Fitting entrepreneurial, firm-level and environmental contingencies for better performance

Arjen Van Witteloostuijn, Marcus Dejardin, Julie Hermans, Dendi Ramdani,, Johanna Vanderstraeten, Jacqueline Brassey, Hendrik Slabbinck

Fitting entrepreneurial, firm-level and environmental contingencies for better performance

A study into the complex world of entrepreneurship within Belgium

Arjen van Witteloostuijn
Marcus Dejardin
Julie Hermans
Dendi Ramdani
Johanna Vanderstraeten
Jacqueline Brassey
Hendrik Slabbinck

UNIVERSITÉ DE NAMUR
belspo
Universiteit Antwerpen

Fitting entrepreneurial, firm-level and environmental contingencies for better performance

A study into the complex world of entrepreneurship within Belgium

Fitting entrepreneurial, firm-level and environmental contingencies for better performance

A study into the complex world of entrepreneurship within Belgium

Arjen van Witteloostuijn, Marcus Dejardin, Julie Hermans, Dendi Ramdani, Johanna Vanderstraeten, Jacqueline Brassey, Hendrik Slabbinck

2015

ISBN: 978-9057-284-70-0
EAN: 978-9057-284-70-0

Printed by: D. Provo NV, Gierle, Belgium

With the financial support from the Belgian Federal Science Policy Office (BELSPO)

Fitting entrepreneurial, firm-level and environmental contingencies for better performance

A study into the complex world of entrepreneurship within Belgium

Arjen van Witteloostuijn (University of Antwerp and Tilburg University)
Marcus Dejardin (University of Namur and Université catholique de Louvain)
Julie Hermans (University of Namur)
Dendi Ramdani (University of Antwerp)
Johanna Vanderstraeten (University of Antwerp)
Jacqueline Brassey (Tilburg University)
Hendrik Slabbinck (Ghent University)

April 2015

Acknowledgements

We first want to thank the Belgian Federal Science Policy Office for financially supporting the SMESESAP research project.

Likewise, we would like to thank the members of the advisory committee who actively followed our work and provided their best advice.

Of course, we give special mention to all the entrepreneurs, managers and self-employed who trusted us in devoting their time and energy to this project. Without the participation of these entrepreneurial men and women, the project would not have been remotely possible. We thank them, dearly.

Contents

List of Figures

List of Tables

Part I

Setting the scene

Chapter 1

Introduction

The role of SMEs and self-employment in Belgium and in many other countries is, no doubt, very prominent in terms of employment creation and value added. From a policy perspective, two central questions are: (1) what are the determinants of the strategies, including innovation, by SMEs and the self-employed?, and (2) how does this link to their performance, particularly in terms of (growth in) employment and value added? This book reports the outcomes from a Belgian research project, coined SMESESAP (administered as BELSPO project TA/00/40), with the aim to empirically study both questions, using a comprehensive model of entrepreneurial performance and a few empirical strategies that are new to the entrepreneurship domain. In this sense, the overall approach adopted here is similar to the one of Audretsch et al. (2008), albeit at the firm rather than country level. In so doing, this study adds to the current state of the art in the academic literature in at least three ways by: (1) working toward developing and estimating a more comprehensive and complex model, benefiting from a multidisciplinary perspective; (2) doing so at the firm rather than country level, focusing on the strategy (with an emphasis on innovation) and performance (particularly growth) of SMEs and the self-employed; and (3) using a few novel conceptual empirical approaches.

Clearly, as is the case with any study, this implies that there are many things this study will not and cannot do. This makes its contribution clearly complementary to earlier work. For example, by focusing on firm-level strategy and growth of SMEs and the self-employed, we will evidently not deal with entry and exit at the market (or country) level, nor with the inter-linkages with and roles of large enterprises. Specifically, the study reported in this book provides a first – and essential, we believe – step toward a multi-level study, linking the micro-level of the SME or self-employed to the meso-level of the industry and macro-level of the country. Notwithstanding this, the current study's attempt to develop a multi-level study only goes halfway, at best. We return to the way forward in the concluding Chapter 10. Note that another pair of key contributions of this study is both empirical, by collecting and analyzing a unique and novel dataset (see Chapter 4), as well as methodological, by introducing a new method to measure entrepreneurial explicit and implicit motives (see Chapter 3). This implies that the potential contribution to practice, that of both SMEs/self-employed and policy-makers, is substantial. We return to this issue rather extensively in Chapter 9.

The intention expressed throughout this book is to develop an ambitious programmatic approach to the study entrepreneurship, using SMESESAP as the platform for further work. SMESESAP is the acronym for a research project financed by the federal government of Belgium. The full title of the project is "Determinants of SME[1] and Self-Employed Entrepreneurs' Innovation Strategy and Growth Performance". The project ran from 2011 to 2014. Its key aim was to develop an evidence-based model of what may be called ambitious entrepreneurship – a term that was introduced later in the project to better capture what we try to focus on here. As in Stam et al. (2012), an ambitious entrepreneur is defined as someone who identifies and exploits opportunities to create new products, services, processes or organizations with high entrepreneurial intensity, where the latter is reflected in employment creation, innovative activity and/or sales growth. The interest in this type of entrepreneurship is related to the observation that entrepreneurial value generation beyond mere self-sufficiency is critical for a society's economic growth and progress. This nicely mirrors the project's focus on innovation and value creation, as emphasized in the original project proposal.

Essential is that we study ambitious entrepreneurship through a multi-level, multi-disciplinary and multi-method lens. The multi-level perspective implies that we combine elements of the environment, entrepreneur and strategy: strategy is assumed to be the linchpin between the entrepreneur's (or his or her venture's)[2] strengths and weaknesses, on the one hand, and the opportunities and threats in the environment, on the other hand. Our key argument is that the value-creating performance of the

[1] SME stands small and medium-sized enterprise. Generally, SMEs are defined as enterprises with a maximum of 250 employees. SMEs are distinguished from the self-employed by having at least one employee, aper from the owner, to begin with; the self-employed run a firm without employees.
[2] We will use "entrepreneur" and references to his or her organization (firm, enterprise, venture, et cetera) interchangeably, to increase the readability of our text, except as our logic implies that we explicitly have to refer to either level of analysis.

entrepreneur is dependent upon the degree of "fit" between both sides of this multi-level entrepreneur – environment coin, with strategy as the linchpin. Related to the multi-level perspective, our multi-disciplinary approach implies that we cherry-pick insights across disciplines. For example, we introduce the theory of motives from (Personality and Social) Psychology, that of standardization from (Industrial) Economics, and that of "fit" from (Organizational) Sociology. Finally, to empirically explore our multi-level and multi-disciplinary lens, we need to apply multiple methodologies. For instance, we measure motives in small-scale workshops applying a Brief Implicit Association Test (BIAT), we estimate conditional processes with our survey data, and we perform a Qualitative Comparative Analysis (QCA) to explore potential fit profiles.

The structure of this book is as follows. Part I sets the scene. In Chapter 2, we briefly introduce this study's theoretical lens. This lens offers the opportunity to position the four empirical studies that form the heart of this book in the broader literature. In Chapter 3, we present our methodological choices. As said, a few of these methodologies are new to the domain of (ambitious) entrepreneurship, particularly the BIAT tool. In Chapter 4, we describe the data we collected, and the database we constructed. This already produces insights in and of themselves, even without further analytical-empirical rigor. Part II is the empirical core of this book, presenting the outcomes of four illustrative and exemplary empirical studies. In Chapter 5, we focus on the environment. Here, we analyze secondary European data, to examine whether and to what extent and for what type of enterprises does European standardization have an effect on individual enterprises' evaluation of opportunities and threats. In Chapter 6, we move to the level of the entrepreneur. Based on a novel method to measure entrepreneurial motives, we investigate how such motives impact an entrepreneur's social responsibility behavior. In Chapter 7, we shift to the strategy perspective. We examine the effect of a recent strategy typology – causation and effectuation – on entrepreneurial orientation, benefiting from data collected through the first survey wave. In Chapter 8, we bring all the pieces of the puzzle together. We search for performance-enhancing "fit" or performance-enhancing "misfit", focusing on exemplary aspects of the environment, entrepreneur and strategy, exploring data from the second survey wave. The final aspect of the book, in Part III, deals with lessons learned and to be learned. In Chapter 9, we discuss a series of policy implications that can be (cautiously) derived from our set of results. In Chapter 10, we review what we have done, and provide recommendations for future work.

A few remarks are worth making in advance. First, this is a relatively compact research report, implying that we cannot explain each and every detail. For that, we refer to the underlying, often lengthier, working papers (which are revised in response to journal reviews). Second, and related to the first remark, we should note that we have performed more analyses than we can present in this relatively compact report. For instance, we have produced other papers on the theory of ambitious entrepreneurship, entrepreneurial goal setting and the motives measurement method. Of course, this additional work is available upon request. Third, more can be done with the data collected than that we have been able to do, to date. For example, a more comprehensive fit analysis can be performed using the empirical estimation strategy introduced by Parker and van Witteloostuijn (2010), and we can run additional performance analyses after recent objective firm-level data from the Belgian Central Bank[3] have been linked to our database. However, notwithstanding these disclaimers, we hope – and believe – that the current book will bring across the message of the high potential of the multi-level, multi-disciplinary and multi-method study of ambitious entrepreneurship we start to develop below.

[3] These data come available with a substantial lag. Hence, at the time we were running our analyses, these statistics were not yet available for the appropriate year (i.e., the year matching with the dates of our surveys). Of course, as soon as these data are published, we will conduct additional analyses.

Chapter 2

Theoretical lens

2.1 Introduction

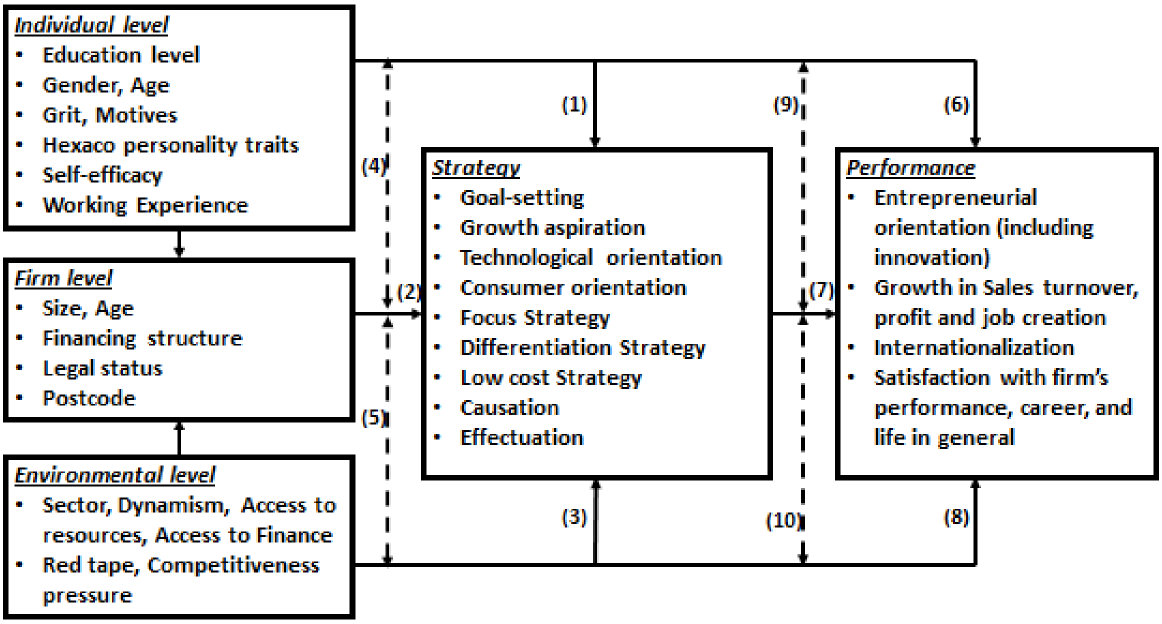
From well-established literatures in Business and Economics, we know that the study of firm-level performance requires a complex, multi-level and multi-disciplinary perspective, as many different elements, in isolation and interaction, co-determine such performance, varying from individual leadership and organizational culture to market competition and national regulation, and much more. Organization Sociology's contingency theory suggests that such complexity must be handled by either quantitatively estimating bundles of mediating and moderating effects (Parker & van Witteloostuijn, 2010) or engaging in Qualitative Comparative Analysis (Fiss, 2007). Following this contingency-theoretic tradition, we will utilize a multi-disciplinary theoretical contingency approach in combination with a dynamic multi-level QCA fit analysis.[4] In so doing, from a theoretical perspective, we combine insights from such disciplines as Business (e.g., international strategy), Economics (e.g., market competition), Psychology (e.g., entrepreneurial leadership), Public Administration (e.g., red tape) and Sociology (e.g., social capital) in the context of a comprehensive perspective on entrepreneurial strategy and performance. Empirically, by way of a first step, we will cherry-pick elements from this overarching theoretical perspective to conduct a first QCA fit study.

The multi-level analysis is required as the attributes of an individual entrepreneur, the firm's organization (for SMEs) and the external environment are all critical drivers, often in subtle interaction with entrepreneurial behavior and performance. In the context of this report, we cannot discuss all elements of this multi-disciplinary – multi-level perspective (see, e.g., Parker et al., 2010, for an example). Rather, we will reflect on a few key aspects to illustrate the overall logic, as summarized in Figure 2.1 below,

[4] For the purpose of this report, we decided to employ QCA. In future work, we hope to add quantitative fit estimations along the lines suggested by Parker and van Witteloostuijn (2010).

which visualizes our analytical framework.[5] And of course, many more examples follow in Part II's four empirical studies.

Figure 2.1 Overall analytical framework



Note that as both employment and value added relate to financial performance in the sense that the latter co-determines the former, financial performance is an integral part of our research model (but not explored any further here in Chapter 2, for reasons of brevity).

[5] Note that the SMESESAP research project proposal includes the role of firm-level internationalization strategies and country-level regulations, as both are key elements of modern economies. Indeed, we did collect information regarding both elements in our first-wave survey, but to find out that internationalization strategies were of minor importance to the sampled SMEs and self-employed. Hence, although we may analyze this issue in future work, we decided not to focus on this aspect of our overall model in the current report.

2.2 The project

The first part of the project focuses on the determinants of strategy, particularly innovation and internationalization (arrows 1-5, see Figure 2.1). An example of an individual antecedent of strategy, including innovation and internationalization, is the psychological concept of locus of control, which is a well-known determinant of entrepreneurial and innovative behavior. Locus of control relates to the belief as to the extent to which own behavior (an internal orientation) or outside influences (an external orientation) determine performance. Prior studies have shown that people with an internal locus of control are associated with entrepreneurial behavior, and have a preference for innovative strategies (Boone et al., 1996; Hansemark, 2003; Mueller & Thomas, 2001), whereas those with an external locus of control tend to engage in conservative behavior linked to a preference for low-cost strategies (Boone et al., 1996; Govindarajan, 1989). One of the underlying reasons for this set of findings is that people with an internal locus of control are relatively risk-taking, whilst their counterparts with an external locus of control are relatively risk-averse. As a result, the 'internal' entrepreneurs are more likely to adopt riskier business strategies such as product innovation and internationalization strategies, vis-à-vis 'external' entrepreneurs. In this report, we offer a different take, to add to the current state of the art in the academic literature. That is, in terms of personality, we take the Big Six personality traits on board (see Chapter 8), rather than locus of control. Regarding strategy, we decided to focus on a new strategic profile typology that may well have high relevance in an entrepreneurial context: causation and effectuation (see Chapter 7).

