The returns to R&D and advertising. Management Science, 38: 1264-1279.

Eusebio, R., Andreu, J. L., & Belbeze, M. P. L. 2007. Management perception and marketing strategy in export performance: A comparative analysis in Italian and Spanish textile-clothing sector (part 2). Journal of Fashion Marketing and Management, 11 (1): 24-40.

Fang, E., Palmatier, R. W., & Grewal, R. 2011. Effects of customer and innovation asset configuration strategies on firm performance. Journal of Marketing Research, 48 (3): 587-602.

Finnvera. 2012. ”Financing for Companies' Needs,” (accessed August 6, 2012), [available at http://www.finnvera.fi/eng].

Fiss, P. C. 2007. A set-theoretic approach to organizational configurations. Academy of Management Review, 32 (4): 1180-1198.

Fiss, P. C. 2011. Building better causal theories: A fuzzy set approach to typologies in organizational research. Academy of Management Journal, 54 (2): 393-420.

Fleetwood, S. 2005. Ontology in organization and management studies: A critical realist perspective. Organization, 12 (2): 197-222.

Franck, T., & Huyghebaert, N. 2004. On the interactions between capital structure and product markets: A survey of the literature. Tijdschrift voor Economie en Management, 49 (4): 727-787.

Franke, N., Keinz, P., & Steger, C. J. 2009. Testing the value of customization: When do customers really prefer products tailored to their preferences? Journal of Marketing, 73 (5): 103-121.

Galbraith, J. R. 2002. Organizing to deliver solutions. Organizational Dynamics, 31 (2): 194–207.

Gao, Y. 2010. Measuring marketing performance: A review and a framework. Marketing Review, 10 (1): 25-40.

Gatignon, H. 1984. Competition as a moderator of the effect of advertising on sales. Journal of Marketing Research, 21 (4): 387-398.

Gellein, O. S., & Newman, M. S. 1973. Accounting for Research and Development Expenditures. New York: American Institute of Certified Public Accountants.

Graham, R. C., & Frankerberger, K. D. 2011. The earning effects of marketing communication expenditures during recessions. Journal of Advertising, 40 (2): 5-24.

Gray, B. 1995. Assessing the influence of attitudes, skills and experience on international marketing investment decision-making: A behavioral/systems approach. Journal of Global Marketing, 8 (3/4): 103-123.

Gruen, T. W., Summers, J. O., & Acito, F. 2000. Relationship marketing activities, commitment, and membership behaviors in professional associations. Journal of Marketing, 64 (3): 34-49.

Grullon, G., Kanatas, G., & Kumar, P. 2006. The impact of capital structure on advertising competition: An empirical study. Journal of Business, 79 (6): 3101-3124.

Grönroos, C. 2011. Value co-creation in service logic: A critical analysis. Marketing Theory, 11 (3): 279-301.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. 2010. Multivariate Data Analysis (7th ed.). Englewood Cliffs: Prentice Hall.

Hambrick, D. C. 1983. High profit strategies in mature capital goods industries: A contingency approach. Academy of Management Journal, 26 (4): 687-707.

Hambrick, D. C., & Lei, D. 1985. Toward an empirical prioritization of contingency variables for business strategy. Academy of Management Journal, 28 (4): 763-788.

Hanssens, D. M., Rust, R. T., & Srivastava, R. K. 2009. Marketing strategy and Wall Street: Nailing down marketing's impact. Journal of Marketing, 73: 115-118.

Hawkins, D. I., Best, R. J., & Lillis, C. M. 1987. The nature and measurement of marketing productivity in consumer durables industries: A firm level analysis. Journal of the Academy of Marketing Science, 15 (4): 1-8.

Henderson, B. J., Jegadeesh, N., & Weisbach, M. S. 2006. World markets for raising new capital. Journal of Financial Economics, 82 (1): 63-101.

Henderson, P. W., Cote, J. A., Leong, S. M., & Schmitt, B. 2003. Building strong brands in Asia: Selecting the visual components of image to maximize brand strength. International Journal of Research in Marketing, 20 (4): 297-313.

Hewitt-Dundas, N., & Roper, S. 2010. Output additionality of public support for innovation: Evidence for Irish manufacturing plants. European Planning Studies, 18 (1): 107-122.

Hofer, C. W. 1975. Toward a contingency theory of business strategy. Academy of Management Journal, 18: 784-809.

Horngren, C. T., Datar, S. M., & Foster, G. 2003. Cost Accounting: A Managerial Emphasis. 11th ed., Upper Saddle River, New Jersey: Prentice Hall.

Horsky, D., & Nelson, P. 1996. Evaluation of salesforce size and productivity through efficient frontier benchmarking. Marketing Science, 15 (4): 301-320.

Hsiang-Lan, Hsu, W-T., & Huang, Y-S. 2010. Top management team characteristics, R&D investment and capital structure in the IT industry. Small Business Economics, 35 (3): 319-333.

Huang, S., Lee, C., & Kao, A. 2006. Balancing performance measures for information security management. Industrial Management & Data Systems, 106 (2): 242-255.

Hunt, S. D. 1990. Truth in marketing theory and research. Journal of Marketing, 54 (3): 1-15.

Hunt, S. D. 1994. On rethinking marketing: Our discipline, our practice, our methods. European Journal of Marketing, 28 (3): 13-25.

Investopedia. 2013. Operating Profit, (accessed May 17, 2013), [available at http://www.investopedia.com/terms/o/operating_profit.asp#axzz2I9B6K6Md].

Jandik, T., & Makhija, A. K. 2005. Debt, debt structure and corporate performance after unsuccessful takeovers: Evidence from targets that remain independent. Journal of Corporate Finance, 11 (5): 882-914.

Jaworski, B. J., & Kohli, A. K. 1993. Market orientation: Antecedents and consequences. Journal of Marketing, 57 (3): 53-70.

Jedidi, K., Mela, C. F., & Gupta, S. 1999. Managing advertising and promotion for long-run profitability. Marketing Science, 18 (1): 1-22.

Järvinen, J., Lamberg, J-A., Murmann, J-P., & Ojala, J. 2009. Alternative paths to competitive advantage: A fuzzy-set analysis of the origins of large firms. Industry and Innovation, 16 (6): 545-574.

Kahn, K. B., & Myers, M. B. 2005. Framing marketing effectiveness as a process and outcome. Marketing Theory, 5 (4): 457-469.

Kalaignanam, K., & Bahadir, S. 2013. Corporate brand name changes and business restructuring: Is the relationship complementary or substitutive? Journal of the Academy of Marketing Science, 41 (4): 456-472.

Kallapur, S., & Trombley, M. A. 1999. The association between investment opportunity set proxies and realized growth. Journal of Business Finance and Accounting, 26 (3) and (4): 505-519.

Karantinou, K. M., & Hogg, M. K. 2007. Developing and managing relational market-based assets in professional services: Client relationships in management consultancy. Marketing Management Journal, 17 (2): 16-39.

Katz, A., Vom Hau, M., & Mahoney, J. 2005. Explaining the great reversal in Spanish America: Fuzzy-set analysis versus statistical analysis. Sociological Methods and Research, 33 (4): 539-573.

Keller. K. L. 1993. Conceptualizing, measuring, and managing customer-based brand equity. Journal of Marketing, 57: 1-22.

Kemper, J., Engelen, A., & Brettel, M. 2011. How top management's social capital fosters the development of specialized marketing capabilities: A cross-cultural comparison. Journal of International Marketing, 19 (3): 87-112.

Kent, R. A., & Argouslidis, P. C. 2005. Shaping business decisions using fuzzy-set analysis: Service elimination decisions. Journal of Marketing Management, 21 (5/6): 641-658.

Ketchen, D. J. Jr., Combs, J. G., Russell, C. J., Shook, C., Dean, M. A., Runge, J., Lohrke, F. T., Naumann, S. E., Haptonstahl, D. E., Baker, R., Beckstein, B. A., Handler, C., Honig, H., & Lamoreux, S. 1997. Organizational configurations and performance: A comparison of theoretical approaches. Academy of Management Journal, 40 (1): 223-240.

Koku, P. S. 2011. On the connection between R&D, selling expenditures, and profitability in the pharmaceutical industry revisited. Journal of Strategic Marketing, 19 (3): 273-283.

Kotler, P., Keller, K. L., Brady, M., Goodman, M., & Hansen, T. 2012. Marketing Management (2nd ed.). Pearson.

Kovenock, D., & Phillips, G. M. 1997. Capital structure and product market behavior: An examination of plant exit and investment decisions. Review of Financial Studies, 10 (3): 767-803.

Kurt, D., & Hulland, J. 2013. Aggressive marketing strategy following equity offerings and firm value: The role of relative strategic flexibility. Journal of Marketing, 77 (5): 57-74.

Lee, I. H., & Marvel, M. R. 2009. The moderating effects of home region orientation on R&D investment and international SME performance: Lessons from Korea. European Management Journal, 27 (5): 316-326.

Lee, S., Yoon, S.-J., Kim, S., & Kang, J.-W. 2006. The integrated effects of market-oriented culture and marketing strategy on firm performance. Journal of Strategic Marketing, 14: 245-261.

Lenskold, J. D. 2002. Marketing ROI: Playing to Win. Marketing Management, 11 (3): 30-34.

Lerner, J. 2002. When bureaucrats meet entrepreneurs: The design of effective 'public venture capital' programmes. The Economic Journal, 112: F73–84.

Lev, B., & Sougiannis, T. 1999. Penetrating the book-to-market black box: The R&D effect. Journal of Business Finance & Accounting, 26: 419-440.

Lim, L. K. S., Acito, F., & Rusetski, A. 2006. Development of archetypes of international marketing strategy. Journal of International Business Studies, 37 (4): 499-524.

Ling-yee, Li. 2007. Marketing resources and performance of exhibitor firms in trade shows: A contingent resource perspective. Industrial Marketing Management, 36 (3): 360-370.

Liu, W-C., & Hsu, C-M. 2006. Financial structure, corporate finance and growth of Taiwan's manufacturing firms. Review of Pacific Basin Financial Markets & Policies, 9 (1): 67-95.

Loginova, O. 2012. Competitive effects of mass customization. Review of Marketing Science, 10 (1): 1-32.

Low, G., & Mohr, J. 2001. Factors affecting the use of information in the evaluation of marketing communications productivity. Journal of the Academy of Marketing Science, 29 (1): 70-88.

Luo, X. 2008. When marketing strategy first meets Wall Street: Marketing spendings and firms' initial public offerings. Journal of Marketing, 72: 98-109.

Luo, X. 2006. Relational market-based assets and sustainable financial returns. AMA Winter Educators' Conference Proceedings, 17: 146.

Luo, X., & Bhattacharya, C. B. 2009. The debate over doing good: Corporate social performance, strategic marketing levers, and firm-idiosyncratic risk. Journal of Marketing, 73 (6): 198-213.

Luo, X., & Donthu, N. 2006. Marketing's credibility: A longitudinal investigation of marketing communication productivity and shareholder value. Journal of Marketing, 70 (4): 70-91.

Luo, X., & Homburg, C. 2007. Neglected outcomes of customer satisfaction. Journal of Marketing, 71 (2): 133-149.

Luo, X., Homburg, C., & Wieseke, J. 2010. Customer satisfaction, analyst stock recommendations, and firm value. Journal of Marketing Research (JMR), 47 (6): 1041-1058.

Luo, X., Wieseke, J., & Homburg, C. 2012. Incentivizing CEOs to build customer- and employee-firm relations for higher customer satisfaction and firm value. Journal of the Academy of Marketing Science, 40 (6): 745-758.

Mantrala, M. K., Sinha, P., & Zoltners, A. A. 1992. Impact of Resource Allocation Rules on Marketing Investment-Level Decisions and Profitability. Journal of Marketing Research (JMR), 29: 162-175.

Markovitch, D. G., Steckel, J. H., & Yeung, B. 2005. Using capital markets as market intelligence: Evidence from the pharmaceutical industry. Management Science, 51 (10): 1467-1480.

Marquardt, R. A., & Murdock, G. W. 1984. The sales/advertising relationship: An investigation of correlations and consistency in supermarkets and department stores. Journal of Advertising Research, 24 (5): 55-60.

Matsa, D. A. 2010. Capital structure as a strategic variable: Evidence from collective bargaining. Journal of Finance, 65 (3): 1197-1232.

Maula, M., Autio, E., & Murray, G. 2005. Corporate venture capitalists and independent venture capitalists: What do they know, who do they know and should entrepreneurs care? Venture Capital, 7 (1): 3-21.

McCarthy, E. J. 1960. Basic Marketing: A Managerial Approach. Homewood, IL: Irwin.

McGrath, R. G. 2010. Business models: A discovery approach. Long Range Planning, 43: 247-261.

Metwally, M. 1997. Determinants of growth of advertising expenditure on consumer goods and services: The Australian experience. Journal of International Marketing & Marketing Research, 22 (3): 147-156.

Meyer, A. D., Tsui, A. S., & Hinings, C. R. 1993. Configurational approaches to organizational analysis. Academy of Management Journal, 36 (6): 1175-1195.

Miller, A., & Cioffi, J. 2004. Measuring marketing effectiveness and value: the Unisys Marketing Dashboard. Journal of Advertising Research, 44 (3): 237-243.

Miller, D. W., & Foust, J. E. 2003. Classifying services by tangibility/intangibility of attributes and benefits. Services Marketing Quarterly, 24 (4): 35-55.

Mir, R., & Watson, A. 2001. Critical realism and constructivism in strategy research: Towards a synthesis. Strategic Management Journal, 22: 1169-1173.

Mirzaei, A., Gray, D., & Baumann, C. 2011. Developing a new model for tracking brand equity as a measure of marketing effectiveness. Marketing Review, 11 (4): 323-336.

Mizik, N., & Jacobson, R. 2009. Valuing branded businesses. Journal of Marketing, 73 (6): 137-153.

Mizik, N., & Jacobson, R. 2007. The cost of myopic management. Harvard Business Review, 85 (7/8): 22-24.

Modigliani, F., & Miller, M. H. 1958. The cost of capital, corporation finance and the theory of investment. American Economic Review, 48 (3): 261-297.

Morgan, N. A., Clark, B. H., & Gooner, R. 2002. Marketing productivity, marketing audits, and systems for marketing performance assessment. Integrating multiple perspectives. Journal of Business Research, 55: 363-375.

Neill, S., & Rose, G. M. 2006. The effect of strategic complexity on marketing strategy and organizational performance. Journal of Business Research, 59: 1-10.

Nijs, V., Dekimpe, M., Steenkamp, J-B., & Hanssens, D. M. 2001. The category-demand effects of price promotions. Marketing Science, 20 (1): 1-22.

Nunnally, J. C. 1978. Psychometric Theory (2nd ed.). New York: McGraw Hill.

Olowoniyi, A. O., & Ojenike, J. O. 2013. Capital structure and stock returns in Nigeria: A panel co-integration approach. The International Journal of Applied Economics and Finance, 7 (1): 49-53.

Ordanini, A., & Maglio, P. P. 2009. Market orientation, internal process, and external network: A qualitative comparative analysis of key decisional alternatives in the new service development. Decision Sciences, 40 (3): 601-625.

Pakes, A., & Schankerman, M. 1984. An exploration into the determinants of research intensity, in R&D, Patents, and Productivity, Griliches (Ed.), University of Chicago Press, Chicago, 209-232.

Palmatier, R., Gopalakrishna, S., & Houston, M. 2006. Returns on Business-to-Business Relationship Marketing Investments: Strategies for Leveraging Profits. Marketing Science, 25 (5): 477-493.

Palmatier, R. W., Scheer, L. K., Evans, K. R., & Arnold, T. J. 2008. Achieving relationship marketing effectiveness in business-to-business exchanges. Journal of the Academy of Marketing Science, 36 (2): 174-190.

Pandey, V. K., Shanahan, K. J., & Hansen, S. W. 2005. The relationship between shareholder wealth effects, diversity, and publicity as a marketing strategy. Journal of the Academy of Marketing Science, 33 (4): 423-432.

Parvinen, P., Aspara, J., Hietanen, J., & Kajalo, S. 2011. Awareness, action and context specificity of blueocean practices in sales management. Management Decision, 49 (8): 1218-1234.

Pauwels, K., Hanssens, D. M., & Siddarth, S. 2002. The long-term effects of price promotions on category incidence, brand choice, and purchase quantity. Journal of Marketing Research (JMR), 39 (4): 421-439.

Peterson, R. A., & Jeong, J. 2010. Exploring the impact of advertising and R&D expenditures on corporate brand value and firm-level financial performance. Journal of the Academy of Marketing Science, 38 (6): 677-690.

Potter, G., & Lopez, J. 2001. After Postmodernism: An Introduction to Critical Realism. London: The Athlone Press.

Ragin, C. C. 2009. Qualitative comparative analysis using fuzzy sets (fsQCA). In Configurational Comparative Methods, eds. B. Rihoux and C. C. Ragin. Thousand Oaks, CA: Sage.

Ragin, C. C. 2008. Redesigning Social Inquiry: Fuzzy Sets and Beyond. Chicago: University of Chicago Press.

Ragin, C. C. 2007. Fuzzy sets: Calibration versus measurement. Online working paper, accessed May 20, 2013,
http://www.u.arizona.edu/~cragin/fsQCA/download/Calibration.pdf.

Ragin, C. C. 2000. Fuzzy-set Social Science. Chicago: University of Chicago Press.

Ragin, C. C., & Sonnett, J. 2004. Between complexity and parsimony: Limited diversity, counterfactual cases and comparative analysis. In S. Kropp & M. Minkenberg (Eds.), Vergleichen in der Politikwiseenschaft (Wiesbaden: VS Verlag fur Sozialwissenschaften).

Ramaswami, S. N., Srivastava, R. K., & Bhargava, M. 2009. Market-based capabilities and financial performance of firms: Insights into marketing's contribution to firm value. Journal of the Academy of Marketing Science, 37: 97-116.

Rappa, M. 2010. Business models on the web. Available online at: http://digitalenterprise.org/models/models.html (accessed 10 January 2013).

Ready Ratios. 2013. Profitability ratios, (accessed May 17, 2013), [available at http://www.readyratios.com/reference/profitability/].

Rego, L. L., Billett, M. T., & Morgan, N. A. 2009. Consumer-based brand equity and firm risk. Journal of Marketing, 73 (6): 47-60.

Richards, M. D. 1957. Intermediate- and long-term credit for small corporations. Journal of Finance, 12 (1): 90-91.

Rihoux, B., & Ragin, C. C. 2007. Configurational Comparative Analysis. Thousand Oaks, CA: Sage.

Robinson, H. 1986. Marketing expenditure as capital investment. European Journal of Marketing, 20 (1): 83-94.

Rust, R. T., Ambler, T., Carpenter, G. S., Kumar, V., & Srivastava, R. K. 2004. Measuring marketing productivity: Current knowledge and future directions. Journal of Marketing, 68: 76-89.

Rust, R. T., Lemon, K. N., & Zeithaml, V. A. 2004. Return on marketing: Using customer equity to focus marketing strategy. Journal of Marketing, 68: 109-127.

Samiee, S. 2008. Global marketing effectiveness via alliances and electronic commerce in business-to-business markets. Industrial Marketing Management, 37 (1): 3-8.

Sayer, A. 1992. Method in Social Science: A Realist Approach, 2nd Edition. London and New York: Routledge.

Seggie, S., Cavusgil, E., & Phelan, S. 2007. Measurement of return on marketing investment: A conceptual framework and the future of marketing metrics. Industrial Marketing Management, 36 (6): 834-841.

Sethi, R., & Iqbal, Z. 2008. Stage-gate controls, learning failure, and adverse effect on novel new products. Journalof Marketing, 72 (1): 118-134.

Sherman, A. J. 2003. Strategies for raising equity capital. In Fast-Track Business Growth, 193-218.

Sheth, J. N., & Sisodia, R. S. 1995. Feeling the heat: Making marketing more productive. Marketing Management, 4 (2): 8-23.

Sheth, J. N., & Sisodia, R. S. 2002. Marketing productivity: Issues and analysis. Journal of Business Research, 55 (5): 349-362.

Shi, C. 2003. On the trade-off between the future benefits and riskiness of R&D: A bondholders' perspective. Journal of Accounting and Economics, 35 (2): 227-254.

Shuchman, A. 1959. The marketing audit: Its nature, purposes and problems. Analyzing and improving marketing performance, 31: 1-11. New York: American Management Association.

Singh, M., & Faircloth, S. 2005. The impact of corporate debt on long term investment and firm performance. Applied Economics, 37 (8): 875-883.

Singh, M., Faircloth, S., & Nejadmalayeri, A. 2005. Capital market impact of product marketing strategy: Evidence from the relationship between advertising expenses and cost of capital. Journal of the Academy of Marketing Science, 33 (4): 432-444.

Small Business. 2013. http://smallbusiness.chron.com/five-differences-between-service-manufacturing-organizations-19073.html (accessed January 3rd, 2013).

Smith, D. C., & Park, C. W. 1992. The effects of brand extensions on market share and advertising efficiency. Journal of Marketing Research (JMR), 29: 296-313.

Srinivasan, S., & Hanssens, D. M. 2009. Marketing and firm value: Metrics, methods, findings, and future directions. Journal of Marketing Research (JMR), 46 (3): 293-312.