A second element at the individual level is the role of demographic features, such as age, education and gender. Understanding the individual characteristics that drive innovative and risk-taking behavior of entrepreneurial ventures could assist stakeholders such as banks and governments in promoting innovation and internationalization of SMEs and the self-employed. Moreover, we will investigate the moderating effects of individual-level variables with firm-level variables and environment-level variables (arrows 4 and 5). Returning to the example of locus of control, we know from earlier work that the role of moderating variables is key, in order to understand the impact of this individual trait on the adoption and effect of risky business strategies. For example, Wijbenga and van Witteloostuijn (2007), examining environmental dynamism as a moderating variable, found that internal entrepreneurs prefer product innovation strategies in stable environments, whereas external entrepreneurs opt for low-cost strategies in dynamic environments. In line with this logic, we aim to investigate moderating variables at the firm level, such as firm size (for SMEs only) and financing structure, and at the environmental level, such as market structure, industrial characteristics (particularly minimum efficient scale, to control for the limits to growth), financial market access, banking policies, intellectual property rights, red tape (through rules and regulations) and national or regional culture (i.e., Belgian, British and Dutch, and Flemish and Walloon). From prior work, we know that important external moderator variables are red type (van Witteloostuijn & de Jong, 2010), financial resources (Evans & Jovanovic, 1989), capital market access (Wiklund & Shepherd, 2005), and national or regional culture (Hayton et al., 2002). In the current report, an important contribution is that we seek to re-vitalize the entrepreneurial motives tradition in the entrepreneurship literature, by applying modern motives theory from Personality and Social Psychology, and the associate measurement method of the Brief Implicit Association Test (BIAT; see Chapters 3 and 6).

The second part of the SMESESAP research project focuses on the link between strategy and performance (arrows 6-10). Given the nature of modern-day challenges, we primarily focus (but not exclusively) on competitiveness (Chapter 5), social responsibility (Chapter 6), entrepreneurial orientation (Chapter 7), and job growth (Chapter 8). A key vehicle of employment growth at the macro level, apart from entry of newcomers, is growth of incumbents. Particularly promising are so-called gazelles, defined as high-growth SMEs (Parker et al., 2010). Here, too, we start from the contingency argument that a fit between environment, strategy, structure and individual has to be established if the organization is to perform above par. In this part, we concentrate on finding out under what conditions innovation strategies outperform low-cost strategies (see Chapter 8, in particular). In this context, the essential contingency argument is that innovation is not always the best strategy: whatever strategy is opted for, it should be matched with the environment, structure and individual in order to reach the greatest performance. For example, Wiklund and Shepherd (2005) show that the impact of innovative orientation on growth performance is particularly pronounced in dynamic environments. In our context, Parker et al.'s study (2010) is particularly interesting. They found that SME gazelles have difficulty in sustaining their frenzied pace of growth, and that surviving SME gazelles grow at a slower rate after a high-growth period. This evidence suggests that a small firm can grow at a high rate, but with a high risk of subsequent death after the gazelle period, if this firm fails to adjust strategy and structure to the new circumstances. Implicitly, this logic implies that a risky business strategy such as innovation is central to high growth, but that this very same strategy involves a high risk of business failure. This would imply that a sustainable innovation – growth link at the micro level of the individual SME (or self-employed) requires a complex, yet subtle act of balancing and changing key elements of the web fit.

So, the second part of the SMESESAP research project will seek to deepen our understanding of this dynamic and multi-dimensional strategy – performance link (e.g., that of innovation and growth in Chapter 8), involving bundles of mediating and moderator effects (arrow 9-10; note that the QCA technique does not use this terminology), as above, in order to find out what drives the sustained growth success of gazelle SMEs over time. For the self-employed, we have collected tailor-made data on, for instance, working time and financial income as measures of growth. However, in this report, we focus on SMEs, leaving the study of the self-employed for future work. We descriptively explore these and other distinctive aspects of self-employment, such as job satisfaction (Ajayi-Obe & Parker, 2005; van den Born & van Witteloostuijn, 2013), in Chapter 4.

2.3 The approach

The micro-performance of SMEs or the self-employed is determined by a complex web of bundles of factors at the level of the entrepreneur, organization (for SMEs) and environment, as explained above, all relating to the SME's or self-employed's internal strengths and weaknesses as well as the opportunities and threats in the external environment (as visualized in Figure 2.1). As mentioned above, in a setting like this, a fit between individual, strategy, structure and environment is central to attain high performance, in terms of both growth and profitability, or any other measure of performance. In the literature, different – often contrasting – conceptions and measures of fit abound. Parker and van Witteloostuijn (2010) recommend a new conceptual and empirical method to integrate fit-as-deviation, fit-as-moderation and fit-as-system perspectives in a quantitative modeling and estimation framework, including interaction (explicitly) and distance (implicitly) measures of fit in a general model specification, both individually and as bundles. For now, we illustrate in Chapter 8 how our fit logic plays out by applying so-called Qualitative Comparative Analysis methodology (QCA).

Moreover, in executing the proposed research project, we will employ a multi-level analytical lens, as our variables of interest are located at two or three levels of analysis: the individual, the organization (for SMEs only) and the environment. Estimating the associated complex dynamic multi-dimensional contingency fit models is very data demanding. Therefore, we initially had the ambition to take a comparative multi-country longitudinal four-step approach. Due to low response numbers in two of the three countries where we administered a self-administered questionnaire (see below), we primarily focus on Belgium in this report (except for Chapter 5, where we employ secondary datasets). Our approach comprised of four steps:

1. In the first step, we focused on exploring existing international databases such as CIS and GEM, as well as national sources such as annual report databases and statistical information collected by national authorities. Chapter 5 illustrates this approach, analyzing a European dataset to investigate perceptions about the effect of EU standardization on firm-level competiveness. Moreover, by linking Belgian statistical information to our survey data, we can run further analyses in the near future (this has to wait until we can map data for the same year, as this statistical information comes available with a lag).
2. In the second step, we administered a tailor-made first-wave survey at the beginning of the second year of the project. This survey was widely distributed in Belgium, as well as in specific regions in the Netherlands (Brainport Eindhoven) and the UK (Kent). Although the Belgian survey data are extremely rich, with thousands of respondents (the precise *n* can be different from one variable to

another, due to the adopted slicing strategy), the number of observations from both other countries turned out to be too small to run a quantitative cross-country comparative analysis. However, particularly Chapter 7, focusing on the causation-effectuation strategy – entrepreneurial orientation link, illustrates what can be done with the rich data from Belgium.

3. In the third step, which we decided to add to the original research plan after a careful review of the ambitious entrepreneurship literature (see Stam et al., 2012; Hermans et al., 2013), we organized a series of small workshops in Antwerp (Flanders) and Namur (Wallonia). During these workshops, we could measure the explicit and implicit motives of a small sample of Belgian entrepreneurs (n = 108), using the recent Brief Implicit Association Test (or BIAT), to explore the effect of such motives on entrepreneurial attitudes, strategies and outcomes (see Chapter 3). A first study on the basis of these unique data is reported in Chapter 6, focusing on the motives impact on social responsibility.
4. In the fourth step, the first-wave survey was repeated early in the third year of the project. The second-wave survey is required because the multi-dimensional nature of our model implies that we need measures of many variables that are not easily observable otherwise. Moreover, the repetition is needed in order to do justice to the dynamic logic of our argument, emphasizing the risky and subtle need to adapt strategy and structure over time in order to maintain a sustained fit in a changing environment. In Chapter 8, we apply Qualitative Comparative Analysis to explore (mis)fit profiles in our data.

With this four-step approach, we have been able to collect unique data, brought together in a comprehensive database. The database offers many opportunities to produce a series of studies with a novel take. The results clearly add to the state of the art in the entrepreneurship literature, and lead to a few thought-provoking policy implications (see Chapters 9 and 10). In future work, we hope to further explore the initial research routes taken in this book.

Chapter 3

Methodological toolkit[6]

3.1 Introduction

In this Chapter 3, we list some thoughts on how a research design, focusing predominantly (but not exclusively) on primary data collection, could look like in the context of (a) the SMESESAP project and (b) a larger programmatic approach, as well as on (c) what choices we did make and why. Moreover, first, taking SMESESAP as the platform, we reflect on a few theoretical issues. The aim of this reflection is to come to a selection of variables that should be part of an overarching model of ambitious entrepreneurship. Second, we discuss the option to do a micro-level panel study in three countries with two or three waves of primary data collection, next to macro-level analyses of secondary data (after creating a unique database by linking available datasets). Here, given constraints in budget and time, it is vital to develop a research design that maximizes the likelihood of finding results that are interesting for both an academic and practitioner audience. This is why we decided to do a series of in-depth workshops to measure entrepreneurial explicit and implicit motives in Belgium (Flanders and Wallonia) only, combined with an extensive first-wave survey in all three countries (and, in Belgium, three regions: Brussels, Flanders and Wallonia) plus a much shorter second-wave survey in Belgium only. Third, and related to the perspective on motive, we introduce a recently developed method, new to the entrepreneurship domain to measure motives: the Brief Implicit Association Test (BIAT).

---

[6] The research material presented in this chapter refers to two working papers and one journal article: Hermans, J., Vanderstraeten, J., Dejardin, M., Ramdani, D., & van Witteloostuijn, A. (2013), Entrepreneur ambitieux: état des lieux et perspectives, *Revue de l'Entrepreneuriat*, 13 (1-2): 43-70; Hermans, J., Vanderstraeten, J., van Witteloostuijn, A., Dejardin, M., Ramdani, D., & Stam, E. (2015 / forthcoming), Ambitious entrepreneurship: A review of growth aspirations, intentions, and expectations, In Corbett, A. C., Katz, J., & McKelvie, A. (Eds.), *Entrepreneurial growth: Individual, firm & region*. Bingley: Emerald Group Publishing Ltd. (*Advances in Entrepreneurship, Firm Emergence and Growth*, Volume 17); and Slabbinck, H., van Witteloostuijn, A., Hermans, J., Brassey, J., Ramdani, D., Vanderstraeten, J., & Dejardin, M. (2014). The added value of implicit motives for organizational research, *Working Paper*, Antwerp: University of Antwerp.

So, in terms of primary data collection, our project thus employs two tools: two survey instruments in either three countries (first wave) or Belgium alone (second wave), and the BIAT in a series of workshops. In the current Chapter, we refrain from introducing the questionnaire instruments in any further detail, as here we simply apply established survey methodologies (from item generation to establishing reliability and validity psychometrically); we do not offer any contribution to the methodological literature.[7] This is different for our BIAT methodology, which is brand new in the entrepreneurship literature. Therefore, in this Chapter 3, we introduce this new methodology in Section 3.4, being – we believe – an important contribution to the literature in, and of, itself. Note that data from the BIAT also form part of the analyses in Chapter 6.

3.2 Model development

In the SMESESAP research proposal (see Chapter 2), we emphasize that a key aim is to develop and estimate a comprehensive model of SME and self-employed strategy and performance, where strategy is not only an independent variable, but also a mediator in the performance model (see Parker et al., 2010, for an overview and exemplary study). By and large, the overarching model is composed of four larger building blocks (see Figure 2.1 above): (1) environment; (2) firm; (3) entrepreneur; and (4) performance. Based upon a literature review regarding ambitious (particularly high-growth) entrepreneurship (see Stam et al., 2012; Hermans et al., 2013) and discussions within the research team, we decided to include at least the following variables:[8]

1. ***Environment***. Here, the usual suspects have to be included. On the one hand, broad proxies of characteristics of the firm's environment can be added through dummies for region and sector (or industry). Alternatively, environmental influences can be captured by including more specific features such as the unemployment rate, GDP per capita, GDP growth, population size, access to finance, small firm density, education, tax regime, welfare state policies, income

[7] In Chapter 4, we will introduce our survey instruments in greater detail, complemented with the descriptive statistics.
[8] Apart from main effects, we test for a variety of non-linear, mediating and moderating relationships across our four empirical studies in Part II (see Parker & van Witteloostuijn, 2010).

inequality, and culture.[9] On the other hand, measures of abstract constructs popular in the literature can be included such as environmental competition, complexity, dynamism, munificence and predictability. Following van Witteloostuijn and de Jong (2011), we suggest including red tape or regulation measures, as reducing red tape can be an important anchor for policy.

2. ***Firm***. Our key interest is in measures of firm strategy, both generic (business, competitive and corporate) and specific (functional) strategies. Examples of generic strategies are cost leadership versus product differentiation. Functional strategies relate to the full spectrum of specific strategies (e.g., as to finance, HRM, marketing, and networking). Corporate strategy relates to issues of (geographic and product) diversification. Given SMESESAP's focus on ambitious entrepreneurship, special attention is paid to (job) growth, innovation and internationalization strategies. Moreover, the standard firm-demographic features will be included (e.g., age, location, size, independency degree and legal form).
3. ***Entrepreneur***. On the basis of the reviews of Stam et al. (2012) and Hermans et al. (2013), the core of the set of entrepreneur-level variables is suggested to be an assessment of the dominant explicit and implicit needs driving the individual entrepreneur:[10] need for achievement, affiliation, intimacy, and power.[11] Given the novelty of the implicit and explicit motives perspective (see below and Chapter 6), we decided to give measurement of entrepreneurial motives profiles center stage. Moreover, this literature refers to a number of other personal variables that are likely to be influential: personality traits, risk attitude, optimism, self-confidence, self-efficacy and the like. A way to capture an entrepreneur's pattern of perceptions of her or his environment is also included. Apart from these trait-like characteristics, the usual individual-demographic features have to be added (age, education, experience, gender, et cetera).

[9] These are country-level examples that must, of course, be adapted to the appropriate level if we focus on regions or lower-level localities.
[10] If the firm is founded and/or headed by a team of people, these variables could be included for each and every entrepreneurial team member. We leave this issue for future research.
[11] On the basis of the entrepreneurship literature, two further motives might be added to this classic set of four: need for independence and need for innovation. However, for these, validated measurement instruments are not available (Stam et al., 2012).

4. ***Performance***. The key entrepreneurial performance measures relate to the very definition of ambitious entrepreneurship: employment creation, innovative output and sales growth. Apart from that, exit and profitability are critical. Exit cannot be missed in a longitudinal study, as this is key in the context of (high-growth) SMEs and the self-employed.[12] Two other potentially relevant performance measures are internationalization and social contribution. Given the, by and large, cross-sectional nature of the SMESESAP project, we decided to include a series of subjective performance assessments in the survey instrument (twice, in both waves, for Belgium), to be complemented with objective performance metrics from the Belgian National Bank statistics.

This list of variables is too large for a single-respondent survey study. This implies that we need to (a) collect as many variables as we can from other sources (which is necessary to avoid common-method bias as well; see Chang et al., 2010), (b) develop a slicing design by asking (partially) different sets of questions to different groups of respondents, and (c) engage in cherry-picking by only including variables that are known to be really influential and/or of particular academic or practitioner interest. We return to this issue in detail in Chapter 4.

3.3 Four-pillar research design

As explained in Stam et al., (2012), a study of (ambitious) entrepreneurship can focus on different transition events (or rates), or different independent variables associated with these events (or rates). Broadly, the distinction between (1) the likelihood of starting a business and (2) the performance of the business is essential. In the SMESESAP context, we performed four types of studies, focusing on post-entry performance measures as our independent variables.

1. First, we explored different secondary data sets (such as CIS, CompuStat, GEM, National Statistics, Chambers of Commerce files, annual reports, et cetera) in

[12] As we will explain in Chapter 10, we hope to run exit analyses in the future, relating our survey (and workshop) data to the exit hazard of the enterprises in our sample. Of course, we have to wait until sufficient time have passed in order to observe these exit and survival processes, which moves our time window beyond the end date (Autumn 2014) of the SMESESAP project.

search for a database for macro-level comparative analyses. In Chapter 5, we provide an example of this type of analysis.

2. Second, we engaged in tailor-made primary data collection with a survey instrument that was administered in three countries: Belgium (Brussels, Flanders and Wallonia), the Netherlands (Brainport Eindhoven) and the United Kingdom (Kent). In Chapter 7, we offer an example of a study using the Belgian first-wave survey data.
3. Third, we organized a series of intensive workshops in Antwerp and Namur, which were attended by little over hundred entrepreneurs, in total, sampled from the first-wave survey respondents. During this workshop, all attendees did a so-called Brief Implicit Association Test (BIAT) to measure their explicit and implicit motives profile. In Chapter 6, we present a study based on these data, in combination with information from the first-wave survey.
4. Fourth, we administered a short second-wave survey in Belgium only. This survey was advertised through a personalized email to all respondents to the Belgian first-wave survey. In this way, we could add extra information to the data collected through the first wave. In Chapter 5, after linking the second to the first-wave database, we analyze this longitudinal data.

Below, we provide greater detail regarding each of these four pillars of our research design.

3.3.1 Secondary data cross-country analyses

The first pillar of the SMESESAP research design involves cross-country analyses with secondary data. By collecting and, where possible, linking different entrepreneurship-related cross-country data sets, we ran a series of macro-level regression analyses, aimed at explaining entrepreneurial differences across countries and regions. Below, we list the two key data collection hurdles and subsequent decisions we made:

1. The (potentially) available secondary firm-level databases rarely reveal the identity of the enterprises. Moreover, these databases tend to be a cross-section, even if similar data have been collected for more than one year, due to the non-

overlap between subsequent samples of firms. Given these limitations, we examined the option to construct our own cross-section dataset by pooling information from multiple databases at the national or regional level (say, TEA from GEM, R&D activity from CIS, GDP from Eurostat, et cetera). If firm-level information is available, adding firm-level data offers the opportunity to run multi-level analyses. The pooled data can be analyzed to explain cross-national or cross-regional variation in entrepreneurial activities.

2. Occasionally, there is a dataset available that does include firm identifiers. If so, the firm-level information from such a database can be linked to information from other sources (e.g., annual reports or Chambers of Commerce information). A promising candidate is CIS. However, after contacting Ghent colleagues in charge of collecting CIS data for Belgium, this turned out to be a dead end. Therefore, we tried to use the annual report-based information with firm identifiers that is brought together by the Belgian National Bank and Trends Top. This data, however, has a delay of approximately two years, which limited our possibilities for using secondary performance data for the Chapters in this book.

By now, we indeed explored most of the above opportunities. To date, we used two secondary datasets. First, in Chapter 5, we analyze Europe-wide data to investigate perceptions about the effect of European standardization on the competitiveness of enterprises, focusing on differences across countries and firm types. Second, in Chapter 8, we link performance data from the Belgian National Bank to our survey information to conduct a QCA analysis from a contingency fit perspective. In Chapter 10, we briefly explore further opportunities for future work.

3.3.2 First-wave survey in three countries

The second pillar of the SMESESAP research design is a survey instrument administered in Belgium (Flanders and Wallonia), the Netherlands (Brainport Eindhoven) and the United Kingdom (Kent). This must be a short survey instrument, not taking more than 30 minutes, to be administered through Internet tools, and probing into a limited number of potentially important antecedents and consequences of ambitious entrepreneurship. This implies that we had to engage in a further cherry-picking exercise, selecting the promising variables from the comprehensive theoretical model that cannot be (easily) measured otherwise. Ideally, the questionnaire information is to be linked to secondary data (from, e.g., annual reports and Chambers of Commerce files). The sampling strategy must be designed such that a sufficient number and a sufficiently representative set of respondents can be expected (say, a minimum of 750 per country, across all relevant industries, regions and size classes). This requires collaboration with local authorities willing to provide access to such files.

In the end, we opted for a survey slicing strategy in combination with a dual sampling approach. The slicing strategy implies that our first-wave survey includes a core part with items administered among all sampled respondents in all three countries, and an extra part with items that are different across three random sub-samples within Belgium. In this way, we considerably expanded the number of included variables that may play a role in driving ambitious entrepreneurship. We introduce the first-wave survey instrument (including descriptive statistics) in detail in Chapter 4. Chapter 7's study is based on the Belgian data from the first-wave survey.

3.3.3 Tailor-made workshops in Belgium

Based on Stam et al.'s (2012) and Hermans et al.'s (2013) reviews of the literature, we decided to put extra emphasis on the measurement of an entrepreneur's explicit and implicit motives. To do so, we invited all Belgian respondents to the first-wave survey to attend workshops organized in either Antwerp or Namur. At these workshops, all attendees volunteered to take a so-called Brief Implicit Association Test (BIAT) for motives, as recently developed at the University of Ghent. With a BIAT, we can measure an individual's implicit motives profile. We will explain in greater detail what this BIAT entails in Chapter 3's next section. The study reported in Chapter 6 relies heavily on the BIAT measures of entrepreneurial implicit motives.

3.3.4 Second-wave panel survey in Belgium

To add a longitudinal element to our data, we administered a second – much shorter – questionnaire among all respondents from the first-wave survey. In this second-wave survey, the emphasis is on collecting further performance-related information such that we could do a fit-type of analysis. As per the first-wave survey, the second-wave questionnaire is introduced and discussed in detail in Chapter 4. A first attempt to conduct a fit analysis can be found in Chapter 8.

3.4 Brief Implicit Association Test

3.4.1 Introduction

Identifying and quantifying the motives of decision-makers is a key aspect in many disciplines of organizational research, varying from work floor employees to upper echelon managers (Brandstätter, 2011; Mitchell et al., 2002). Yet, many if not most researchers in these domains only assess explicit motives while their implicit equivalents remain largely untapped. This is surprising because an impressive body of research in psychology clearly shows that these implicit motives influence many business, economic, political and societal phenomena *independent* from motivational dispositions that people attribute explicitly to themselves at a conscious level (Greenwald et al., 2009; Schultheiss & Brunstein, 2010). A plausible reason for this, what we refer to as the *implicit motives neglect*, is that the developers of implicit measures and the potential users of these implicit measures in organizational research, broadly defined, hold different views on what should characterize 'good' or 'appropriate' measurement instruments.

The main goal of this section is to provide a thorough understanding of the factors causing the implicit motives neglect in the entrepreneurship and organizational research communities, and to offer a good solution to overcome this issue. Towards this end, we first discuss the concept of implicit motives and provide a short overview of the traditional methods for the assessment. We then discuss differential views on 'good' measures by methodological and organizational (including entrepreneurship) researchers. In addition, we show how recent developments in (implicit) motives measurement can stimulate and encourage scholars in the entrepreneurship and organizational research tradition to adopt such measures. Subsequently, we introduce and validate a Brief Implicit Association Test (BIAT: Sriram & Greenwald, 2009) for the measurement of implicit motives, and apply this measure in the domain of entrepreneurship, which squarely fits with what we try to do in this report, as an example of organizational research that could benefit from lifting the implicit motives neglect. Note that, throughout this section, we often refer to organizational research in general (in our use this includes the entrepreneurship domain), as we strongly believe that the new methodology we introduce has ramifications far beyond the field of entrepreneurship alone.

We argue that introducing implicit motives in organizational research is very promising indeed, given the modern psychological insights into the differential effects of explicit versus implicit motives on behaviors and outcomes. We illustrate this claim in the case of entrepreneurship because, so far, researchers in this tradition fail to provide compelling empirical support for the argument that a relationship exists between motives and entrepreneurship (Johnson, 1990). Expanding on this illustrative case, we outline several possible domains where the introduction of implicit motives can unlock crashed discussions in organizational research, and can help to push the boundaries of the study of deep-level attributes in organizational settings. In particular, within the conclusion and discussion of this section, we highlight some limitations of our research, and potential directions for future work.

3.4.2 Implicit motives and their measurement

Current personality psychology distinguishes between two major elements of personality that affect and shape mental processes and behavior, namely personality characteristics or *traits* and motivational dispositions or *motives* (Winter et al., 1998). These two distinct aspects of personality – traits and motives – have led to the development of their own measurement instruments. Yet, both streams of research converge on the idea that behavior is energized and directed by two distinct types of personality systems – an implicit system that operates outside of conscious awareness and control, and an explicit system that functions at a conscious level (Perugini et al., 2010). Indeed, implicit and explicit motives differ in their impact on behavior. In general, implicit motives predict spontaneous behavior and long-term behavioral patterns, whereas explicit motives predict behavior that is subject to conscious thought and deliberation (Perugini et al., 2010; Schultheiss, 2008). For example, only individual differences in implicit motives can predict long-term career success (McClelland et al., 1989), whereas differences in explicit motives reveal decision and appraisal outcomes when people think through the topics carefully, such as task choice and task enjoyment (Biernat, 1989). Moreover, and contrary to explicit motives, implicit motives are formed during early childhood and stay relatively stable throughout an individual's life (McClelland & Franz, 1992; McClelland & Pilon, 1983).

On the one hand, given the conscious representation of the explicit system, explicit motives can be easily assessed via self-reports, often in the form of questionnaires. These measures of explicit motives are well established in the organizational research domain. On the other hand, because implicit motives operate outside of a person's awareness and people lack direct introspective insight into their implicit system, sensitive indirect measurement instruments are needed to measure these hidden individual differences (Greenwald & Banaji, 1995; McClelland et al., 1953). Indeed, over the course of time, several measurement procedures have been proposed for the assessment of implicit motives. However, for reasons we will discuss below, the implicit motives measurement instruments are rarely, if at all, applied in organizational research.

The assessment of implicit motives traces back to the 1930s with the development of the Thematic Apperception Test (TAT: Murray, 1943). The TAT was developed to explore the unconscious dynamics of personality. Murray believed that people share the same basic sets of 27 motives and differ only in their priority ranking of these needs (Murray, 1943; Scheffer & Heckhausen, 2008). He further argued that motives cannot be observed directly, but instead must be inferred indirectly. For this purpose, he developed the TAT. The TAT is a projective test that presents research participants with a series of ambiguous pictures. The participant is asked to spontaneously develop a story for each picture. The assumption is that the participant projects her or his own needs into the story, so that the stories can be analyzed and interpreted to uncover each participant's underlying needs. For example, Atkinson and McClelland (1948) find that the frequency of food-related interpretations of TAT pictures relates positively to the time participants ate their last meal.

A criticism of this early work has been that the classification of motives is a lengthy inventory of needs, lacking sufficient empirical or theoretical evidence (Scheffer & Heckhausen, 2008). McClelland et al.'s (1953) research on implicit motivational dispositions and their development of an empirically validated system of content analysis for motives imagery then transformed the TAT into a major tool for scientific personality psychology (Langan-Fox & Grant, 2006). To distinguish the original TAT from the version used to assess implicit motives, researchers started to refer to the latter as the Picture Story Exercise (PSE: Pang, 2010; Schultheiss & Pang, 2007). To avoid any misunderstanding, we use the term PSE to refer to the TAT version developed to assess implicit motives.

A typical PSE consists of four to six pictures that depict people in a variety of social settings. For each picture, participants write an imaginative story. The content of these imaginative stories can be coded according to motivational coding systems, empirically derived and refined over decades (Smith, 1992; Winter, 1994). Finally, the summed scores yield the person's overall implicit motives scores. Even though recent work confirms the psychometric qualities of PSE measures and other content-coding and interpretive techniques (Leitch et al., 2009; Pang, 2010; Schultheiss & Pang, 2007), many researchers remain highly skeptical toward these so-called subjective techniques. Consequently, when new, yet objective indirect measures were developed in the 1990s, many researchers abandoned the subjective content-coding and interpretive techniques in favor of their new objective counterparts (Vargas et al., 2004). Researchers in implicit motives adopted these techniques, too, and provided new theoretical insights in the mechanisms underlying motives, behaviors and outcomes.

The most popular new assessment technique to assess implicit motives and traits, in all likelihood, is the Implicit Association Test (IAT: Greenwald et al., 1998).[13] The IAT is a computerized response latency task that is assumed to measure the relative strengths

[13] Another popular technique is the Conditional Reasoning Test (CRT). For the sake of brevity, we decided to not discuss this alternative technique here. For a review, we refer to Uhlmann et al. (2012).

of associations amongst two pairs of contrasted concepts (e.g., 'positive – negative' and 'sunshine – rain'). In IAT studies, stimuli that belong to one of the concepts are presented on a computer screen one by one. These stimuli have to be allocated to the concept to which they belong by pressing one of two response keys. Results show that responses are faster when associated categories are assigned to the same response key than when non-associated categories are assigned to the same response key.

For example, people with a positive attitude toward sunshine are faster in allocating stimuli when they have to press the same response key for stimuli that belong the 'sunshine' or 'positive' concept than when they have to press the same response key for stimuli that belong to the 'sunshine' or 'negative' concept. Assuming that attitudes are represented in memory as associations between target concepts (e.g., sunshine versus rain) and attribute concepts (e.g., positive versus negative), performance on the IAT task can be used to assess a multitude of personality aspects, including implicit motives (Brunstein & Schmitt, 2004; Slabbinck et al., 2011, 2012).

3.4.3 What are good measures?

Developers of implicit measures adhere to a classical view, rooted in psychology, on what a 'good' measure should entail. Implicit measures are predominantly developed and validated by researchers in personality and social psychology, who predominantly implement classical test theory (Cronbach & Meehl, 1955). According to this theory, a 'good' measure is identical to a valid measure. Hence, a new measure is considered as valid if and only the new measure proves that it measures what the theory predicts it should (i.e., construct validity), that it has a good coverage of the content domains discussed in the literature (i.e., content validity), and that it predicts phenomena that are taken as representative of the construct (i.e., criterion validity).

Of course, researchers in organizational research require valid measures, too; but in many circumstances, these criteria are insufficient to designate a valid measure as a 'good' and practical, or 'appropriate', measure. Compared to personality and social psychology, data in organizational research are more frequently collected by means of field studies that require quick and simple data collection methods; otherwise, response rates will drop below acceptable levels, or access to respondents cannot be guaranteed. Hence, measures that only require light administrative procedures and allow quick data collection are crucial in these types of studies. Unfortunately, according to classic test theory, time-efficient data collection is not a prerequisite of a valid measure. Consequently, the proposed measures for the assessment of complex constructs such as implicit motives often require heavy administrative and time-consuming procedures.