Srivastava, R. K., Fahey, L., & Christensen, H. K. 2001. The resource-based view and marketing: The role of market-based assets in gaining competitive advantage. Journal of Management, 27: 777-802.

Srivastava, R. K., & Reibstein, D. 2005. Metrics for linking marketing to financial performance, MSI Special Report 05-200. Cambridge, MA: Marketing Science Institute.

Srivastava, R. K., Shervani, T. A., & Fahey, L. 1999. Marketing, business processes, and shareholder value: An organizationally embedded view of marketing activities and the discipline of marketing. Journal of Marketing, 63: 168-179.

Srivastava, R. K., Shervani, T. A., & Fahey, L. 1998. Market-based assets and shareholder value: A framework for analysis. Journal of Marketing, 62 (1): 2-18.

Stahl, F., Heitmann, M., Lehmann, D. R., & Neslin, S. A. 2012. The impact of brand equity on customer acquisition, retention, and profit margin. Journal of Marketing, 76 (July): 44-63.

Steiner, R. L. 1978. Marketing productivity in consumer goods industries--A vertical perspective. Journal of Marketing, 42 (1): 60-70.

Stewart, D. W. 2009. Marketing accountability: Linking marketing actions to financial results. Journal of Business Research, 62 (6): 636-643.

Stewart, D. W. 2008. How marketing contributes to the bottom line. Journal of Advertising Research, 48 (1): 94-105.

Streukens, S., Van Hoesel, S., De Ruyter, K. 2011. Return on marketing investments in B2B customer relationships: A decision-making and optimization approach. Industrial Marketing Management, 40 (1): 149-161.

Suh, T., Yi, H-C., & Houston, M. B. 2011. Reassessing firm size in international marketing research. Journal of Global Marketing, 24 (1): 85-99.

Syam, N. B., Ruan, R., & Hess, J. D. 2005. Customized products: A competitive analysis. Marketing Science, 24 (4): 569-584

Thomson, R., & Jensen, P. 2013. The effects of government subsidies on business R&D employment: Evidence from OECD countries. National Tax Journal, 66 (2): 281-309.

Tsang, E. W. K., & Kwan, K.-M. 1999. Replication and theory development in organizational science: A critical realist perspective. Academy of Management Review, 24 (4): 759-780.

Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. 2007. Rethinking customer solutions: From product bundles to relational processes. Journal of Marketing, 71: 1–17.

Uzelac, N., & Sudarevic, T. 2006. Strengthening the link between marketing strategy and financial performance. Journal of Financial Services Marketing, 11 (2): 142-156.

Van Heerde, H., Helsen, K., & Dekimpe, M. G. 2007. The impact of a product-harm crisis on marketing effectiveness. Marketing Science, 26 (2): 230-245.

Vázquez, R., del Río, A. B., & Iglesias, V. 2002. Consumer-based brand equity: Development and validation of a measurement instrument. Journal of Marketing Management, 18: 27-48.

Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. 2010. Handbook of Partial Least Squares. Concepts, Methods and Applications. Berlin, Germany: Springer.

Viswanathan, M., & Childers, T. L. 1999. Understanding how product attributes influence product categorization: Development and validation of fuzzy set-based measures of gradedness in product categories. Journal of Marketing Research (JMR), 36 (1): 75-94.

Weiss, A. M., & Heide, J. B. 1993. The nature of organizational search in high technology markets. Journal of Marketing Research (JMR), 30 (2): 220-233.

Wernerfelt, B. 1984. A resource-based view of the firm. Strategic Management Journal, 5 (2): 171-180.

White, J. B., Miles, M. P., & Smith, M. F. 2001. The interrelationship of marketing productivity and financial performance for global SMEs. Irish Marketing Review, 14 (1): 55-60.

Wickham, P. A. 2001. Strategic Entrepreneurship. A Decision-Making Approach to New Venture Creation and Management. Great Britain: Prentice Hall.

Wind, Y. 1987. Financial services: Increasing your marketing productivity and profitability. Journal of Services Marketing, 1 (2): 5-18.

Xiong, G., & Bharadwaj, S. 2011. Social capital of young technology firms and their IPO values: The complementary role of relevant absorptive capacity. Journal of Marketing, 75 (6): 87-104.

Zimmerer, T. W., & Scarborough, N. M. 1996. Entrepreneurship and New Venture Formation. Upper Saddle River, NJ: Prentice Hall.

Zou, S., & Cavusgil, T. 2002. The GMS: A broad conceptualization of global marketing strategy and its effect on firm performance. Journal of Marketing, 66 (4): 40-56.

7. Appendices

Appendix A. The data and methods of key empirical studies.

Table 38 The data and methods of key empirical studies

Author(s)	Data	Method(s)
Ataman, Van Heerde and Mela	five years of weekly store-level scanner datafor 25 product categories sold in 560 outlets representing 21 chains and monthly brand-level advertising data	multivariate dynamic linear model (DLM)
Baidya and Basu	secondary (documents and records of a firm operating in hair care products sector) and primary (a sample of 150 customers of the firm) data sources	regression
Bezawada and Pauwels	store data across 56 product categories spanning seven years from a large retail chain	persistence modeling approach and a distributed-lag (Koyck) response model
Clark	survey data on 130 senior marketing managers	confirmatory factor analysis and structural equation modeling
Donthu, Hershberger, and Osmonbekov	retail data from 26 fast food outlets within one chain	data envelopment analysis and sensitivity analysis
Erickson and Jacobson	data on 99 industrial firms from Standard and Poor's 1986 Compustat database	regression and structural equation modeling
Gatignon	monthly observations from airline industry	stepwise regression
Hawkins, Best and Lillis	Profit Impact of Market Strategy (PIMS) data on 135 consumer durable manufacturing firms	multiple regression
Horsky and Nelson	district level data (sales, the number of salespeople, measures of the customer and prospect bases) from two companies as well as cost per salesperson and gross margin	data envelopment analysis and regression
Low and Mohr	survey data on 421 large, medium and small firms	multiple regression
Luo	a sample of 1981 IPOs between January 1, 1996, and December 31, 2005, collected from the Securities Data Corporation (SDC) Platinum New Issues database, COMPUSTAT as well as the Center for Research in Security Prices (CRSP) sources	hierarchical linear regression and data envelopment analysis
Luo and Donthu	secondary longitudinal data from 89 large publicly traded Fortune 1000 companies	time-series dynamic linear programming models and hierarchical nonlinear mixed models

Table 38 ***Continued***

Author(s)	Data	Method(s)
Nijs, Dekimpe, Steenkamp and Hanssens	560 consumer product categories over a 4-year period	multivariate time-series analysis
Palmatier, Gopalakrishna and Houston	nested survey data on 313 business customers covered by 143 salespeople of 34 selling firms	hierarchical linear modeling
Palmatier, Scheer, Evans and Arnold	survey data from 269 matched buyer-salesperson dyads across a range of industries, companies, and product categories	structural models
Pauwels, Hanssens and Siddarth	weekly sales data of two products derived from a scanner panel	persistence modeling
Rust, Lemon and Zeithaml	cross-sectional survey data from a set of consumer goods and services industries, as well as statistics from secondary sources	principal components multinomial logit regression model (i.e., principal components analysis and subsequent multinomial logit regression)
Steiner	industry level secondary data from multiple sources	spreadsheet calculations
Streukens, Van Hoesel and De Ruyter	survey data on 183 business-to-business customers of a business unit of a large international manufacturer, as well as objective data on customer sales	operations research techniques (i.e., mathematical equations and a mathematical decision-making model), dynamic regression models, and sensitivity analysis
Van Heerde, Helsen and Dekimpe	weekly advertising spending and retail-scanner data	time-varying error-correction model

Appendix B. Survey questionnaire.

In the beginning we ask some pieces of background information of your firm.

1) What is your own role in your firm?

	owner-CEO or entrepreneur	
	CEO (but not entrepreneur or main owner)	
	owner or entrepreneur (e.g.,, chairman of the board), who is not in the operational management	
	executive vice president	
	director of a business area or unit	
	financial director or controller	
	other position, what	..

2) Is your firm operating at one or more product/service markets?

a) only at one product/service market (e.g.,, ship engines)
b) at some product/service markets (e.g.,, ship engines and power plants)
c) at several product/service markets (e.g.,, ship engines, power plants, manufacturing equipment, educational services)

3) If your firm operates at several product/service markets, are these markets interconnected?

a) are interconnected to great extent (e.g., mobile phones and mobile phone telecommunications networks)
b) are interconnected to some extent (e.g., elevators and escalators)
c) are interconnected only a little or not at all (e.g., home ware, boats)
X) We operate only at one market

4) Are you answering to this questionnaire (a) on behalf of your whole firm, or (b) on behalf of a certain business unit?
Attention. Principally the aim is to answer (a) on behalf of the whole firm. If you however represent a business unit that is very independent, you can focus (b) in answers to the business unit in question.

a) on behalf of the whole firm
b) on behalf of a business unit or area

5) To what extent orderers/buyers of your firm's main products/services are the following parties?

	Not at all	To some extent	To great extent	Only
Retailers				
Consumers/private persons (directly or through retailers)				
Other firms (business-to-business)				
Public sector actors				

6) What about who are end users that deal with your firm's products/services?

	Not at all	To some extent	To great extent	Only
Consumers/private persons as end users				
Other firms as end users				
Public sector actors as end users				

7) Which one of the following best describes the main nature of your firm's business?

a) We produce and sell tangible products.
b) We produce and sell intangible services.
c) We sell and produce tangible products that are tailored customer-specifically
d) We sell and produce intangible services that are tailored customer-specifically
e) We sell and produce mechanisms/systems that are tailored customer-specifically
f) We produce and sell tangible products/mechanisms but primarily we "make money" out of selling ADDITIONAL PRODUCTS related to the product/mechanism (razors + RAZOR BLADES for instance)
g) We produce and sell tangible products/mechanisms but primarily we "make money" out of selling ADDITIONAL SERVICES related to the product/mechanism (elevators + ELEVATOR MAINTENANCES for instance)
h) We produce products/services for use of certain target group but we get primary income from another party (commercial-based models for instance)
i) We develop technologies/products of whose sales we will probably get income in the future

8) Do you agree or disagree with the following statements, what comes to your main industry?

	1= fully disagree	2	3	4	5	6	7=fully agree
Technology changes fast in our industry							
Technological changes offer great opportunities in our industry							
Technological breakthroughs have made possible many new product ideas in our industry							
Technological development in our industry is pretty insignificant							
It is difficult to predict how customer needs and demands will develop in our market							
It is difficult to predict actions of competitors							
Generally speaking, it is difficult to understand, how our market will change							
There is a lot of insecurity in our market							

What about how would you describe your business strategy during the last three years (what comes to your main market)?

9) We have aimed at differentiating ourselves from the competitors (with respect to our product, image, design and/or service)…

a) a little or not at all
b) somewhat
c) a lot
d) very much

10) We have aimed at directing our products and marketing…

a) to a certain market segment / niche narrow of its needs and preferences
b) to some market segments / niches
c) to a relatively great share of the target market
d) to the almost entire target market or the whole target market

11) We have aimed at marketing/offering…

a) more or less same version of our product or service to whole our target market
b) some different versions of our product or service (to different market segments)
c) many different versions of our product or service (to many different market segments)

12) Have you aimed at better cost-efficiency than your competitors?

a) Not really
b) To somewhat better
c) To a lot better
d) To very much better

"***Earlier capital injection"***

In the next questions we will use term "**Earlier capital injection**". With this we will refer to ***last external capital injection that your firm acquired or got before September 2008.*** In other words we will mean the last capital injection that your firm got before "international financial crisis" that started in September 2008 (in early 2008, in 2007 or in 2006 for instance).

Your earlier capital injection in question may have consisted of increase of the capital stock, liability or public susubsidies – or combination of these.

ATTENTION! If "Earlier capital injection" that your firm got before September 2008 was ***combination or "combination deal" of funds received from different financiers***, think of those funds as ***a single capital injection***. (This kind of situation occurred for instance if lender's essential condition for the loan was that entrepreneur or other stockholder made simultaneously an additional investment in the firm.)

13) Sign first below from which financing sources your firm got its "Earlier capital injection".

INSTRUCTION. If all the money of the capital injection came from a single source, sign "***100%***" to the source in question. If capital injection was a "combination deal" of money from different financing sources, sign shares of sources in question of the total capital injection. Leave those rows **empty** where the share of mentioned financing sources in "Earlier capital injection" was **0%**.

	1-33% of capital injection	*33-66% of capital injection*	*66-99% of capital injection*	*100 %*
[EQUITY CAPITAL]…entrepreneur's or entrepreneurs' own money				
[EQUITY CAPITAL]…money invested by friends/relatives				
[EQUITY CAPITAL]…money invested by outside private investors (by business angels for instance)				
[EQUITY CAPITAL]…capital investment from Veraventure				
[EQUITY CAPITAL]…capital investment from other investment firm (than Veraventure)				
[EQUITY CAPITAL]…money from issue directed to other institutional investors				
[LIABILITY]…money from convertible bond directed to private investors (to business angels for instance)				
[LIABILITY]…money from convertible bond directed to Veraventure				
[LIABILITY]…money from convertible bond directed to other investment firm (than Veraventure)				
[LIABILITY]…loan from a friend/relative				
[LIABILITY]…loan from private investors (from business angels for instance)				
[LIABILITY]…loan from a bank				
[LIABILITY]…loan from Finnvera				
[LIABILITY]…loan from other public creditor				
[LIABILITY]…loan from Veraventure				
[LIABILITY]…loan from other investment firm				
[LIABILITY]…other debt money or loan				
[PUBLIC SUBSIDY]…research/product development subsidy (from Tekes for instance)				
[PUBLIC SUBSIDY]…other subsidy or support money (from TE-keskus for instance)				

14) IF the source of "Earlier capital injection" was some other source than what was mentioned in the list, please write it here (with its percentage value).

15) Was this "Earlier capital injection" follow-up financing from financiers that had already earlier financed your firm?

"Earlier capital injection" in question was received…

	…as a whole as follow-up financing from financiers that had also earlier invested in our firm
	…partly as follow-up financing from financiers that had also earlier invested in our firm
	…as a whole from financiers that had not earlier invested in our firm

16) IF this "Earlier capital injection" contained a loan or a debt, were the following collaterals or conditions related to that?

Cross one or more if true.

	a) Collateral for the loan/debt was **firm's earlier fixed assets.**	
	b) Collateral for the loan/debt was **fixed assets that would be acquired with money from the capital injection.**	
	c) Collateral for the loan/debt was **firm's earlier current or other assets.**	
	d) Collateral for the loan/debt was **current or other assets that would be acquired with money from the capital injection.**	
	e) Collateral for the loan/debt was **entrepreneur's or owners' personal belongings.**	
	f) Collateral for the loan/debt was **guarantee from a third party** (e.g., from Finnvera or similar).	
	g) *Condition* for the loan/debt was **already negotiated delivery to customers** (delivery guarantee).	
	h) Other relevant conditions or covenants were related to the loan/debt. What?	..
	X) I don't know/remember.	

11) In what year your firm received the majority of the "Earlier capital injection" in question to its use (or to its cash)?

	earlier than in 2005
	in 2005
	in 2006
	in 2007
	in 2008
	In 2009

2) What was the size of the "Earlier capital injection" in Euros (approximately)?

	less than 10 000e
	10 000 – 20 000e
	20 000 – 50 000e
	50 000 – 100 000e
	100 000 – 200 000e
	200 000 – 500 000e
	500 000 – 1Me
	1Me – 2Me
	2Me – 5Me
	5Me – 10Me
	10Me – 20Me
	20Me – 50Me
	more than 50Me

19) What about what of the following best describes the nature of the Earlier capital injection?

Earlier capital injection was to our firm…

a) Seed financing
b) Start-up financing
c) Other early stage financing
d) Later stage venture financing
e) Growth/Expansion capital
f) Financing of the second or later stage of growth
g) Bridge financing
h) Rescue/Turnaround financing
i) Replacement capital
j) Refinancing of bank debt
k) Financing of management buy-out
l) Financing of management buy-in
m) Public to private
n) Other financing of leveraged buy-out

This page is last but one. There are several sections in the questions of the page – try to hold on. After these you will get to the last page, where there are only some questions.

Thinking again about the time when your firm received the Earlier capital injection to its use, what have been the most central aims of your firm at that time?

20) Our firm's most central aim at that time was…

a) effectuation or strong increase of sales in general (on the home front and/or abroad)
b) effectuation or strong increase of sales especially abroad
c) having a certain technology/product ready or a significant increase in the level of technology
d) concentration on improvement in cost-profit structure (e.g., profitability-%, profit margins)
e) downsizing potential fluctuation risk in sales, profit and/or cash flows
f) avoiding threatening liquidation or bankruptcy
g) finding one's way to reorganization or liquidation in the near future
h) selling the firm in the near future or going public
i) implementing a significant strategic organizational restructuring or alliance

21) Our firm's second most central aim at that time was…

a) effectuation or strong increase of sales in general (on the home front and/or abroad)
b) effectuation or strong increase of sales especially abroad
c) having a certain technology/product ready or a significant increase in the level of technology
d) concentration on improvement in cost-profit structure (e.g., profitability-%, profit margins)
e) downsizing potential fluctuation risk in sales, profit and/or cash flows
f) avoiding threatening liquidation or bankruptcy
g) finding one's way to reorganization or liquidation in the near future
h) selling the firm in the near future or going public
i) implementing a significant strategic organizational restructuring or alliance

Answer yet below what kind of situation your firm had to be exact, (A) when you received "Earlier capital injection" to your use and (B) at the moment?

22) So sign to each row of the list below:

A) what your firm's situation was when you received "Earlier capital injection" to your use, and
B) what your firm's situation is at the moment (in the autumn 2010)

We had/have…

	A. THEN				*B. AT THE MOMENT*			
	0 = not true	1 = partly true	2 = much true	3 = fully true	0 = not true	1 = partly true	2 = much true	3 = fully true
…certain major product/service in production/on offer								
…many products/services in production/on offer								
…broad (brand) recognition in Finland								
…broad (brand) recognition in many countries abroad								
…strong brand image and credibility in our industry in Finland								
…strong brand image and credibility in our industry in many countries abroad								
…high quality level of products/services in Finland (according to the customers)								
…high quality level of products/services abroad (according to the customers)								
…extensive sales and distribution channels in Finland								
…extensive sales and distribution channels to many foreign markets								
…good relationships to retailers and channel partners in Finland								
…good relationships to retailers and channel partners in many foreign markets								
…lots of earlier (reference) customers in Finland								
…lots of earlier (reference) customers in many countries abroad								
…extensive installed base in Finland								
…extensive installed base abroad								
…strong relationships to key customers in Finland								
…strong relationships to key customers abroad								

23) Tell yet what your situation was/is in terms of these:

We had / have…

	A. THEN				*B. AT THE MOMENT*			
	0 = not true	1 = partly true	2 = much true	3 = fully true	0 = not true	1 = partly true	2 = much true	3 = fully true
…cost efficient production								
…close to world leading technological level in products/services								
…extensive patents and copyrights in Finland								
…extensive patents and copyrights in many countries abroad								
… extensive understanding of customers' needs and preferences in Finland								
…extensive understanding of customers' needs and preferences in many foreign markets								
…good subcontractor and supplier relationships in Finland								
…good subcontractor and supplier relationships abroad								
…wide network of firms offering supplementing products or services in Finland								
…wide network of firms offering supplementing products or services in many countries abroad								
…extensive access to Finnish markets through strategic partners or alliances								
…extensive access to many foreign markets through strategic partners or alliances								
…extensive access to technological skills and know-how of Finnish strategic partners								
…extensive access to technological skills and know-how of foreign strategic partners								

24) How great share of your firm's sales approximately came from abroad <u>at that time</u>?

a) 0% from abroad (so all from Finland)
b) 0-25% from abroad
c) 25-50% from abroad
d) 50-75% from abroad
e) 75-100% from abroad
f) 100% from abroad
X) Our firm did not have sales/revenue at all at that time.

25) How great share of your firm's sales approximately comes from abroad <u>at the moment</u>?

a) 0% from abroad (so all from Finland)
b) 0-25% from abroad
c) 25-50% from abroad
d) 50-75% from abroad
e) 75-100% from abroad
f) 100% from abroad
X) Our firm does not have sales/revenue at all at the moment.

This is the very last page of the inquiry. There are only few questions left!

INSTRUCTION. A bit below on this page there is a list of various things and actions, in which a firm can **use or invest its money** to generate business growth.

Now, roll down on the page first, and glance through THE LIST OF INVESTMENT TARGETS. Answer then the questions below by using the numbering in the list of investment targets.

ATTENTION! When answering, think where the money has been invested **in reality – *independent of*** whether the investments have been counted as expenses or as investments *in bookkeeping*.

26) In which target your firm invested (or has invested) money from "Earlier capital injection" *most* as measured in Euros?

Pick the number of the target from the list farther down on the page.

	1		10		19		28		37
	2		11		20		29		38
	3		12		21		30		39
	4		13		22		31		40
	5		14		23		32		41
	6		15		24		33		
	7		16		25		34		
	8		17		26		35		
	9		18		27		36		

27) IF you want to specify or comment this "number one target", write your comment here.