To illustrate, to complete a default PSE, each participant has to write stories about four to eight pictures, and each picture presentation and story-writing episode is advised to last about four to five minutes (Pang, 2010). Afterwards, stories have to be independently content-coded by two or more trained coders. An experienced coder needs between two and five minutes to score one PSE story. Thus, a typical PSE with 6 picture presentations and 60 participants requires up to 30 hours of data collection and 12 – 30 hours of data preparation, and this only assesses the participants' implicit motivational dispositions (Pang, 2010). The administration and data processing of other popular implicit measures such as the Implicit Association Test take considerably less time than the PSE. Yet, in comparison with self-reported measures, they still require considerably more effort to gather data and to prepare data for analysis. For example, the administration of one implicit motive by means of the IAT takes between five and ten minutes, whereas self-reported measures of equivalent constructs only require a fraction of this time (Sriram & Greenwald, 2009).

As a result, many researchers in organizational research for whom time-efficient data collection and data access are crucial, do not measure implicit motives at all, or do rely on inferior measurement instruments. For example, in a very rare study with managers, Kehr (2004a) was obliged to use an inferior, yet easier to administer variant of the PSE to assess implicit motives (Schultheiss et al., 2009) because pilot studies with management samples showed unacceptable drop-out rates on the PSE. As a consequence, the number of implicit motives studies in the organizational research domain is very limited indeed, being close to zero.

Interestingly, personality and social psychology researchers became aware, albeit after a considerable time lag, of the fact that 'their' implicit measures are too labor-intensive to be successfully adopted in other research domains, and therefore started to develop shorter versions of the traditional implicit measurement procedures. Most noteworthy in this context are the Brief Implicit Association Test (BIAT: Sriram & Greenwald, 2009) and the Operant Motive Test (OMT: Scheffer et al., 2010). The OMT is a modified PSE technique. In a typical OMT, participants review 4–15 pictures and invent a story (without having to write it down). Then they offer spontaneous associations, in response to the following questions: (1) "What is important for the person in this situation and what is the person doing?"; (2) "How does the person feel?"; (3) "Why does the person feel this way?"; and (4) "How does the story end?" Next to motives imagery, the OMT scores also reflect motives-relevant traits (i.e., an implementation strategy of a motive), which should increase their predictive validity and test-retest reliability for motives measures. Compared to the PSE, the administration of the OMT is faster and renders shorter answers, but requires much more effort by research participants who need to write down multiple sentences. Moreover, akin to the PSE, the OMT may also lack face validity, leading to disengaged or defensive responses by employees or other organizational participants (Uhlmann et al., 2012). Finally, despite the promising results from the first OMT studies (Baumann et al., 2005), the OMT is remains widely invalidated.

From that perspective, the BIAT offers a more promising alternative. The BIAT was developed to reduce the time required to measure implicit associations, while retaining some of the essential valuable psychometric properties of the IAT. That is, the BIAT can be completed in a little over a minute (Nosek et al., 2014), has a high test-retest reliability, is internally consistent, and is relatively resistant to strategic and volitional influences (for a review of the psychometric properties of the BIAT and other implicit measures, see Bar-Anan & Nosek, 2014). Thus, we believe that the BIAT offers clear psychometric and practical advantages over the OMT, including standardized scoring and more consistent evidence for its validity (Gawronski & De Houwer, 2013). This makes the BIAT an ideal candidate for measuring implicit motives in organizational field research. Below, we will illustrate BIAT in the context of entrepreneurship. This illustration serves three purposes. First, we introduce a new data-collection method in organizational research. Second, by focusing on the entrepreneurship example, we hope to convincingly argue that the study of implicit motives indeed offers great substantive potential in the context of organizational research, more broadly. Third, with the BIAT being established as a good and easily applicable measurement tool, we use BIAT in Chapter 6 in a first entrepreneurship study of explicit *and* implicit motives.

3.4.4 Implicit motives and entrepreneurship

The aim of our little entrepreneurship study is twofold. The first objective is to validate a BIAT for the measurement of implicit motives. This is important because the availability of an easy-to-use measure could stimulate implicit motives research (and implicit attitudes and traits research more broadly, for that matter), especially in organizational research where quick and easy data collection is crucial. To validate the BIAT, and following evidence from psychology (Perugini et al., 2010; Schultheiss, 2008), we rely on the assumption that, contrary to explicit motives, implicit motives are stable individual differences that do not change throughout one's life. Given this stylized fact, we compare the motives profiles of business students and private entrepreneurs, and expect that the students' and entrepreneurs' implicit, but not explicit, motives will be identical. To further validate the BIAT, we will test its predictive validity by focusing on the hypothesis that implicit motives predict long-term behavior and performance, whereas explicit motives are related to self-reflective appraisals, judgments, deliberate choices and decisions (McClelland et al., 1989). The selection of the criterion variables is explained in detail, below.

The second objective is to argue that organizational research can benefit from modern implicit motives theoretical insights and measurement tools. Examples are behavioral strategy, corporate governance, human resource management, leadership, upper echelon and, of course, entrepreneurship studies (in the discussion, we provide a few illustrative examples). In the context of the current section, and in light of the very aim of the SMESESAP to study ambitious entrepreneurship, we focus on entrepreneurial research, as this has an extensive tradition of explicit motives studies. To date, researchers in the entrepreneurship domain have a long history of trying to establish a relationship between (explicit) motives and the determinants of successful entrepreneurship, but failed to provide compelling empirical support for any unequivocal linkage. We believe that is because of the following three reasons:

First, it is crucial how business performance is measured. As long as business performance is captured by means of self-reported 'subjective' measures, we expect that primarily *explicit* motives profiles will predict business performance. Yet, if business performance is measured by means of 'real' or 'objective' metrics, *implicit* motives measures should outperform their explicit counterparts (Greenwald & Banaji, 1995; Perugini et al., 2010; Schultheiss et al., 2010). In our entrepreneurship setting, a first interesting construct that can be taken as the dependent variable to explore this line of logic is entrepreneurial self-efficacy (ESE). ESE refers to the belief that to be able to perform activities required to start a business, is a key determinant of entrepreneurial success (Krueger et al., 2000). ESE is found to be positively related to self-reported measures of need for achievement (Carsrud & Brännback, 2011). In contrast, we hypothesize that implicit motives are related to 'objective' performance metrics, whilst explicit motives are not. Below, we discuss the objective performance measures we use to explore our claim.

Second, the extensive literature reviews of Johnson (1990) and Uhlmann et al., (2012) reveal that researchers in entrepreneurship mainly focused on one particular motive: the need for achievement. However, implicit motive research distinguishes three major implicit motives: power, achievement and affiliation (McClelland et al., 1989). The power motive stems from a person's desire to influence, teach or encourage others. Power-motivated individuals obtain satisfaction from exerting social, physical or emotional impact on others or on the world at large, but they experience social defeats and impacts from others as aversive (Winter, 1973). People who are motivated by affiliation instead prefer to spend time with others they like. They love to create, maintain, and restore social relationships. They enjoy being part of a group and have a desire to feel loved and accepted. Signals of rejection or hostility are experienced as unpleasant (Sokolowski & Heckhausen, 2008). Finally, people with a high need for achievement typically get satisfaction from mastering challenging tasks on their own, but experience the failure to master such tasks individually as dissatisfying (McClelland et al., 1953). Interestingly, many aspects of business and career success have been linked to implicit motives. For example, McClelland and Franz (1992) found that achievement-motivated individuals are less successful in jobs that require social skills because they are keen to function in an autonomous manner (McClelland et al., 1953).

Similarly, results of McClelland and Boyatzis (1982) indicated that, contrary to achievement-motivated employees, power-motivated employees strive for high-level positions in organizations so that they can control the direction in which their company is moving. Tying these insights together, we expect that different implicit motives might become important at different developmental stages of a business' lifecycle. Specifically, because many, if not most, companies start as micro-businesses, employing no or only a few people with the ideas and skills of the entrepreneur being the most the valuable (Ling et al., 2007; Stevenson & Gumpert, 1985), we expect that the achievement motive will drive business performance during the first years of a business. However, as the micro-business grows and employs more people, social skills become increasingly important (Thorpe et al., 2005). Hence, the degree to which the entrepreneur is motivated by power will determine further business performance, rather than the entrepreneur's level of achievement motivation.

Third, business performance can take many shapes and forms. As implicit motives orient, select and energize behavior (McClelland et al., 1989), we expect that entrepreneurs will set and strive for goals that are congruent with their implicit motives. Power-motivated people tend to derive pleasure from their ability to have a physical, mental or emotional impact on others (Winter, 2010). One of the consequences is that power-motivated people tend to engage in activities that increase their social visibility (Winter, 2010). Hence, on the one hand, we hypothesize that power-motivated entrepreneurs are active and engaged in *mutliple* businesses because this provides expanded opportunities to increase their social visibility. On the other hand, as affiliation-motivated people prefer to spend time with others they like and love to maintain and restore social relationships (Sokolowski & Heckhausen, 2008), we expect that affilation-motivated entrepreneurs will mainly put their effort in a *single* business, trying to optimize social ties within their company.

3.4.5 Method

Design and participants

The sample consists of 108 Belgian entrepreneurs who participated in a series of workshops on entrepreneurial motives during the summer of 2013, as explained above. Implicit motives and self-reported measures on the performance of their SMEs were assessed during these workshops. After a short welcome, the participants were led to a computer room where they were provided with three implicit motives BIATs (Sriram & Greenwald, 2009) measuring the relative strength of (a) the power vis-à-vis the achievement motive, (b) the power vis-à-vis the affiliation motive, and (c) the achievement vis-à-vis the affiliation motive. The order of the three BIATs was randomized, and the self-reported performance measures were administered immediately after the assessment of the implicit motives.

Data about their explicit motives profiles were collected online weeks before the workshops as part of the enrollment process. Data collected during the workshops were matched with objective performance measures we obtained from the National Bank of Belgium. Additionally, we assessed the implicit and explicit motives profiles of 118 business students to test the stability of implicit and explicit motives. These students were from Ghent University (Belgium), who participated in return for partial course credits. The student sessions were conducted in small groups (4 to 6 participants) in a laboratory. Participants were seated in cubicles isolating them from outside views and noises.

Measures and procedures

Explicit Motives: PRF. We adopted the affiliation, the dominance and the achievement sub-scales of the Personality Research Form (PRF: Jackson, 1984) to assess explicit motives. The PRF is a self-report inventory of motivational needs that is regularly used to assess explicit motives (Schultheiss et al., 2009). Each sub-scale consists of 16 statements, with participants indicating to what extent each statement suits them on a five-point Likert scale with anchors from 1 = “Fits not at all” to 5 = “Fits very well”. Sample items of the sub-scales are: (dominance) “The ability to be a leader is very important to me"; (affiliation) "I try to be in the company of friends as much as possible"; and (achievement) "I will not be satisfied until I am the best in my field of work". For each sub-scale, we calculated the individual measures as the mean score of the scale items with high scores indicating a good fit between the motive and the participant. All sub-scales show good to very good internal consistency (*PRF dominance*: α = .89; *M* = 3.59; *SD* = .64; *PRF affiliation*: α = .87; *M* = 3.98; *SD* = .59; *PRF achievement*: α = .80; *M* = 3.63; *SD* = .83).

Implicit Motives: BIAT. We relied on the procedures of Slabbinck et al. (2011, 2012, 2013) and Sriram and Greenwald (2009) for the construction of the implicit motives BIAT. That is, we applied the instructions of Sriram and Greenwald (2009) for the construction of the BIAT procedure, and adopted the recommendations of Slabbinck et al. (2011, 2012, 2013) for the selection of stimuli. We constructed one BIAT with seven blocks to measure implicit power, implicit affiliation, and implicit achievement. The first block of the BIAT is a practice block, and the remaining six blocks capture the critical responses that were used to construct the BIAT scores. Critical blocks were presented in a random order. Each implicit motive involves two critical blocks, and each critical block consists of 20 trials. Table 3.1 presents an overview of the composition of the BIAT procedure.

While completing the critical blocks, participants were requested to focus simultaneously on two labels. One label represents the focal concept (e.g., "Affiliation") and the other label the focal attribute (e.g., "Attractive"). The labels appear one under the other on the top center of the computer screen. Stimuli that are representative for the focal concepts, and focal attributes are presented one at a time on the center of the computer screen. Participants are required to categorize them as quickly as possible with one response key (e.g., the "i" key). Stimuli that are not representative for the focal concepts and attributes are also presented on the center of the computer screen, and participants are required to categorize them as "not belonging to the focal concepts and attributes" using another key (e.g., the "e" key). The practice block consists of 20 trials. The structure of the practice block is identical to that of the critical blocks, with the exception that only the label of the focal attribute is provided (i.e., "Attractive") and that participants are only required to categorize stimuli of the focal and non-focal attributes.

We follow Slabbinck et al. (2011, 2012, 2013) regarding the selection of stimuli. For the target concepts, we used the labels "Affiliation", "Power", and "Success"; for the attribute category, we used "Attractive". The results of Slabbinck et al. (2011, 2012, 2013) indicate that motives can best be represented by pictorial rather than verbal stimuli. Accordingly, the stimuli representing the target categories feature pictures demonstrating affiliation settings (e.g., kids walking hand in hand on the beach), power contexts (e.g., business man standing up straight at meeting table), or achievement situations (e.g., a student who graduates and shows his degree). We have four pictures for each target category. For the attribute categories, these are "nice," "friendly," "pleasant," and "lovely" to designate attractive, whereas we use "creepy," "nasty," "annoying," and "undesired" to represent not attractive.

Table 3.1 Structure of the implicit motives BIAT and construction of the BIAT scores

	Label (upper left or right of screen)		**Stimuli representing the …** (presented one at a time in the center of the screen)			
	Focal concept *Word*	Focal attribute *Word*	… focal concept *Pictures*	…focal attributes *Words*	…non-focal concept *Pictures*	…non-focal attributes *Words*
Practice block	--	Attractive	--			
Critical block 1	Affiliation	Attractive	affiliation	nice, friendly, pleasant, lovely	power	creepy, nasty, annoying, undesired
Critical block 2	Affiliation	Attractive	affiliation		achievement	
Critical block 3	Power	Attractive	power		affiliation	
Critical block 4	Power	Attractive	power		achievement	
Critical block 5	Success	Attractive	achievement		affiliation	
Critical block 6	Success	Attractive	achievement		power	

BIATpow-ach: performance on critical block 4 versus performance on critical block 6.
BIATpow-aff: performance on critical block 3 versus performance on critical block 1.
BIATach-aff: performance on critical block 5 versus performance on critical block 2.