28) Was this "number one target" about investment in business (or boosting business) in Finland or abroad?

	primarily in business in Finland (e.g., new customers or subcontractors in Finland)
	primarily in business abroad (e.g., new customers or subcontractors abroad)
	equally in business in Finland and abroad

29) How great share of the money from "Earlier capital injection" you spent approximately in this "number one target"?

	100%
	50-99%
	25-50%
	less than 25% (but still significantly)

30) In which years your firm invested (or has invested) money in this "number one target"?

Sign one or more.

	before 2007
	in 2007
	in 2008
	in 2009
	in 2010

LIST OF INVESTMENT TARGETS

Market research	22. Implementation of targeted direct communications campaigns (letter, e-mail, SMS message for instance)
1. Implementation of market research	23. Foundation or renewal of internet site (other than electronic commerce, see item 9)
2. Implementation of competitor analyses or analyses of competitors' products/services	24. Implementation of social media communications campaigns
Product and service development projects	**Advance oriented PR and lobbing**
3. Development project of a product/service that was new both to the market and to our firm	25. PR campaigning and creating media relationships
4. Development project of a product/service that was new to our firm but that had been already (more or less) there in the target market	26. Lobbing towards the authorities
5. Improvement projects (functionality, quality, etc.) of our earlier products/services	**Production capacity, processes and warehouses**
6. Test projects of a new product (with users or on the market)	27. Acquisition of facilities, devices or machines that increase production capacity (or service capacity)
7. Development projects of service processes	28. Development projects of production process (rationalization of production, reduction of production costs, improvement of quality for instance)
Sales and distribution premises and equipment	29. Advance oriented acquisition of components or raw materials to stock
8. Foundation or maintenance of physical sales offices, stores or service points	30. Advance oriented production of products to stock
9. Foundation or maintenance of electronic commerce	**Creating supplier, subcontractor and partnership relationships**
10. Foundation or maintenance of distribution centers or distribution warehouses (excluding producing products to stock, see item 30)	31. Advance oriented hiring and other costs of employees needed in acquisition work of new subcontractors, suppliers and partners
11. Acquisition or renewal of facilities, vehicles or devices that increase delivery/distribution capacity	32. Special investments in developing relationships to our *earlier* subcontractors, suppliers or partners
12. Development projects of product packages or display materials	**Organizational restructuring and juridical operations**
Advance oriented sales work (in channels or	33. Completing an acquisition

directly)	
13. Advance oriented hiring of salespersons needed in acquisition of new *retailers* and other expenses (e.g., person, travel and representative expenses etc.)	34. Acquisition of licenses or other IPR rights from other firms
14. Advance oriented hiring of salespersons needed in acquisition of new *direct customers* and other expenses (e.g., person, travel and representative expenses)	35. Foundation costs of a technology or a marketing alliance with another firm
15. Special investments in sales/delivery projects (in the form of price reductions, extra workforce or resource allocation for instance) that would grow into important *references* to our firm	36. Patenting costs of own inventions and innovations (law and application processes)
16. Delivery of products or samples that have reduced price (that are unprofitable) to acquire customerships or to generate market penetration	**Personnel development and premises**
17. Special investments *in our existing customers* to deepen customer relationships	37. Training personnel or managers
Marketing communications	38. Acquisition, renewal, or maintenance of premises or work premises
18. Preparation of multipurpose brochures or catalogues	**IT/data systems**
19. Preparation of interactive or multimedia presentation materials (video production for instance)	39. Acquisition and development of data systems that support customer acquisition or managing customer relationships (CRM)
20. Participation in exhibitions or organizing other communication events	40. Acquisition and development of activity control data systems (ERP for instance)
21. Implementation of mass communications campaigns (television, newspaper, magazine, radio, brochure, outdoor ad for instance)	41. Acquisition and development of other data systems or IT tools

31) What about in which target your firm invested (or has invested) money from "Earlier capital injection" *second most* as measured in Euros?

	1		10		19		28		37
	2		11		20		29		38
	3		12		21		30		39
	4		13		22		31		40
	5		14		23		32		41
	6		15		24		33		
	7		16		25		34		
	8		17		26		35		
	9		18		27		36		

32) IF you want to specify or comment this "number two target", please write your comment here.

33) Was this "number two target" about investment in business <u>in Finland</u> or <u>abroad</u>?

	primarily in business in Finland (e.g., new customers or subcontractors in Finland)
	primarily in business abroad (e.g., new customers or subcontractors abroad)
	equally in business in Finland and abroad

34) How great share of the money from "Earlier capital injection" you spent approximately in this "number two target"?

	25-50%
	less than 25% (but still significantly)
	only some (as the greatest share of the money was invested in the earlier mentioned number one target)

35) In which years your firm invested (or has invested) money in this "number two target"?

Sign one or more.

	before 2007
	in 2007
	in 2008
	in 2009
	in 2010

36) Finally: If your firm did not have shortage of monetary resources, in which target of the list would you want to invest most money in the following two years?

	1		10		19		28		37
	2		11		20		29		38
	3		12		21		30		39
	4		13		22		31		40
	5		14		23		32		41
	6		15		24		33		
	7		16		25		34		
	8		17		26		35		
	9		18		27		36		

37) Would this "future target" be about investment in business (or boosting business) in <u>Finland</u> or <u>abroad</u>?

	primarily in business in Finland (e.g., new customers or subcontractors in Finland)
	primarily in business abroad (e.g., new customers or subcontractors abroad)
	equally in business in Finland and abroad

38) Do you want to comment somehow this questionnaire or some question/your answer?

You can write your comment here.

39) Do you want us to send you a review of the results of the research?

	Yes
	No

40) Would you like to have a personal contact?

	Yes
	No

Appendix C. Sources of capital.

This appendix discusses the sources of capital that firms can use in financing their marketing investments. Especially, to develop the source of capital items for the questionnaire used in the survey of this dissertation, it was crucial to identify different types of sources of capital.

The question of what is the cost of capital to a firm in a world in which funds are used to acquire assets whose yields are uncertain and in which capital can be obtained by many different means, ranging from pure debt instruments, to pure equity issue, has vexed at least three classes of economists. (1) The corporate finance specialist concerned with the techniques of financing firms so as to ensure their survival and growth, (2) the managerial economist concerned with capital budgeting, and (3) the economic theorist concerned with explaining investment behavior at micro and macro levels. (Modigliani and Miller 1958). In this study the focus is that of corporate finance specialist. Especially, this part of the study explores techniques of financing firms to ensure their survival and growth. Obviously, besides the aforementioned debt and equity, a firm can also use public subsidies as a source of capital.

The tables below present different source of capital items that a firm can use to fund its investment in marketing and related activities. Source of capital items in the tables are based on various public sources in the internet and extant research. Still, a venture capital professional and representatives from a lending institution were involved in development work to represent the two major source of capital types: equity and debt. The first table (Table 39) presents different items of equity capital that a firm can use to fund its investment in marketing and related activities. Virtually all types of fast-track

growth-oriented private firms raise some amount of equity capital to continue to fuel their expansion (Sherman 2003).

Table 39 Different types of equity capital in private firm funding

Type of Equity Capital
Entrepreneur's own money
Investment from a close friend or relative
Capital investment from an external private investor or business angel
Capital investment from Veraventure (a Finnish venture capital firm)
Capital investment from other venture capital firm than Veraventure
Issue directed to other institutional investors

Alternative sources of equity capital include entrepreneur's personal savings, family and friends (Botzkaya and De La Potterie 2008), venture capitalists, angel investors and corporate venture investing (Denis 2003). "Venture capital funds refer to limited partnerships in which the managing partners invest on behalf of the limited partners" (Denis 2003: 304). Angel investors are defined as high net worth individuals that invest their own funds in a small set of firms (Denis 2003). "Corporations invest on behalf of their shareholders, for financial and/or strategic reasons" (Denis 2003: 304).

Table 40 presents different items of credit or liability/debt that a firm can use to fund its investment in marketing and related activities.

Table 40 Different types of credit in private firm funding

Type of Credit
Convertible bond directed to private investors (to business angels for instance)
Convertible bond directed to Veraventure
Convertible bond directed to other venture capital firm (than Veraventure)
Loan from a friend or relative
Loan from private investors (from business angels for instance)
Loan from a bank
Loan from Finnvera (a Finnish public financing institution)
Loan from other public creditor
Loan from Veraventure
Loan from other venture capital firm (VC fund)
Other debt money or loan

Different types of credit include bonds (Zimmerer and Scarborough 1996), loans from private individual such as friend, relative or business angel (Richards 1957), loans from commercial banks (Zimmerer and Scarborough 1996) and loans from other actors such as life insurance firms (Zimmerer and Scarborough 1996). Growth capital lenders expect the funds to be employed so that the profitability and the cash flow position of the business are improved, thus ensuring repayment (Zimmerer and Scarborough 1996).

Table 41 presents different items of public subsidy that a firm can use to fund its investment in marketing and related activities.

Table 41 Different types of public subsidy in private firm funding

Type of Public Subsidy
Research/product development support money from Tekes (Finnish funding agency for technology and innovation) for instance
Other support or subsidy money from TE-keskus (center for economic development in Finland) for instance

Different types of public subsidy include product development support money and other subsidy money. Recent reviews of innovation policy regimes in different countries have emphasized various approaches being used to support firms' innovation activity. Finland, for example, emphasizes direct support measures (subsidies and loans), whereas France places more emphasis on direct credit and loan support. (Hewitt-Dundas and Roper 2010). Public authorities in general are interested in mitigating market failures (Lerner 2002).

Appendix D. Calculation of performance measures.

First, I ignored firms that did not spend any funds from the capital injection in most remarkable or second most remarkable target between 2007 and the time of responding to the survey (i.e., between 2007 and 2010). This resulted in discarding 11 B2B and 3 B2C firms (these firms invested in most remarkable and second most remarkable target before 2007 [specific year{s} unknown] and thus it is not possible to measure 1-/2-year-lag performance impacts of those investments).

Out of the 126 remaining B2B firms, 7 firms did not spend any funds from the capital injection in most remarkable target between 2007 and 2010. From these 7 firms, those firms whose second most remarkable target was not a "significant" investment (and thus this investment can be expected to have only a minor, if any, impact on performance) were ignored. In practice then, out of these 7 firms, I discarded firms whose managers replied to question:

34) How great share of the money from "Earlier capital injection" you spent approximately in this "number two target"?

with the "only some (as the greatest share of the money was invested in the earlier mentioned number one target)" – response option. This resulted in discarding 1 firm, leaving me with 125 B2B firms. Out of the 57 remaining B2C firms, all spent funds from the capital injection in most remarkable target between 2007 and 2010 at some point at least (most remarkable targets were significant by definition), leaving me with 57 B2C firms.

When calculating sales growths, sales figures received from Finnvera archives were adjusted when necessary. Due to the varying reporting conventions of privately held

firms, the accounting periods varied between the firms in my sample. First, there was variation between the lengths of the periods between different firms and even within financial statements of single firms (i.e., most accounting periods lasted twelve months but some accounting periods could last six monthts, 9 months or 18 months, for instance). Second, the end of a calendar year did not always signify an end for an accounting period. For some firms, even twelve-month periods could have ended in the end of June, for example, instead of the standard end-of-December convention for publicly traded firms.

When the length of the period was not 12 months, the sales for this period was adjusted so that if the length was for instance 15 months, the sales for this period was multiplied with 12/15 to have a sales figure that would correspond sales for a period of 12 months. This is because when calculating sales growth figure for a single firm, the sales of the two years between which the growth is calculated need to correspond periods of equal length to have a meaningful sales growth figure ([objective] sales growth by definition is "[sales in year n subtracted from sales in year n+1] divided by sales in year n"). On another note, when the period ended at another time than in the end of calendar year, the sales for this period were considered as being sales of the calendar year which the actual period "covered" most. For instance, if a twelve month period started in the beginning of October in 2009, and ended in the end of September 2010, the sales for this period were considered as being sales of calendar year 2010 (the sales covered 9 months of year 2010 and only 3 months of year 2009). When a period was equally distributed between two years (e.g., started in the beginning of July 2008, and ended in the end of

June 2009), the sales for the period were considered as being sales of the latter year (in the case of the example, that would be 2009).

The records did not cover all the years between 2007 and 2011 (additionally, from some firms I got information even for 2012 due to these periods having ended already prior to Fall 2012 when Finnvera supplied the last round of records) for all the firms in my sample (additionally there were some firms of which the records did not cover any of the years between 2007 and 2011), leaving me with some missing data.[31] In these cases, I retrieved the firms with partly or fully missing data from the online register of National Board of Patents and Registration in Finland. Some of the firms with missing data were in the register and operating, and some of the firms with missing data were in the register but had merged with another firm, and, as a third case, some of the firms with missing data were in the register but going through a reorganization proceedings. In all these three cases, I did not input anything into the dataset but settled with having missing financial data for the year(s) which were not retrievable from Finnvera archive (or for the years that were missing due to two consecutive 18-month-periods [e.g., sales of a period from January 2008 to June 2009 is seen as sales of calendar year 2008 {after the figure is multiplied with 12/18} and sales of a period from July 2009 to December 2010 is seen as sales of calendar year 2010, leaving sales for calendar year 2009 undefined]). As a fourth case, some of the retrieved firms with missing data were in the online register but had reportedly gone bankrupt. For these firms, I inputted sales of 0 euros to the dataset for the

31 The reasons for "incomplete" records in the Finnvera archive varied; there were firms of which financial information was missing that were classified as "passive" by Finnvera, and firms of which financial information was missing that were classified as "no financial statement" by Finnvera.

year when the firm went bankrupt as well as for subsequent years after the year of bankruptcy.[32]

Subsequently, sales growth after one year was calculated for each of the remaining 125 B2B and 57 B2C firm so that first sales growths between year n and year n+1 were calculated for every year n in which a company invested funds in the most remarkable target (or for the 6 B2B firms second most remarkable target). Of these sales growth figures (between 0 to 4 for each company), average sales growth was calculated for each firm. An example illustrates this calculation:

Between 2007 and 2010, a firm had invested funds in its most remarkable target in 2007, 2008 and 2010. Subsequently, I calculated the sales growth figures for sales growth between 2007 and 2008, between 2008 and 2009, as well as between 2010 and 2011. After, I calculated the average of these three sales growth figures. The average represented the sales growth after one year for this firm. In this case, if sales for one or more of the years 2007, 2008, 2010, and 2011 would be missing from my dataset, the sales growth between this missing year and any other year (or likewise between any other year and this missing year) would obviously be missing as well, and would not be included in calculation of the average sales growth. Additionally, if sales for any year would be reportedly 0, the sales growth between this year and any other year would be undefined. In practice, the sales growth in this situation would approach infinity. However, by definition, business growth does not exist between a year when a company has no sales at all and any other year because the company in this case would not in fact have started any business at all yet that it could foster. Obviously, by allowing sales growths that approach infinity the calculations of sales growth averages would be

32 This inclusion of failed companies mitigates a possible survivorship bias (Lev and Sougiannis 1999).

somewhat meaningless as well. This is because if one or more of the individual sales growth figures would approach infinity, the average of the sales growths for this given firm would approach infinity as well independent of the other individual sales growth figures of the firm in question.

In the end, 105 B2B and 50 B2C firms with meaningful average sales growth after one year remained in my sample. Subsequently, sales growth after two years was calculated for each of the remaining 125 B2B and 57 B2C firm so that first sales growths between year n and year n+2 were calculated for every year n in which a company invested funds in the most remarkable target (or for the 6 B2B firms second most remarkable target). Of these sales growth figures (between 0 to 4 for each company), average sales growth was calculated for each firm. An example illustrates this calculation:

Between 2007 and 2010, a firm had invested funds in its most remarkable target in 2007, 2008 and 2010. Subsequently, I calculated the sales growth figures for sales growth between 2007 and 2009, between 2008 and 2010, as well as between 2010 and 2012. After, I calculated the average of these three sales growth figures. The average represented the sales growth after two years for this firm. In the end, 99 B2B and 43 B2C firms with meaningful average sales growth after two years remained in my sample.

When calculating profitability[33] growths, profit[34] figures received from Finnvera archives were adjusted when necessary. As pointed out in the sales growth calculations,

33 In this thesis, profitability refers to return on sales (ROS), that is a ratio widely used to evaluate an entity's operating performance (Ready Ratios 2013). It is also known as "operating profit margin" and is usually (as in this thesis) expressed as a percentage of sales (Ready Ratios 2013).

34 Consistent with the selected profitability ratio (i.e., ROS), profit refers to “operating profit” in this dissertation. Operating profit is the profit earned from a firm's normal core business operations

there was variation between the lengths of the periods between different firms and even within financial statements of single firms. Also, the end of a calendar year did not always signify an end for an accounting period.

However, here it is sensible to take a different approach from sales growth calculations in adjusting the financial figures. When the length of the period was not 12 months, the sales and profits for this period were *not* adjusted. This is because when calculating profitability growth figure for a single firm, the sales and profit of the two years between which the growth is calculated does not need to correspond periods of equal length to have a meaningful profitability growth figure. As profitability growth by definition is "(profit in year n+1 divided by sales in year n+1) subtracted by (profit in year n divided by sales in year n)", and the profit for any given year is always for a period that is of same length than the period of the sales for this given year, the actual length of this period becomes meaningless when dividing profit by sales (e.g., if a period's length is 15 months, "profit divided by sales" is always equal to "[{12/15} times profit] divided by [{12/15} times sales]", the multipliers [here 12/15] hence becoming meaningless). On another note, similarly to sales growth calculations, when the period ended at another time than in the end of calendar year, the sales and profit for this period were considered as being sales and profit of the calendar year which the actual period "covered" most. Likewise, when a period was equally distributed between two years, the sales and profit for the period were considered as being sales and profit of the latter year.

In terms of dealing with missing data, I followed a procedure similar to that in calculations of sales growth for all the types of missing data cases except for bankruptcy

(Investopedia 2013). This value does not include any profit earned from the firm's stakes in other companies and the effects of interest and taxes (Investopedia 2013).

cases. In other words, for the firms with missing data that were in the register of National Board of Patents and Registration in Finland and either (1) operating, (2) had merged with another firm, or (3) going through a reorganization proceedings, I did not input anything into the dataset but settled with having missing financial data for the year(s) which were not retrievable from Finnvera archive (or for the years that were missing due to two consecutive 18-month-periods). For firms that had gone bankrupt, I settled with having missing financial data for the year of the bankruptcy and for subsequent years after the year of bankruptcy. In fact, inputting any figure as a profit to replace the missing profit figures that stem from bankruptcy would not make a difference to calculations. This is because as sales figure inputted for the year of bankruptcy and subsequent year(s) is 0, the numerator in the equation for calculating profitability is also 0 and thus profitability for these years of bankruptcy and subsequent years would be undefined in any case.

Subsequently, profitability growth after one year was calculated for each of the remaining 125 B2B and 57 B2C firm so that first profitability growths between year n and year n+1 were calculated for every year n in which a company invested funds in the most remarkable target (or for the 6 B2B firms second most remarkable target). Of these profitability growth figures (between 0 to 4 for each company), average profitability growth was calculated for each firm. An example illustrates this calculation:

Between 2007 and 2010, a firm had invested funds in its most remarkable target in 2007, 2008 and 2010. Subsequently, I calculated the profitability growth figures for profitability growth between 2007 and 2008, between 2008 and 2009, as well as between 2010 and 2011. After, I calculated the average of these three profitability growth figures.

The average represented the profitability growth after one year for this firm. In this case, if profit and sales for one or more of the years 2007, 2008, 2010, and 2011 would be missing from my dataset, the profitability growth between this missing year and any other year (or likewise between any other year and this missing year) would obviously be missing as well, and would not be included in calculation of the average profitability growth. Additionally, if sales for any year would be reportedly 0, the profitability growth between this year and any other year (or likewise between any other year and this year of no sales) would be undefined.

In the end, 105 B2B and 49 B2C firms with meaningful average profitability growth after one year remained in my sample. Subsequently, profitability growth after two years was calculated for each of the remaining 125 B2B and 57 B2C firm so that first profitability growths between year n and year n+2 were calculated for every year n in which a company invested funds in the most remarkable target, or for the 6 B2B firms second most remarkable target. Of these profitability growth figures (between 0 to 4 for each company), average profitability growth was calculated for each firm. An example illustrates this calculation:

Between 2007 and 2010, a firm had invested funds in its most remarkable target in 2007, 2008 and 2010. Subsequently, I calculated the profitability growth figures for profitability growth between 2007 and 2009, between 2008 and 2010, as well as between 2010 and 2012. After, I calculated the average of these three profitability growth figures. The average represented the profitability growth after two years for this firm. In the end, 99 B2B and 43 B2C firms with meaningful average profitability growth after two years remained in my sample.

Table 42 presents descriptive statistics on the performance measures of the B2B and B2C firms in the sample.

Table 42 Descriptive statistics on performance measures

Sample	Performance Measure	n	M	Mdn	Min	Max
B2B	Sales growth after one year	105	1.39	.07	-.93	64.17
	Sales growth after two years	99	8.37	.07	-.93	716.17
	Profitability growth after one year	105	.56	.01	-5.11	58.78
	Profitability growth after two years	99	.98	.00	-25.91	117.56
B2C	Sales growth after one year	50	1.31	.07	-1.00	41.88
	Sales growth after two years	43	4.69	.15	-.91	124.87
	Profitability growth after one year	49	-.75	-.01	-16.13	2.18
	Profitability growth after two years	43	-1.31	-.04	-16.14	6.10

Appendix E. Hierarchical cluster analysis, stability assessment and validation.