BIAT scores (e.g., the BIAT score of the power motive relative to the affiliation motive) are derived from the comparison of participants' performance in two blocks that present the same focal attribute (e.g., "Attractive") but with two different focal concepts (e.g., "Affiliation" and "Power"). In total, we calculated three BIAT scores: that is, a BIAT score for the power relative to the achievement motive ($BIAT_{pow\text{-}ach}$), a BIAT score for the power relative to the affiliation motive ($BIAT_{pow\text{-}aff}$), and a BIAT score for the achievement relative to the affiliation motive ($BIAT_{ach\text{-}aff}$). Data from all critical blocks are used to compute BIAT scores, according to the scoring recommendations of Nosek et al., (2014). Extreme latencies below 400 milliseconds and above 2,000 milliseconds are recoded to these boundaries, and the first two trials of each block are discarded. Individual BIAT scores are computed using the *D*-measure (Greenwald et al., 2003). The *D*-measure is computed as the difference between mean latencies of the two critical BIAT blocks divided by the standard deviation of latencies in the those blocks (Nosek et al., 2014). We estimated internal consistency of the BIATs by dividing each critical block into two sub-blocks of equal length. The first sub-block contained the even trials and the second the odd trials and BIAT scores were calculated for each sub-block separately. The Spearman–Brown coefficients reveal a good split-half reliability for all three BIATs ($BIAT_{pow\text{-}ach}$: .79 ;$BIAT_{pow\text{-}aff}$: .77; $BIAT_{ach\text{-}aff}$: .78). Participants required, on average, 3.45 minutes to complete the BIAT (SD = 1.55).

Entrepreneurial self-efficacy (ESE). Inspired by McGee et al. (2009), and Zhao et al. (2005), we measured *ESE* in terms of the subjects' confidence in their ability to perform critical entrepreneurial tasks, including: (1) searching for opportunities; (2) creating new products; (3) thinking creatively; (4) commercializing ideas and new products; (5) fund raising; (6) selling new products or services; (7) solving other people's problems; (8) finding new ways to solve problems; (9) imaging different ways of thinking and doing; and (10) creating artistic value. Items were measured on a seven-point Likert scale, ranging from 1 ("much worse than fellow entrepreneurs") to 7 ("much better than fellow entrepreneurs"). Scores are averaged over all items to construct an individual measure of *ESE*. Internal reliability is good (α = .80; M = 4.80; SD = .76).

Objective business performance. Objective entrepreneurial performance is measured with multiple metrics. First, we include the number of businesses each participant established in her or his life. Second, based on the VAT number of the participant's principal business, the National Bank of Belgium provided the gross profits of the participant's principal business of the two most recent fiscal years that were available at the time (i.e., fiscal years 2010 and 2011).[14] The gross profit is the difference between revenue and the cost of making a product or providing a service, before deducting overheads, payroll, taxation, and interest payments. To make gross profits comparable across different businesses, we calculated the proportional change of the gross profits from 2010 to 2011. To do so, we subtracted the gross profit of 2010 from the gross profit of 2011, and divided the outcome by the gross profit of 2010. Because business performance is contingent upon the age of the enterprise and the age the entrepreneur, we include the entrepreneur's age and the year of establishment of the participant's principal business (Ling et al., 2007). We subtracted the year of establishment from the year of measurement year, 2013, to obtain the age of the enterprise, and apply a natural log transformation to this outcome because observations clustered toward the left-hand of distribution, with a long right-hand tail. Descriptive statistics are given in Table 3.3, indicating that multicollinearity is not an issue.

3.4.6 Evidence

Motives profiles of business students and private entrepreneurs

Preliminary analyses. In order to analyze whether implicit motives are stable dispositions that do not change throughout one's life, whereas explicit motives do change, we compared the implicit and explicit motives scores of business students and private entrepreneurs. The results are provided in Table 3.2.

Preliminary analysis reveals a systematic bias regarding the explicit motives measures: business students do score significantly higher on all PRF measures (all p's < .001). To cancel out this bias for further analysis, we calculated for each research participant and for each PRF measure the difference between the individual PRF measure and the mean

[14] This illustrates the lag issue briefly hinted at above, implying that we have to wait until we can link our BIAT and survey data to matching objective performance metrics from the National Bank of Belgium. After writing this book, we could re-run analyses with 2013 data – the same year as that of the implicit motives measurement. The results reported here are robust.

score of research participant on all PRF measures. Now, a positive (negative) score on a specific PRF measure indicates that the research participant scores higher (lower) on that PRF measure than on her or his mean score on all three PRF measures.

Table 3.2 Differences between business students and entrepreneurs

	Students		Entrepreneurs			
	M	SD	M	SD	t	p
PRF dominance	-.050	.50	.11	.32	2.95	.035
PRF affiliation	.18	.78	.01	.49	2.05	.041
PRF achievement	.38	.42	.49	.33	-2.12	.035
BIAT $_{pow\text{-}ach}$	-.10	.51	-.15	.85	.57	.57
BIAT $_{pow\text{-}aff}$	-.29	.43	-.28	.84	.20	.85
BIAT $_{ach\text{-}aff}$	-.16	.46	-.12	.84	.49	.63

Independent *t*-tests assuming unequal variances (all *p*'s < 0.05) show that scores on the explicit motive measures are significantly different between business students, on the one hand, and private entrepreneurs, on the other hand. Compared to entrepreneurs, business students score significantly higher on explicit affiliation ($M_{business\ students}$ = .18; $M_{entrepreneurs}$ = .01; t (198.52) = 2.05; $p < .05$), but significantly lower on explicit achievement ($M_{business\ students}$ = .38; $M_{entrepreneurs}$ = .49; t (220.84) = 2.12; $p < .05$) and dominance ($M_{business\ students}$ = -.05; $M_{entrepreneurs}$ = .11; t (199.99) = 3.95; $p < .01$). No such differences could be established for implicit motives (all *p*'s > .05).

Explicit motives predict declarative behavior. We estimated an ordinary least squares regression model with Entrepreneurial Self-Efficacy (*ESE*) as a function of implicit motives and explicit motives. The results are summarized in Table 3.4. The model explains 19 per cent of the variation in *ESE* ($p < .01$). The regression results show that none of the implicit motives are significantly associated with *ESE* (all *p*'s > .05). Yet, the results further yield significantly positive parameter estimates for explicit need for achievement ($\beta = 0.24$; $p < .05$) and explicit need for dominance ($\beta = 0.24$; $p < .05$). Explicit need for affiliation ($\beta = 0.05$; $p = .57$) is not predictive for *ESE*. These findings are in line with previous literature.

Table 3.3 Means, standard deviations, α coefficients, and correlations of all dependent and independent variables

		M	SD	1	2	3	4	5	6	7	8	9	10	11
1	PRF dominance	3.59	.64	(.89)										
2	PRF affiliation	3.98	.59	.20*	(.87)									
3	PRF achievement	3.63	.83	.52**	.31**	(.80)								
4	BIAT $_{\text{pow-ach}}$	-.16	.85	-.28**	.06	-.19*	(.79)							
5	BIAT $_{\text{pow-aff}}$	-.29	.84	-.16	-.11	-.08	-.10	(.77)						
6	BIAT $_{\text{ach-aff}}$	-.06	.84	.13	.19	-.02	-.06	-.01	(.78)					
7	ESE	4.80	.76	.34**	.21*	.34**	-.13	.01	.09	(.76)				
8	Number of businesses	3.26	2.30	.15	-.13	-.09	-.05	.27**	-.04	.12	--			
9	Change in GP (%)	.04	.83	-.06	-.09	-.09	.05	-.18	-.11	.06	-.05	--		
10	Age of entrepreneur	47.44	8.65	.15	.04	.18	.06	-.08	-.13	.12	.09	.23*	--	
11	Age of enterprise	18.46	11.31	.15	.19	.15	.14	.01	-.08	.13	.12	.02	.20	--

Coefficient α estimates are presented in parentheses; ** $p < .01$ and * $p < .05$.

Implicit motives predict objective business performance. Regarding our prediction that the implicit achievement motive predict business performance during the first years of a business, whereas the implicit power motive is predictive for later business performance, we estimated an ordinary least squares regression model with proportional change of gross profit as a function of the BIAT score for power motive relative to the achievement motive ($BIAT_{pow\text{-}ach}$), the natural log of the age the enterprise, their interaction, and the age of the entrepreneur. We mean-center each predictor variable to maximize interpretability (Aiken et al., 1996). The results are provided in Table 3.5.

Table 3.4 Implicit motives and entrepreneurial self-efficacy

	B	SE	β	SE	t	p	VIF
Constant	1.79	.65	--	--	2.75	.01	--
PRF dominance	.37	.17	.24	.11	2.24	.03	1.52
PRF affiliation	.07	.12	.05	.09	.57	.57	1.14
PRF achievement	.39	.17	.24	.11	2.25	.03	1.49
$BIAT_{pow\text{-}ach}$	.04	.09	.04	.09	.43	.67	1.14
$BIAT_{pow\text{-}aff}$	.08	.08	.08	.09	.91	.36	1.06
$BIAT_{ach\text{-}aff}$	.09	.08	.10	.09	1.09	.28	1.05

Dependent Variable: Entrepreneurial Self-Efficacy

$R^2 = .19$

The model explains 12 per cent of the variance in proportional change of gross profit ($p < .05$). Neither the age of the enterprise ($\beta = .030$; $p > .05$) nor the $BIAT_{pow\text{-}ach}$ reach significance ($\beta = .14$; $p > .05$). However, importantly, we find that the age of the enterprise and the $BIAT_{pow\text{-}ach}$ score interact significantly in the prediction of proportional change of gross profit ($\beta = .36$; $p < .01$). To analyze this interaction in depth, we performed simple slopes tests. The interaction is plotted in Figure 3.1. In young companies (mean – 1 *SD*), gross profit grows faster when their entrepreneurs are implicitly motivated by achievement, rather than by power ($\beta = -2.08$; $p < .01$). Yet, for more mature companies (mean + 1 *SD*), gross profit grows faster when their entrepreneurs are implicitly motivated by power, rather than by achievement ($\beta = 2.36$; $p < .01$). Subsequently, we tested with a stepwise procedure whether the regression model could be improved by adding the other BIAT measures, the explicit motive measures or the age of the entrepreneur, but none of these variables could improve the model fit.

To test the proposition that power-motivated entrepreneurs are active and engaged in multiple businesses, whereas affiliation-motivated entrepreneurs mainly put their effort in a single business, we analyzed the relationship between the number of businesses each entrepreneur established in her or his life and her or his motives profiles, using an ordinary least squares regression model. Thus, we regressed the number of businesses on the $BIAT_{pow\text{-}aff}$ score. The significant parameter indicates that entrepreneurs who are motivated by power rather than by affiliation established more business than entrepreneurs who are motivated by affiliation rather than by power (β = .27; $p < .01$). A stepwise procedure reveals that neither any other implicit motive measure, nor any explicit motive measure, nor the age of the entrepreneur could improve the model fit.

Figure 3.1 Proportional change in gross profit as a function of firm age, and implicit power and implicit need for achievement

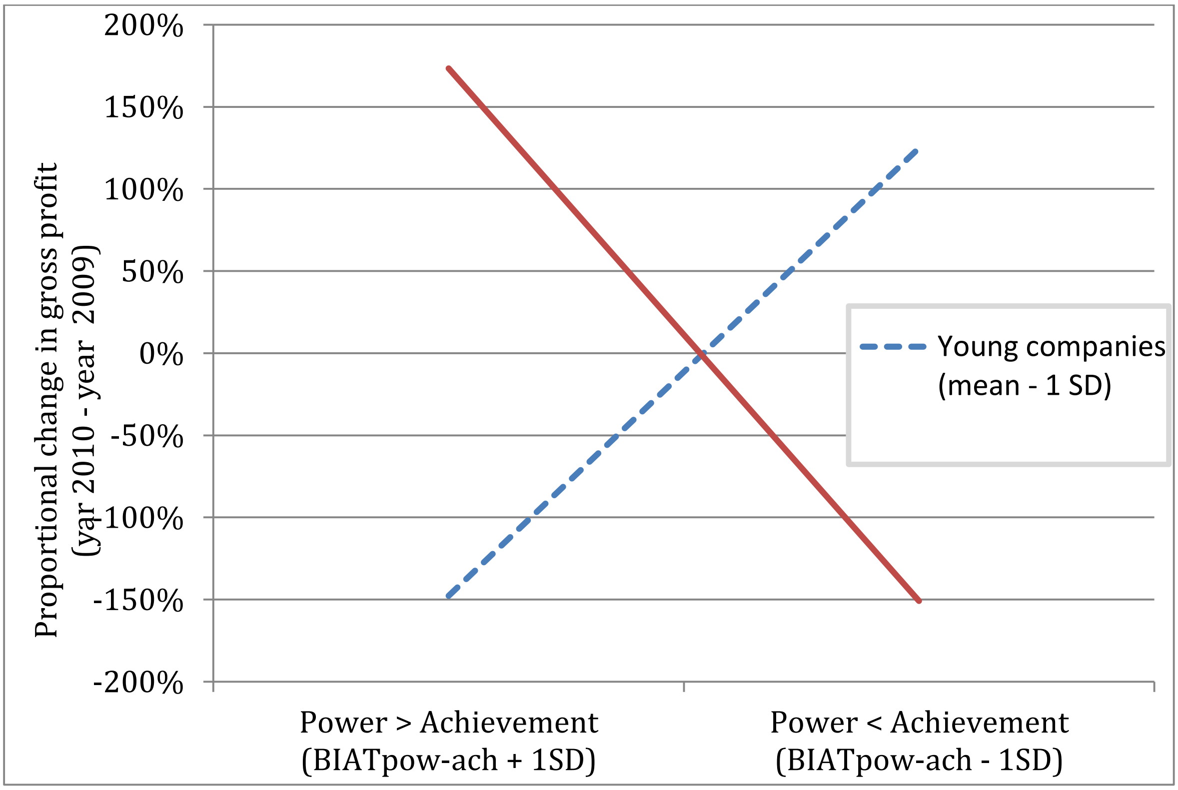


Table 3.5 Implicit motives and objective business performance

		SE	β	SE	t	p	VIF
Dependent Variable: Proportional change in gross profit (R^2 = .13)							
Constant	-.65	.65			-1.00	.32	--
Age of enterprise (ln of years)	-.01	.22	-.01	.12	-.07	.95	1.52
BIAT $_{pow\text{-}ach}$	.13	.12	.12	.12	1.01	.32	1.14
Age of enterprise (ln of years) X BIAT $_{pow\text{-}ach}$	.72	.29	.32	.13	2.47	.02	1.49
Age of Entrepreneur	.01	.01	.13	.13	1.06	.29	1.14
Dependent Variable: Number of established businesses (R^2 = .07)							
Constant	3.48	.23			15.37	.00	
BIAT $_{ach\text{-}aff}$	.75	.26	.27	.09	2.93	.00	1.00

3.4.7 Discussion

Our results show that the BIAT is a good measure for the assessment of implicit motives, both from a psychometric as well as a practical viewpoint. In line with implicit motive theory (McClelland et al., 1989; Schultheiss et al., 2009), the data from our study provide evidence that the BIAT predicts the kind of behavioral patterns that are assumed to be determined by implicit motives (i.e., spontaneous behavior and long-term behavioral trends), and that implicit motives are stable individual differences that do not change throughout one's life. Confirming the divergent validity of the BIAT, implicit motives are not related to responses in specific situations that require conscious thought and deliberation (i.e., Entrepreneurial Self-Efficacy). The BIAT also substantially reduces the data administration and preparation time. In our study, it took 3.45 minutes to obtain reliable and valid measures of three implicit motives. Would we have used three traditional PA-IATs instead or if implicit motives had been assessed by means of the PSE, participants would have needed up to 20-30 minutes to complete these tests (Pang, 2010; Slabbinck et al., 2010; Sriram & Greenwald, 2009). Data preparation of IAT and BIAT procedures is fully automated (Sriram & Greenwald, 2009), but in case we had used the PSE, we would have spent up to 60 hours to prepare our data for analysis (Pang, 2010).