The clustering algorithm that I use in hierarchical clustering is Ward's method because of its tendency to generate clusters that are homogeneous and relatively equal in size (e.g., Hair et al. 2010: 546). As a distance measure, I use squared Euclidean distance that is the recommended distance measure for Ward's method (e.g., Hair et al. 2010: 521). The stopping rule I apply is based on assessing the percentage changes of heterogeneity between cluster solutions (Hair et al. 2010: 549). To increase the manageability and communicability of my findings, my criteria for the cluster solution is that the solution consists of three to six clusters.

Hierarchical cluster analysis (B2B firms). First, I performed hierarchical clustering for B2B firms, and subsequently calculated the percentage increase in the agglomeration coefficient (i.e., the distance between the two closest observations in the clusters being combined [Hair et al. 2010]) for each cluster solution. The largest percentage increase (34%) occurs in the coefficient when moving from a three-cluster solution to a two-cluster solution. Thus, I focus on a three-cluster solution. Also using scree plot logic, an argument can be made that this would be a stopping point. Before proceeding to the nonhierarchical analysis, I profile the clustering variables for the three-cluster solution to confirm that the differences between clusters are distinctive and significant, as well as to define the characteristics of the clusters.

At the right side of Table 43 are the *F* statistics from one-way ANOVAs that examine whether there are statistically significant differences between the three clusters

on each of the three clustering variables. The independent variable is cluster membership (which of the three clusters each of the 137 B2B firms were placed in the clustering process), and the dependent variables are the three clustering variables. The results show there are significant differences between the clusters on all three variables. The significant *F* statistics provide initial evidence that each of the three clusters is distinctive.

In the next stage of the profiling process, I interpret the mean values of the three cluster variables. Cluster 1 contains 50 B2B firms and is best characterized by a very high mean on stock of domestic market-based assets. Cluster 2 contains 55 B2B firms and has the lowest score on all the three clustering variables. Cluster 3 has 32 observations and is characterized by a very high mean on stock of market-based assets abroad. These results indicate that each of the three clusters exhibit distinctive characteristics. Moreover, no cluster contains less than 20 per cent of the B2B firms. Thus, all clusters are retained, because this preliminary assessment is sufficiently favorable to indicate moving on to nonhierarchical clustering.

Table 43 Means from hierarchical cluster analysis for B2B firms

	Cluster Number				
Variable	1	2	3	***F*-value**	**Significance**
Stock of domestic market-based assets	1.06	-.71	-.44	52.15	.00
Stock of market-based assets abroad	-.04	-.61	1.11	133.18	.00
Product/service on offer	.59	-.75	.36	42.26	.00
Cluster sample size	50	55	32		

Stability assessment and validation (B2B firms). In the final stage, the processes of stability assessment and validation are critical due to the exploratory basis for the cluster analysis. Factors such as the ordering of the cases in the data can affect cluster membership. To assess the stability of the cluster solution, I sort the observations in a different order and then re-perform the cluster analysis (with the new starting point selected by the software, but with the same number of clusters specified). A cross-classification (cf. Hair et al. 2010: 557) of cluster membership between the solution obtained with sorted data and the solution obtained with "original" data reveals mostly matches between the two solutions (all but 19 observations retained the same cluster membership across solutions). Thus, the three-cluster solution appears relatively stable with only 14 per cent of the cases switching cluster between solutions (cf. Hair et al. 2010: 557).

To assess predictive validity, I focus on a variable that has a logically based relationship to the clustering variables but was not included in the cluster solution. Given this relationship, I should see significant differences in this variable across the clusters. For this purpose, I consider a measure from the survey, namely "share of firm's sales from abroad". I estimated an ANOVA model using the criterion validity variable as the dependent variable and cluster membership as an independent variable. The ANOVA model is significant ($F = 20.74$, $p = .00$) providing support for the idea that this variable can be predicted by knowing to which market-based asset cluster a B2B firm belongs.[35]

35 The measure used as the dependent variable was coded so that number 2 was assigned to survey response option "0% from abroad" , number 3 to option "0-25% from abroad", 4 to "25-50% from abroad", 5 to "50-75% from abroad", 6 to "75-100% from abroad", and 7 to "100% from abroad". B2B firms that reported not to have any sales at all (two B2B firms in total) were excluded from the model. See Appendix C for details on the survey instrument on which the measure is based.

The result demonstrates, therefore, that the cluster solution can predict other key outcomes, which provides evidence of criterion validity. For example, firms in cluster 3 (characterized by a very high mean on stock of market-based assets abroad [and not a high mean on stock of domestic market-based assets]), which logically can be expected to have higher shares of sales from abroad than firms in clusters 1 and 2, display the highest score on the criterion validity variable (mean 5.37 for cluster 3 vs. 3.68 and 3.69 for clusters 1 and 2 respectively). Thus, the cluster solution is likely useful in explaining other key outcomes for B2B firms.

Hierarchical cluster analysis (B2C firms). Similar procedure was conducted for B2C firms. First, I performed hierarchical clustering, and subsequently calculated the percentage increase in the agglomeration coefficient for each cluster solution. The largest percentage increase (50%) occurs in the coefficient when moving from a five-cluster solution to a four-cluster solution. Thus, I focus first on a five-cluster solution. Also using scree plot logic, an argument can be made that this would be a stopping point. Before proceeding to the nonhierarchical analysis, I profile the clustering variables for the five-cluster solution to assess if the differences between clusters are distinctive and significant.

The results from one-way ANOVAs (See Table 44) that examine whether there are statistically significant differences between the five clusters on each of the three clustering variables show that there are significant differences between the clusters on all three variables. The significant *F* statistics provide initial evidence that each of the five clusters is distinctive. In the next stage of the profiling process, when interpreting the

mean values of the three cluster variables, I note that Cluster 3 is not characterized by very high or very low scores on any of the three cluster variables. Thus, as all of the five clusters do not exhibit distinctive characteristics, I consider that this preliminary assessment is not sufficiently favorable to indicate moving on to nonhierarchical clustering. Instead, I revisit the calculated percentage increases in the agglomeration coefficient for each cluster solution. The second largest percentage increase (44%) occurs in the coefficient when moving from a four-cluster solution to a three-cluster solution. Thus, I focus next on a four-cluster solution. Before proceeding to the nonhierarchical analysis, I profile the clustering variables for the four-cluster solution to assess if the differences between clusters are distinctive and significant.

Table 44 Means from hierarchical cluster analysis for B2C firms: five-cluster solution

	Cluster Number						
Variable	1	2	3	4	5	***F*-value**	**Significance**
Stock of domestic market-based assets	.98	-1.05	-.44	1.32	-.83	51.83	.00
Stock of market-based assets abroad	1.07	1.52	-.49	-.87	-.64	53.14	.00
Product/service on offer	.95	-.54	.46	-.64	-1.42	29.45	.00
Cluster sample size	13	7	22	9	9		

The results from one-way ANOVAs (See Table 45) that examine whether there are statistically significant differences between the four clusters on each of the three clustering variables show that there are significant differences between the clusters on all three variables. The significant *F* statistics provide initial evidence that each of the four

clusters is distinctive. In the next stage of the profiling process, when interpreting the mean values of the four cluster variables, I note that Cluster 3 is not characterized by very high or very low scores on any of the three cluster variables. Thus, as all of the four clusters do not exhibit distinctive characteristics, I again consider that the preliminary assessment is not sufficiently favorable to indicate moving on to nonhierarchical clustering. Instead, I once more revisit the calculated percentage increases in the agglomeration coefficient for each cluster solution. The third largest percentage increase (36%) occurs in the coefficient when moving from a three-cluster solution to a two-cluster solution. Thus, I focus next on a three-cluster solution. Again, before proceeding to the nonhierarchical analysis, I profile the clustering variables for the three-cluster solution to assess if the differences between clusters are distinctive and significant.

Table 45 Means from hierarchical cluster analysis for B2C firms: four-cluster solution

	Cluster Number					
Variable	1	2	3	4	***F*-value**	**Significance**
Stock of domestic market-based assets	.98	-.93	-.44	1.32	69.00	.00
Stock of market-based assets abroad	1.07	.30	-.49	-.87	17.45	.00
Product/service on offer	.95	-1.04	.46	-.64	31.79	.00
Cluster sample size	13	16	22	9		

At the right side of Table 46 are the *F* statistics from one-way ANOVAs that examine whether there are statistically significant differences between the three clusters on each of the three clustering variables. The independent variable is cluster membership (which of the three clusters each of the 60 B2C firms were placed in the clustering process), and the dependent variables are the three clustering variables. The results show there are significant differences between the clusters on all three variables. The significant *F* statistics provide initial evidence that each of the three clusters is distinctive.

In the next stage of the profiling process, I interpret the mean values of the three cluster variables. Cluster 1 contains 13 B2C firms and is best characterized by a very high mean on all the three clustering variables. Cluster 2 contains 16 B2C firms and has the lowest score on stock of domestic market-based assets and product/service on offer. Cluster 3 has 31 B2C firms and is characterized by a very low mean on stock of market-based assets abroad. These results indicate that each of the three clusters exhibit distinctive characteristics. Moreover, no cluster contains less than 20 per cent of the B2C firms. Thus, the three clusters are retained, because this preliminary assessment is sufficiently favorable to indicate moving on to nonhierarchical clustering.

Table 46 Means from hierarchical cluster analysis for B2C firms: three-cluster solution

Variable	Cluster Number			*F*-value	Significance
	1	2	3		
Stock of domestic market-based assets	.98	-.93	.07	23.25	.00
Stock of market-based assets abroad	1.07	.30	-.60	25.04	.00
Product/service on offer	.95	-1.04	.14	28.45	.00
Cluster sample size	13	16	31		

Stability assessment (B2C firms). Similar to the clustering process of B2B firms, I sort the B2C firms in a different order and then perform the cluster analysis once again to assess the stability of the cluster solution. A cross-classification of cluster membership between the solution obtained with sorted data and the solution obtained with "original" data reveals a perfect match between the two solutions (all 60 observations retained the same cluster membership across solutions). Thus, the three-cluster solution appears stable with none of the cases switching cluster between solutions.

Appendix F. Calculation of source of capital variables.

I calculated the primary source of capital as follows. For public subsidy, for example, a score was calculated so that share of "product development subsidy" was added to share of "any other subsidy". If a manager reported the capital injection to have consisted, for example, of "1-33%" of product development subsidy and "1-33%" of any other subsidy, the initial score for public subsidy was the mean of 1 and 33 added to the mean of 1 and 33. Subsequently, the initial score was 17 added to 17, that is 34. If the shares of all different source of capital items added together was other than 100 for a firm, the initial score was multiplied with 100 divided by the sum of all the shares (to have a realistic capital injection, in which sum of all shares total 100 per cent). Thus, if the shares of all different source of capital items added together was, for example, 102 per cent for the firm in my example, the final score for public subsidy was 34 times 100 divided by 102, that is 33. Then I compared the final scores of entrerpreneur's money, other equity, debt and public subsidy to determine the primary source of capital. The source of capital percentage values were calculated in a similar manner. In the end the final scores were transformed into percentages, that is .33 in the aforementioned example.