Our results have important implications, methodologically and for organizational research, including the entrepreneurship domain. First, the empirical findings demonstrate that the introduction of implicit motives can generate interesting novel insights in domains where implicit motives profiles have traditionally been neglected. Researchers in entrepreneurship repeatedly tried, but failed, to establish a relationship between explicit motives and determinants of successful entrepreneurship. Yet, in our study on entrepreneurship, we demonstrate that implicit motives are indeed important determinants of successful entrepreneurship. Apparently, as could be expected from the modern theory of motives in psychology, distinguishing implicit from explicit motives is essential, proving a theoretical lens to explain different types of entrepreneurial behaviors and outcomes. Failing to do so, as reflected in the "implicit motives neglect", implies that organizational research into motives is wrongly considered to be a dead end. In Chapter 6, we explore this issue further, focusing on social responsibility as an entrepreneurial outcome.

Second, our research provides an interesting tool for the assessment of implicit motives. Compared to the content-coding techniques such as the PSE and to traditional IAT procedures, the BIAT is much more economical to administer. Consequently, when assessment of implicit motives by means of time-consuming techniques is too demanding and is likely to cause unacceptable drop-out rates (Kehr, 2004a), the BIAT offers a good alternative and, hence, might help to overcome this implicit motives neglect in areas where time-efficient data collection is crucial. Indeed, we argue that the implicit motives neglect may well be due to the unavailability, to date, of an easy-to-administer measurement instrument, which is critical in the area of field work in the context of organizational research.

Third, we speculate that the end of the implicit motives neglect, and thus the introduction of implicit motives in entrepreneurship and organizational research, has the potential to generate many novel insights into many domains. To illustrate this potential, we would like to refer to a few examples. For one, the definition of implicit motives and the associated empirical evidence suggest that people orient their attention toward motives-congruent stimuli (Schultheiss & Hale, 2006). Consequently, advertisements portraying motives-relevant attributes, such as status symbols for consumers with high need for power (e.g., Stella Artois's "reassuringly expensive" campaign), symbols of connectedness for consumers high in need for affiliation (e.g. Nokia's, "connecting people' campaign), and performance-related cues for consumers high in need for achievement (e.g., Gilette's positioning as "The best a man can get") likely will evoke different (uncontrolled) behavioral reactions for consumers high versus low in the relevant implicit motive.

Other examples relate to organizational behavior research. In team research, group formation and identification are seen as central processes. Recent research concludes that individual differences in personality account for only a modest portion of variation in group formation and identification processes (Weber et al., 2011). Yet, group formation and identification are heavily influenced by non-verbal communication (Williams, 1977). Compared to explicit motives, implicit motives interact more strongly with non-verbal communication (Schultheiss & Hale, 2006; Stanton et al., 2010). Hence, we speculate that the introduction of implicit motives into research on group formation and identification processes is likely to generate different and novel insights as to the role of (the team-level composition of) implicit motives profiles that can hamper or facilitate such key processes. Indeed, in the upper echelon tradition, deep-level attributes of top management teams are argued to be key drivers of these teams' behaviors and outcomes (e.g., Hambrick & Mason, 1984; Boone et al., 2004), which is echoed in the behavioral strategy domain (Powell et al., 2011). Implicit motives are important manifestations of such deep-level characteristics that have, to the best of our knowledge, not yet been explored at all in these domains.

Of course, as with any study, our work has limitations that point to promising future research avenues. First, although the present study provides strong support for the validity of the BIAT as a measure of implicit motives, generating convincing results in an entrepreneurship context, more work is required before the BIAT can be truly established as a valid alternative to the in-depth story-writing alternatives that are based upon detailed and fine-grained content-coding procedures. Specifically, more replication is needed, preferably with a variety of different outcome variables, in diverse research domains, including organizational research, and with different types of participants. In this context, the BIAT introduced above provides, we believe, a very promising tool that can be further developed and perfected in future work.

Second, to test our proposition that implicit motives stay relatively stable during one's whole life, we compared in a cross-sectional design the motives profiles of business students and private entrepreneurs, assuming that business students constitute a representative sample of to-be private entrepreneurs. Of course, to test this proposition, a longitudinal design, in which implicit (and explicit) motives profiles are assessed at multiple time intervals, would be superior. In a similar vein, we established correlational relationships between implicit motives measures and outcomes of past behaviors to test the 'predictive' validity of the BIAT (i.e., the number of established enterprises and gross profit change). Yet, correlations between implicit motives and behaviors could stem from past actions shaping implicit motives rather than implicit motives orienting future behaviors. For example, entrepreneurial failure or success may condition new automatic associations, and hence alter implicit motives profiles. Again, a better way to examine the causal relationship between implicit motives and behaviors/outcomes, and hence to test the predictive validity of the BIAT, is to use a longitudinal design. For example, one can examine whether implicit motives profiles assessed at Time 1 predict behaviors at Time 2 more effectively than behaviors at Time 1 predict implicit motives profiles at Time 2, pointing to a potential causal effects of implicit motives. Yet, in absence of longitudinal BIAT data and given the urgent need for better implicit motives measures in organizational research, the design of the current study was the best we could offer.

Third, the content-coding methods may be labor intensive and time consuming, but they also offer some advantages over the BIAT. The BIAT requires cooperation of participants. However, content-coding systems can be applied to a wider range of material that is already available or that has not been collected for other research purposes (Pang, 2010; Winter, 1994). For example, Winter's (1994) scoring system can be used to evaluate any kind of written or spoken material that is at least partially imaginative (e.g., speeches, blogs, interviews, or literary works). Moreover, content-coding systems enable researchers to measure implicit motives at a distance, which grants them access to a pool of otherwise unavailable data from respondents who might be deceased or live in remote locations. Also, motives researchers showed that any given implicit motive may not be a unitary construct, but rather could consist of different facets (e.g., achievement as fear for failure and hope for success). Many direct motives measures and traditional implicit personality procedures allow researchers to score motives on their underlying facets. Perhaps a series of BIATs, each aiming at a specific facet of implicit motives, could provide an alternative to the flexibility and versatility of direct measures and traditional implicit motives measures. However, BIAT always require participants to cooperate, which limits the extent to which it can be implemented in labs or online.

In conclusion, the BIAT is an easy-to-use measure of implicit motives that has the potential to overcome the implicit neglect in entrepreneurship and organizational research. Given what we know from the psychology of motives, many subtle effects of motives on employees', entrepreneurs', leaders', teams' and organizations' behaviors and outcomes go unnoticed when researchers focus on their explicit manifestations only. After all, implicit motives orient different types of behaviors and outcomes than explicit motives do. For example, as we revealed in our illustrative example, implicit motives may affect entrepreneurial outcomes where their explicit counterparts do not, and vice versa. Hence, we hope that this argument and evidence reported in this section will encourage entrepreneurship and organizational researchers to apply the BIAT to achieve a superior understanding of the effects of (explicit *and* implicit) motives on a wide range of behaviors and outcomes in many different entrepreneurial and organizational contexts.

Above, we briefly introduced our secondary database strategy and both survey instruments, and extensively discussed our methodological novelty of the BIAT to measure a key aspect of ambitious entrepreneurship – entrepreneurial explicit and implicit motives profiles. Next, before turning to the substance in Part II in the form of a series of four illustrative studies, we first provide further detail regarding our pair of survey instruments, and report descriptive statistics.

Chapter 4

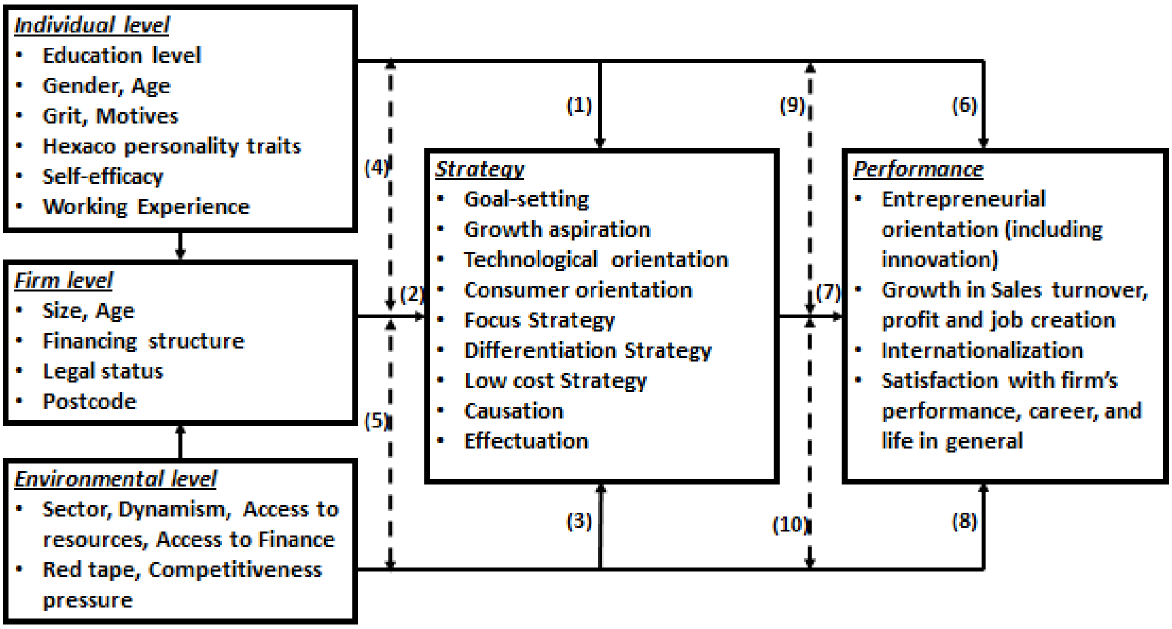
Descriptive data

4.1 Introduction

Growth is said to be complex, idiosyncratic, and even sometimes random (Coad et al., 2013; Delmar et al., 2003). In SMESESAP, we argue that growth, and largely performance, is not random, but depends on a fit between the entrepreneurs' personal drivers, the strategy they deploy at the firm level and the environment they chose to do business in (Parker et al., 2010). In this way, growth is indeed an idiosyncratic process: depending on the entrepreneur's confidence and the opportunities made available – and perceived – in the environment, s/he will need specific sets of strategies to reach her or his objectives. These strategies should be in line with her or his inner drivers, and also adequately address the challenges that the environment provides, in terms of resources, business opportunities or even supportive regulations.

To draw a comprehensive picture of Belgian SMEs and self-employed, and to develop a better understanding of this "fit", we collected data at the different levels accounted for in our analytical framework. At the individual level, for instance, we measured the education level of our respondents. Once collected, it becomes a variable in our dataset. In Figure 4.1, the variables addressed by the SMESESAP surveys are provided, each at the appropriate level. The current Chapter 4 provides an overview of these variables, their basic statistical description, as well as the correlation between them. As will be seen, some personality traits, environmental characteristics and firm strategies tend to occur together. By computing the correlation between two variables, we can already explore which variables generally occur together or are unrelated. Important to note is that correlation is not the same thing as causation. Correlation is an empirical relation that can exist in the basis of chance alone, or because of a third phenomenon influencing the two variables of interest. The variables consequently experience a high correlation, and tend to occur together. By contrast, the causation link between two variables – i.e., one variable causing an actual impact on another one – is informed by theory and only afterwards tested through empirical data. Those causation links are not addressed here, but are explored in the next part of the report.[15]

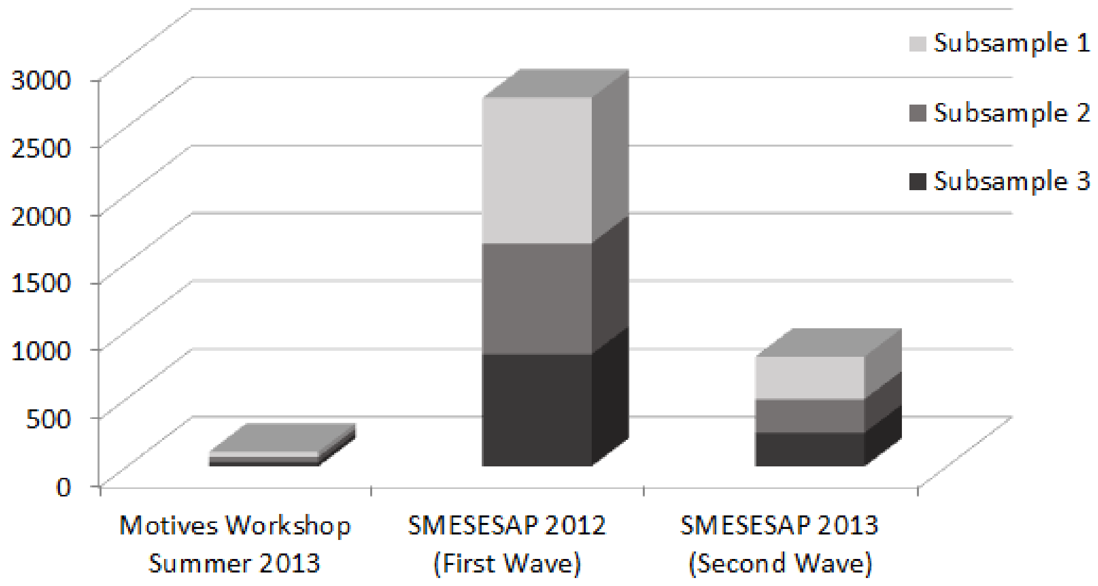
Figure 4.1 Analytical framework and variables measured in SMESESAP



Given the large number of variables we aimed at exploring, respondents would need up to an hour to complete a full survey. We therefore decided to split the variables into three different surveys targeting three different subsamples (subsample 1 or S1, subsample 2 or S2 and subsample 3 or S3). Some central variables are common to all surveys / subsamples, such as goal-setting, job creation, growth aspiration, gender, working experience, sector and environmental dynamism. Others are specific to a given subsample. For instance, the causation and effectuation orientation (strategic level) of the business were measured only in the second subsample. In Figure 4.2, we provide the proportion of respondents by subsample.

[15] Please note that when only one questionnaire wave is used during data analyses, we can never claim to be able to reveal 'real' causal linkages due to the cross-sectional nature of our data.

Figure 4.2 Number of respondents by subsample



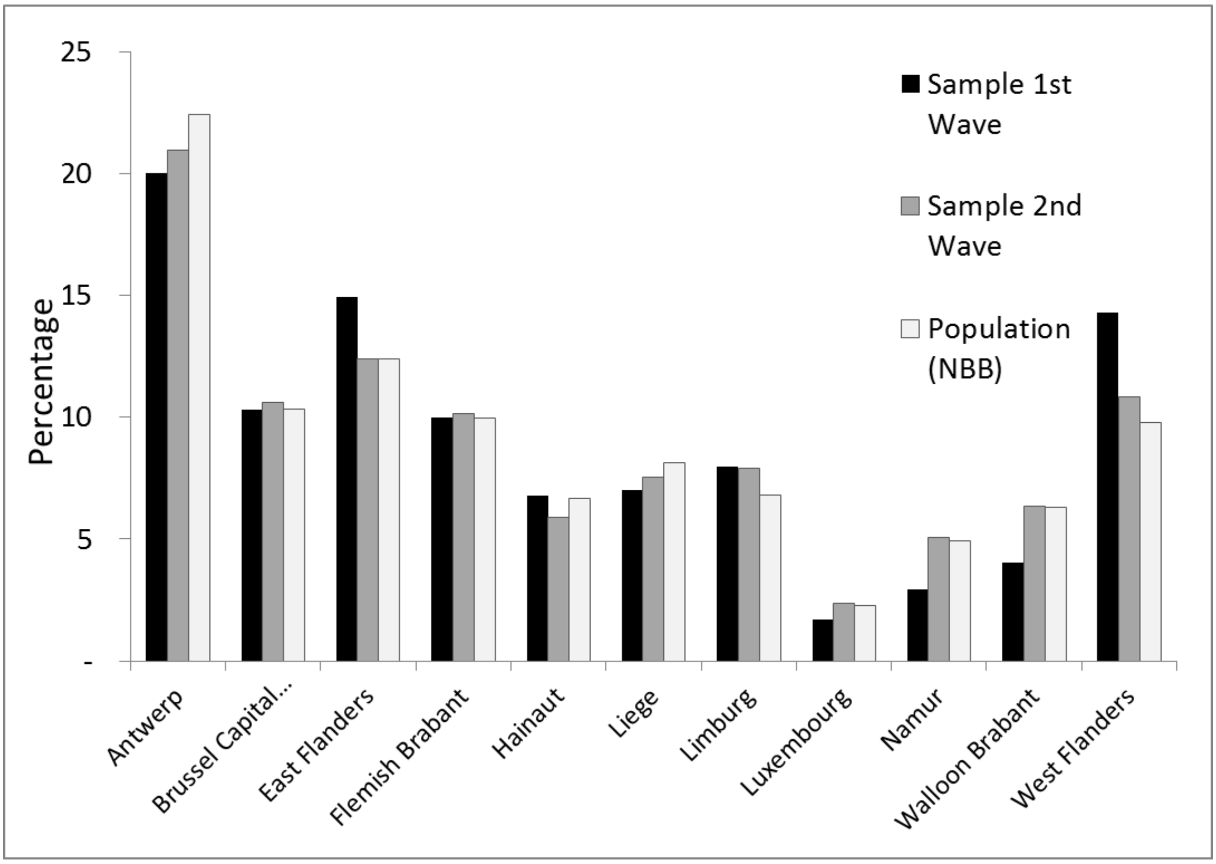
In total, 2,748 people fully completed the SMESESAP 2012 survey. From those 2,748 people, 39.5% are in S1, 30% in S2 and 30.5% in S3. The same proportions are found in the second wave, where we collected data about performance as well as some complementary variables, such as personality traits or entrepreneurial orientation. In total, 810 people participated in the SMESESAP 2013 survey, for which we only approached the 2,748 respondents from the SMESESAP 2012 survey. Finally, we also collected some data during the workshops on entrepreneurial motives that were scheduled in the summer of 2013: 120 people participated to the seminars in Antwerp and Namur, including 108 original SMESESAP participants, and 12 colleagues who heard about the seminar from the participants (see Chapter 3 on methods and Chapter 6 on implicit and explicit motives).

Table 4.1 Correlations between basic demographics and performance

	SMESESAP 2012	SMESESAP 2013
Number of participants	2,748	927
Demographics	X	
Motivations and goals	X	
HEXACO personality traits		X
Entrepreneurial orientation		X
Strategy	X	
Effectuation-causation	X	
Environment and constraints	X	X
Statisfaction with life		X
Performance	X	X

Even though we did not expect to attain a perfectly representative sample, we did achieved satisfactory results in terms of sector distribution, region and size. To assess the representativeness of our sample, we first estimated the distribution of the real population based on information from the National Bank of Belgium (NBB, with *N* = 377,246). Comparing our sample with the full NBB population is useful because 90% of our participants are accounted for by the NBB. Figure 4.3 shows that the distribution by province (NBB data) is fairly similar, whatever the sample (NBB, SMESESAP 2012, and SMESESAP 2013). A simple statistical test shows that there are no statistical differences between the NBB data and our two questionnaire subsamples. With regard to provincial differences, we see that the province of Antwerp is largely ahead, with 20.03% of participants in the first wave, 20.97 % of participants in the second wave, and 22.43 % of the NBB population. Underrepresented are the provinces of Namur (2.92%, 5.06% and 4.91%, respectively) and Luxembourg (1.70%, 2.36% and 2.26 %, respectively). We obtained similar results when comparing sectors and firm sizes.

Figure 4.3 Distribution by province: comparison between our samples and the NBB population

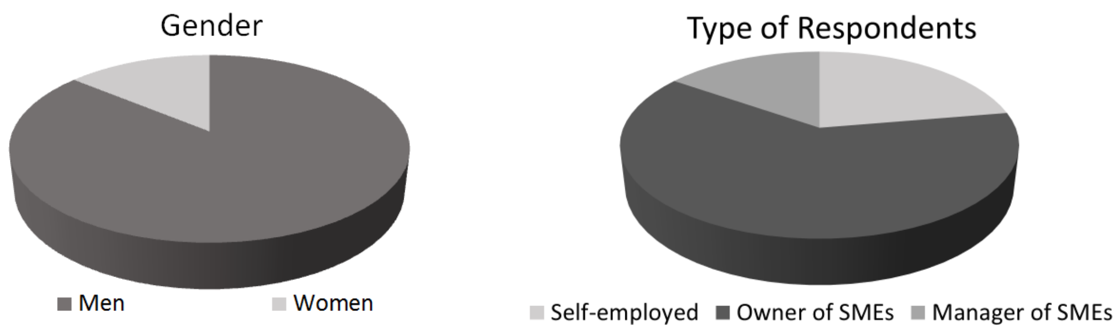


The remainder of this chapter is organized as follows. First, we present the basic characteristics of the Belgian SME and self-employed respondents who participated in the SMESESAP surveys—the gender and age of the respondent, as well as the sector, region and size of the business. Because the focus of this research is on SMEs and self-employed, the descriptive analysis concentrates on firms that have 250 or less employees in 2012 and/or 2013 (2,712 respondents). Second, we explore the performance variables that are addressed within the SMESESAP surveys. We look at objective and subjective performance variables, respectively. Several performance variables are common amongst SMEs and the self-employed, such as career satisfaction or entrepreneurial orientation of the business. Others are specific to either type of business, such as job creation for SMEs, and revenue growth for the self-employed. Third, we look at the individual level, including entrepreneurial traits such as grit, confidence and entrepreneurial experience. Fourth, the strategy level is addressed: the strategic orientations that are deployed within the business, including growth aspirations of the entrepreneur in relation to the venture. Fifth and finally, we look at the environmental level: the extent to which the business context provides both the opportunities to commercialize Belgian products and services, and the resources necessary to produce them.

4.2 Basic demographics

Respondents from various regions of Belgium answered our survey (see Figure 4.3). The majority of respondents are men; only 14% are female entrepreneurs (see Figure 4.4). The respondents were either self-employed without employees (22.3%), owners of an SME with employees (62.4%), or managers (and minority partners) of SMEs with employees (15.3%) (see Figure 4.4). When exploring the correlation between gender and the profile of respondents, we find that being a woman is significantly associated with being self-employed. This contrasts with the lack of correlation between being a woman and being an owner of an SME with employees. In other words, there are proportionally more women self-employed than owners of SMEs with employees.

Figure 4.4 Respondents per gender and type of respondents



As shown in Figure 4.5, a large majority of respondents are active in micro-firms (that is, 1-9 employees). In contrast, medium firms (> 50 employees) account for less than 10% of our sample. The Flanders region accounts for the largest share of businesses, with more than 60% of SMEs, irrespective of their size. Wallonia and Brussels account for

25% and 10% of responses, respectively. Important to note is that the share of self-employed is relatively higher in Wallonia, with 41% of self-employed being established in this region compared to only 48% in Flanders with about a third more inhabitants. This trend is confirmed in the correlation analysis (see Table 4.1), which shows that self-employment rather than being an SME with employees is significantly more prominent in Wallonia compared to the rest of Belgium.

Figure 4.5 Respondents by type of business

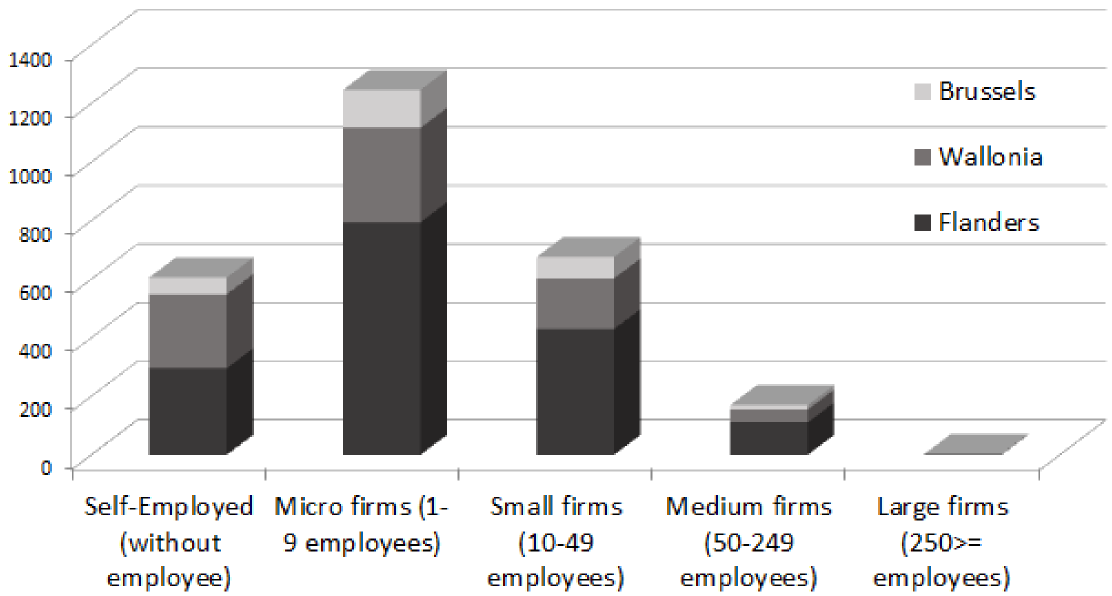


Figure 4.6 Businesses by region and main sector of activity

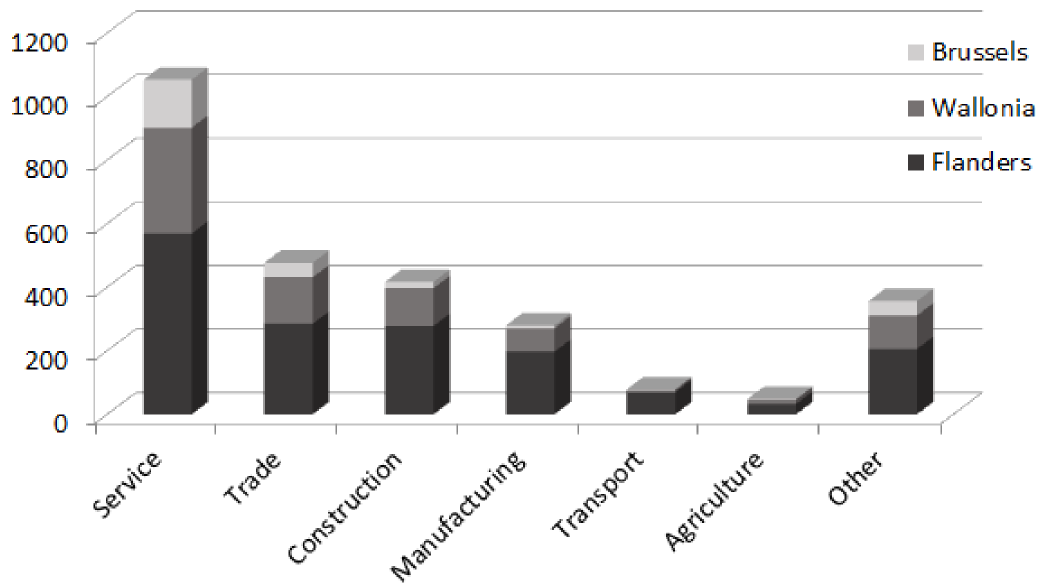


Table 4.2 Pearson correlations between basic demographics: sectors, location, gender and type of business (SME with employee or self-employed without employee)[16]

	Gender	Wallonia	Flanders	Brussels	SME vs self-employed
Gender (Female=1)	1.00				
Wallonia	0.03	1.00			
Flanders	-0.01	-0.797**	1.00		
Brussels	-0.02	-0.217**	-0.416**	1.00	
SME vs self-employed	-0.089**	-0.145**	0.127**	0.01	1.00
Services	0.049*	0.038*	-0.104**	0.110**	-0.263**
Manufacturing	-0.071**	-0.02	0.069**	-0.078**	0.138**
Trade	0.051**	0.01	-0.01	-0.01	0.01
Construction	-0.02	-0.01	0.055**	-0.076**	0.040*
Agriculture	-0.039*	0.00	0.02	-0.03	0.03
Transport	0.02	-0.078**	0.100**	-0.044*	0.067**
Other	-0.03	0.00	-0.03	0.043*	0.148**

* $p < .05$; ** $p < .01$; and $N = 2{,}712$.

In Figure 4.6, we see that the sector representation within our sample has services as the largest (38.8%), followed by trade (17.6%), construction (15.4%), other sectors (13.2), manufacturing (10.3%), transport (2.9%) and, finally, agriculture (1.8%). When exploring the correlation between basic characteristics (see Table 4.2), we find that being an SME with employees rather than being self-employed occurs more often in the manufacturing, construction, transport and other sectors. By contrast, being self-employed is significantly related to the service sector. The correlation between gender and sector choice also provides significant trends; we observe that being a female entrepreneur is significantly associated with the service and trade sectors, but is less likely to occur in manufacturing and agriculture.

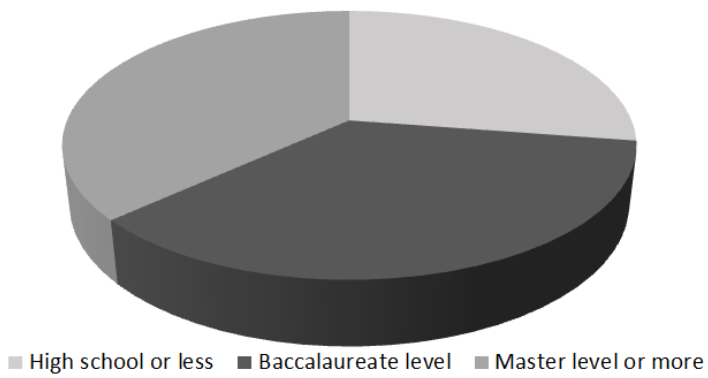
[16] This first correlation table provides significance levels and amplitude of the correlations. In the remainder of the descriptive chapter, we only provide the significance levels and direction of the significant correlation. Detailed correlation tables are available upon request.