Appendix G. Firm's performance outcomes by contingent variables.

Table 47 Performance outcomes by product profile: descriptive statistics (B2B firms)

Product Profile	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Mass-produced product	.49	.17	1.42	.59	.18	.10	.24	.18
Mass-produced service	.02	.18	.58	.28	-.16	.16	.05	.04
Customized product	.19	.10	.58	.42	-.12	.13	-.16	.18
Customized service	.20	.13	.11	.08	.17	.10	.15	.12
Complementary product[a]	-.37	-	9.89	9.81	.16	-	-	-
Complementary service[b]	2.32	2.21	-.52	.34	.39	.54	.59	.58
Future product[c]	.20	.15	-.25	.12	-1.00	1.77	-13.06	12.85

Notes: [a] Company sells tangible products but primarily makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but primarily makes its profits on selling *services complementary* to the product (e.g., elevators + *elevator maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.

Table 48 Performance outcomes by source of capital: descriptive statistics (B2B firms)

Primary Source of Capital	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Entrepreneur	.20	.21	.30	.20	-.35	.27	.09	.05
Other equity	.81	.61	2.81	2.97	.23	.22	-3.22	2.63
Debt	.24	.08	1.05	.45	.04	.11	.20	.12
Public subsidy	.46	.29	1.43	.94	-.02	.02	-.06	.05
Multiple sources	.60	.57	1.04	1.07	.11	.08	-.10	.27

Table 49 Performance outcomes by market-based assets: descriptive statistics (B2B firms)

	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
Market-Based Assets - Cluster	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Domestic	.50	.24	1.14	1.02	.08	.05	.08	.07
No domestic & no product	.48	.18	1.64	.54	-.04	.21	-.54	.76
Abroad	.03	.06	.59	.62	-.04	.02	-.10	.09

Table 50 Performance outcomes by product profile: descriptive statistics (B2C firms)

	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
Product Profile	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Mass-produced product	.37	.21	.57	.32	-.10	.26	-.35	.32
Mass-produced service	1.49	1.20	11.79	9.66	-.35	.48	-.66	.74
Customized product	.16	.11	.57	.39	.00	.06	.02	.18
Customized service	.12	.11	.28	.14	-.01	.02	-.03	.02
Complementary product[a]	-	-	-	-	-	-	-	-
Complementary service[b]	.47	-	1.14	-	-.05	-	-.10	-
Future product[c]	1.25	.81	2.21	2.67	-.93	1.36	-.71	3.26

Notes: [a] Company sells tangible products but primarily makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but primarily makes its profits on selling *services complementary* to the product (e.g., elevators + *elevator maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.

Table 51 Performance outcomes by source of capital: descriptive statistics (B2C firms)

Primary Source of Capital	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
Entrepreneur	.33	.42	2.70	1.82	-.38	.35	.64	1.47
Other equity	.09	.14	.21	.31	-.14	.31	-.62	.61
Debt	.50	.28	2.36	2.26	-.25	.32	-.69	.57
Public subsidy	.60	.22	1.46	.78	-.01	.11	.24	.28
Multiple sources	1.14	.80	1.27	1.00	.28	.23	-.01	.25

Table 52 Performance outcomes by market-based assets: descriptive statistics (B2C firms)

Market-Based Assets - Cluster	Sales Growth after One Year		Sales Growth after Two Years		Profitability Growth after One Year		Profitability Growth after Two Years	
	Mean	s.e.	Mean	s.e.	Mean	s.e.	Mean	s.e.
No abroad & no product & domestic	.08	.10	.18	.24	.29	.27	.05	.05
No domestic	.67	.23	3.10	1.66	-.22	.19	-.33	.49
Abroad & domestic & product	.26	.31	-.18	.13	-.37	.59	-.47	.57

Appendix H. Firm's marketing investment effectiveness: linear regression with Winsorized variables.

Table 53 B2B firm's marketing investment effectiveness: linear regression coefficients (standard errors in parentheses) with continuous variables Winsorized at the 5th and 95th percentile levels

Variable	Sales Growth after One Year	Sales Growth after Two Years	Profitability Growth after One Year	Profitability Growth after Two Years
Intercept	.42 (.26)	1.11 (.67)	.04 (.17)	.08 (.23)
Investment selection				
Offering & PDM	.07 (.26)	-.03 (.66)	.12 (.17)	-.02 (.23)
Channels & SCM	-.19 (.30)	-.92 (.76)	-.00 (.19)	.00 (.26)
Selling & CRM	-.10 (.28)	-.38 (.71)	.05 (.18)	.01 (.24)
Other Development Projects	-.33 (.36)	1.61 (.82)*	.02 (.19)	-.05 (.27)
Fixed Capacity (base)	0	0	0	0
Product profile				
Mass–produced product (base)	0	0	0	0
Mass–produced service	-.46 (.21)**	-.52 (.58)	-.16 (.13)	-.05 (.19)
Customized product	-.29 (.14)**	-.62 (.33)*	-.11 (.08)	-.08 (.11)
Customized service	-.07 (.32)	-.12 (.83)	.11 (.21)	.13 (.27)
Complementary product[a]	-1.19 (.58)**	–	-.17 (.37)	–
Complementary service[b]	.47 (.35)	2.67 (1.08)**	.24 (.22)	.45 (.30)
Future product[c]	-.31 (.36)	-1.68 (1.16)	.15 (.23)	-.04 (.57)
Source of capital				
Debt (base)	0	0	0	0
Entrepreneur	.00 (.07)	-.10 (.21)	.02 (.07)	-.04 (.07)
Other equity	.07 (.08)	-.11 (.24)	.03 (.05)	-.07 (.08)
Public subsidy	.08 (.07)	.23 (.19)	.00 (.05)	-.05 (.06)
Market–based assets				
Product/service on offer	-.14 (.07)*	-.52 (.17)	-.05 (.04)	-.06 (.06)
Stock of assets abroad	.00 (.07)	-.14 (.18)	-.02 (.04)	-.06 (.06)
Stock of domestic assets	.01 (.08)	-.16 (.19)	-.01 (.05)	.01 (.06)
Control variables				
Firm size	-.21 (.09)**	-.12 (.25)	-.05 (.06)	-.05 (.08)
Technological turbulence	-.07 (.07)	-.23 (.18)	-.04 (.04)	.04 (.06)
Market turbulence	-.03 (.06)	-.04 (.16)	.01 (.04)	.01 (.05)
Interaction effects				
Other Development Projects x customized product	1.10 (.44)**	–	–	–
Other Development Projects x assets abroad	–	2.66 (.46)***	–	–
Other Development Projects x complementary service	–	-6.49 (2.01)***	–	–
PDM x entrepreneur	–	–	-.12 (.09)	–
PDM x future product	–	–	–	-1.14 (.75)

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model (there were no firms in the two-year-lag samples with "complementary product" product profile).

Table 54 B2C firm's marketing investment effectiveness: linear regression coefficients (standard errors in parentheses) with continuous variables Winsorized at the 5th and 95th percentile levels

Variable	Sales Growth after One Year	Sales Growth after Two Years	Profitability Growth after One Year	Profitability Growth after Two Years
Intercept	.28 (.45)	1.27 (1.75)	-.17 (.44)	-.40 (.84)
Investment selection				
Offering & PDM	.09 (.46)	-.27 (1.70)	-.36 (.51)	-.45 (.97)
Channels & SCM	-.40 (1.51)	.60 (4.62)	.84 (1.65)	1.12 (2.70)
Selling & CRM	.36 (.67)	-.81 (2.15)	.42 (.81)	.21 (1.27)
Other Development Projects	-.21 (.86)	-.18 (2.76)	-.17 (.88)	.23 (1.42)
Fixed Capacity (base)	0	0	0	0
Product profile				
Mass–produced product (base)	0	0	0	0
Mass–produced service	.56 (.67)	2.59 (2.04)*	.23 (.68)	.19 (1.04)
Customized product	-.16 (.44)	-.41 (1.47)	.44 (.46)	1.08 (.80)
Customized service	-.93 (.80)	-1.88 (2.35)	.25 (.83)	.41 (1.26)
Complementary product[a]	–	–	–	–
Complementary service[b]	.32 (1.17)	-1.12 (3.51)	-.52 (1.24)	-.65 (1.95)
Future product[c]	1.21 (.69)*	.18 (2.08)	-.60 (.77)	-.10 (1.21)
Source of capital				
Debt (base)	0	0	0	0
Entrepreneur	-.21 (.20)	.51 (.63)	-.25 (.23)	-.14 (.39)
Other equity	-.13 (.18)	-.06 (.60)	-.23 (.19)	-.49 (.33)
Public subsidy	.23 (.23)	.31 (.73)	-.17 (.25)	-.21 (.42)
Market–based assets				
Product/service on offer	.02 (.18)	.52 (.59)	-.10 (.19)	.07 (.31)
Stock of assets abroad	-.06 (.20)	-.98 (.64)	-.21 (.23)	-.46 (.38)
Stock of domestic assets	.02 (.26)	-.54 (.79)	.20 (.27)	.20 (.42)
Control variables				
Firm size	-.27 (.38)	.28 (1.16)	-.61 (.45)	-.58 (.66)
Technological turbulence	.15 (.18)	.56 (.57)	-.03 (.21)	-.10 (.35)
Market turbulence	-.13 (.23)	.08 (.74)	.40 (.26)	.43 (.43)
Interaction effects	–	–	–	–

[a] Company sells tangible products but makes its profits on selling *products complementary* to the product (e.g., razors + *razor blades*).
[b] Company sells tangible products but makes its profits on selling *services complementary* to the product (e.g., elevators + *maintenances*).
[c] Company develops products of whose sales it expects to get income in the future.
Notes: ***significant at $p < .01$; **significant at $p < .05$; *significant at $p < .1$; – coefficient not included in the model (there were no firms in the sample with "complementary product" product profile).

Aalto-DD 72/2014

ISBN 978-952-60-5694-4
ISBN 978-952-60-5695-1 (pdf)
ISSN-L 1799-4934
ISSN 1799-4934
ISSN 1799-4942 (pdf)

Aalto University
School of Business
Department of Marketing
www.aalto.fi

BUSINESS + ECONOMY

ART + DESIGN + ARCHITECTURE

SCIENCE + TECHNOLOGY

CROSSOVER

DOCTORAL DISSERTATIONS