In terms of location, Flanders is associated with transport, construction and manufacturing. In particular, transport is less likely to occur in Brussels and the Walloon provinces. By contrast, being self-employed in the services sector is negatively associated with being located in Flanders, but positively associated with being located in Wallonia and Brussels. Important to note is that a large part of those self-employed are women. Women are more likely to be self-employed than the owner of their own firm with employees.

Notice that by examining separately self-employed and SMEs, we find complementary insights about gender. First, in line with previous trends, we see that female self-employed are more likely to be located in Wallonia, and less likely to be located in Flanders. However, women who are owners of an SME will more often be associated with Flanders, and less so with Wallonia. This finding provides interesting insights for the support of female entrepreneurs (self-employed versus owners of SMEs) in both regions.

In terms of the education level, nearly 75% of our respondents have a higher education degree (see Figure 4.7). Higher education is slightly positively correlated with the Brussels and Wallonia regions, but negatively with Flanders. Moreover, managers within SMEs are relatively more educated than owner-entrepreneurs.

Figure 4.7 Respondents by education level



The average age of our respondents is 48 years old. As expected, the typical respondent is male, aged between 45 and 55 years old. Important to note is that the age of the respondent is negatively correlated with Wallonia and being a woman. In other words, women tend to be younger entrepreneurs than man, while entrepreneurs in Wallonia are slightly younger than their Flemish counterparts.

4.3 Objective performance

Performance is a multi-faceted concept. It includes aspects such as growth, innovation, internationalization and whether or not the firm meets social/societal challenges. Performance can be assessed objectively by collecting hard figures, such as the number of jobs created during a specific period. In contrast, it can also be assessed subjectively by asking for individual evaluations of aspects such as overall career satisfaction, personal happiness or business performance.

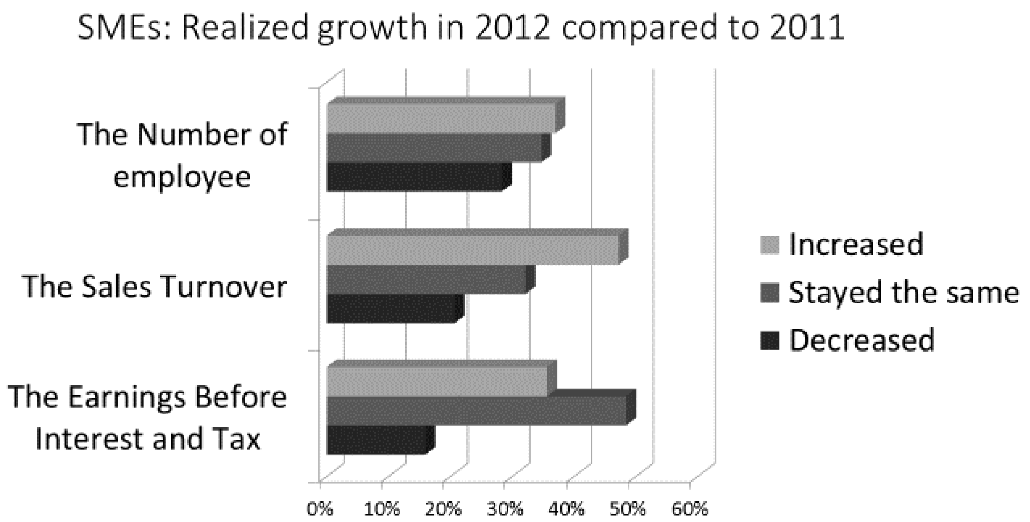
In this section, we explore whether the regions conform to similar performance patterns. We also explore whether the different facets of performance are correlated – and if so, to what extent. We start with growth performance in SMEs: job creation, sales growth and profit growth. Then, we explore growth revenue for the self-employed. Subsequently, we turn to innovation performance, including the entrepreneurial orientation of the firm. After examining internationalization as a performance measure, we present a wide variety of subjective performance measures: satisfaction regarding (1) the profitability of the firm, (2) social goal achievement, (3) overall career advancement, and (4) life in general.

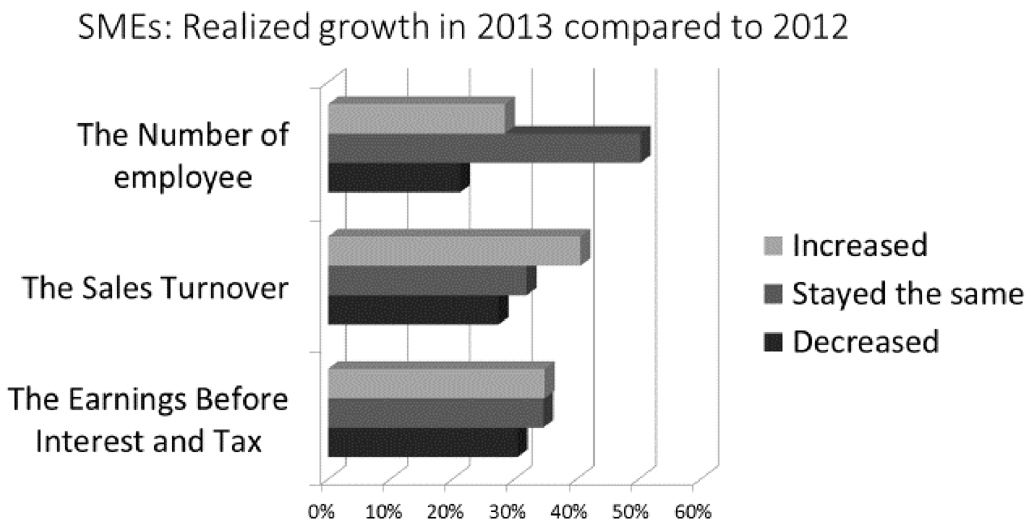
4.3.1 Growth in SMEs

One of the challenges facing the survey method is to grasp objective measures of performance. Most respondents do not like to fill out performance figures such as profit or sales turnover. Thanks to data available from the National Bank of Belgium (NBB), we have the opportunity to link 90% of our SMEs (and 57% of the self-employed) with their performance as recorded by the NBB. However, there are two caveats here: (1) the NBB provides the relevant data with a time lag of about two years, and (2) we are most interested in *future* performance, which implies another time lag of at least two years.

In the meantime, for now, we explore two strategies. First, we argue that aspects such as firm strategies are relatively stable. Both current/recent and future performance outcomes can thus be explained by such strategy-related aspects. Recent performance measures employed in our surveys are realized growth in terms of job creation, sales turnover and profit in 2012. We asked respondents whether the number of employees, sales turnover and EBIT increased, stayed about the same or decreased. We followed the same strategy during the 2013 survey (see Figure 4.8).

Figure 4.8 Realized growth for SMEs in terms of job creation, sales turnover and profit

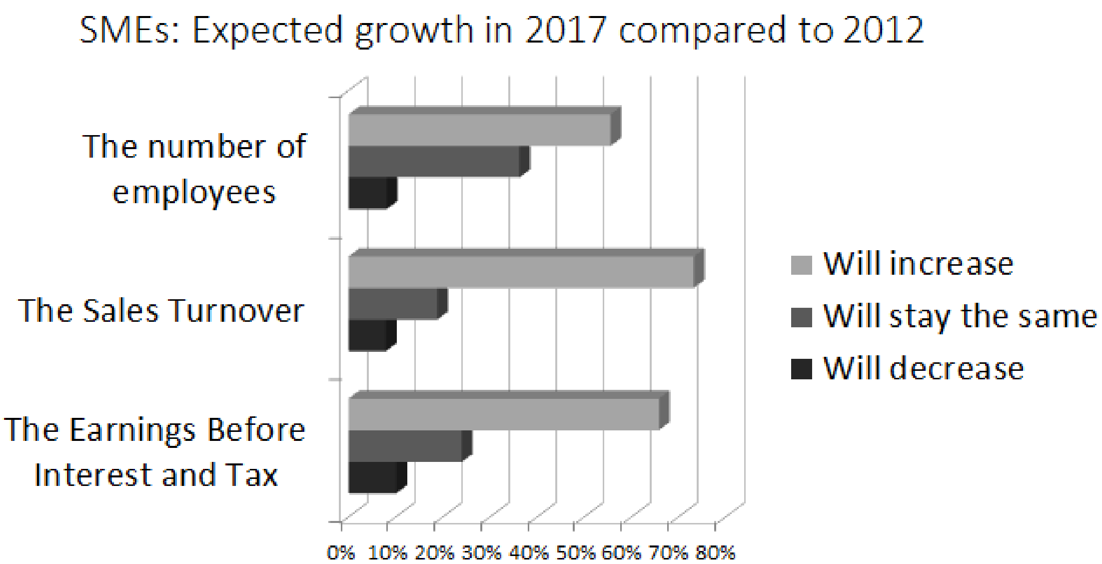




Second, we asked respondents about their future performance expectations. SME managers provided their expected growth in two different ways. Firstly, expected growth was measured with a closed question about the future size of their business, with only three possible choices (will increase, stay about the same or decrease; see Figure 4.9). For example, with regard to the number of employees, we see that only 9% of respondents report an expected decrease, 40% report a *status quo* (job creation of 0-2 employees), and marginally short of half of all executives report an expected creation of more than 2 new jobs (see Figure 4.9). The average for all SMEs is the creation of 7.8 FTE in 5 years. While this may seem optimistic, this is in line with the recent UCM report on growth, which reports that 70% of the Walloon SMEs intend to develop their activities within the next three years (Lesceux, 2014).

Secondly, respondents were asked to provide the expected size of the business in full-time equivalent employee numbers in five years' time – they thus provided a hard figure relative to their expected job creation estimations (Figure 4.10).

Figure 4.9 Expected growth for SMEs in terms of job creation, sales turnover and profit



In terms of location, the comparison of expected job creation in five years' time does not reveal any significant differences between the different regions. The correlation analysis between the regions and realized performance – i.e. job creation, sales turnover growth and profit growth – provides similar results (see Table 4.3). This suggests a convergence of performance patterns amongst Belgian regions. However, we do find a correlation between gender and firm size— being a woman in SMEs is significantly associated with smaller businesses (see Table 4.3). Note, by contrast, that job creation, sales growth, profit growth and ambitions in terms of job creation are unrelated to gender. This might imply that women entrepreneurs in SMEs face specific barriers to fully grow their business. Future research is warranted to examine this further.

Finally, we compared the average expected job creation by sector. We find that the variation between sectors is dependent upon the business context—the highest levels of expected job creation occurred within the service industry, closely followed by manufacturing. Conversely, we can see that the agricultural sector only expected to create 3 jobs per business (see Figure 4.10). Service sector SMEs are also found to outperform other sectors in demonstrating positive correlations with growth across job, sales turnover and profit factors (see Table 4.3).

Figure 4.10 Expected job creation in 5 years (FTE) of SMEs by sector

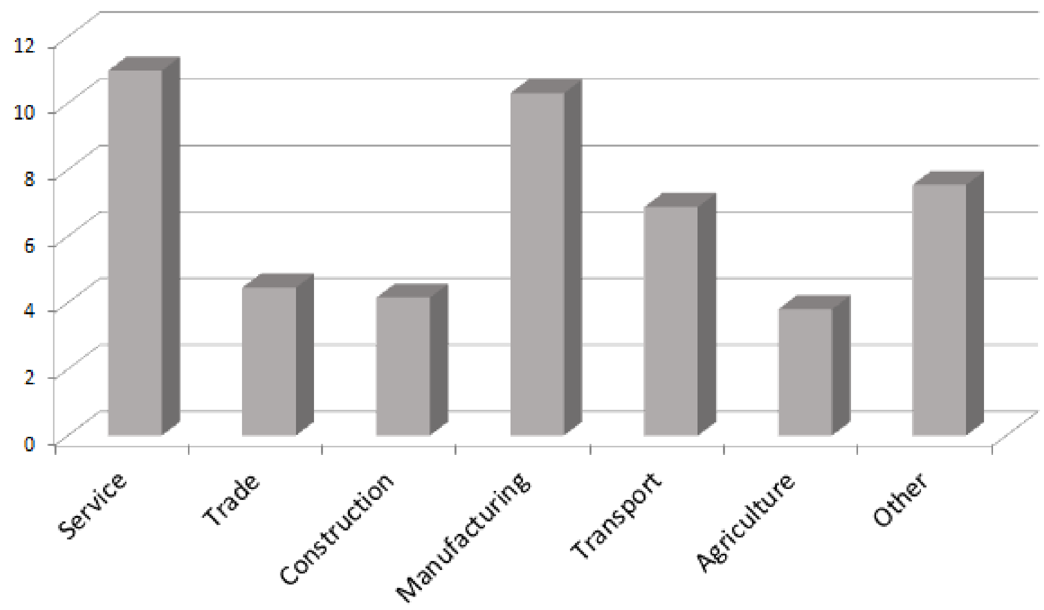


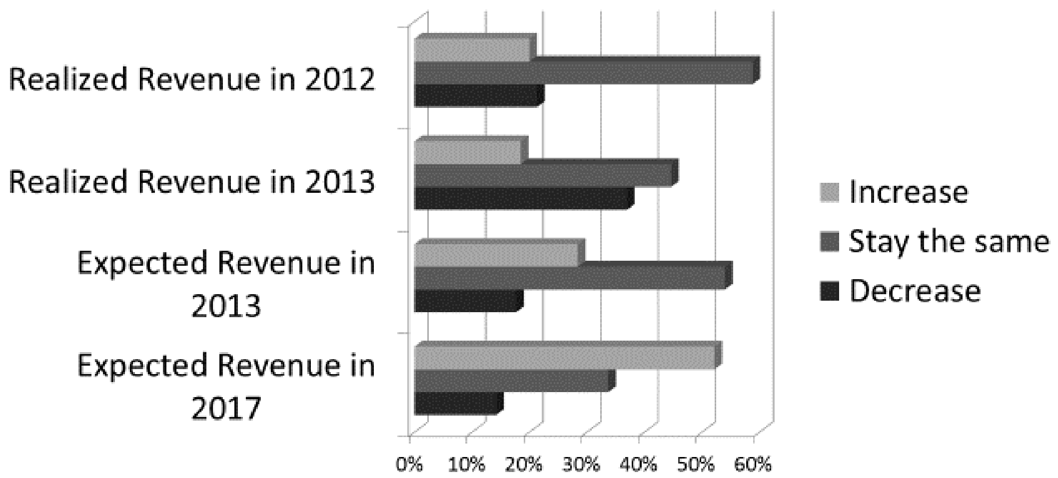
Table 4.3 Correlations between basic demographics and performance

	Gender	Wallonia	Flanders	Brussels	Services	Manufacturing	Trade	Construction	Agriculture	Transport	Other
In SMEs											
Job creation					+						
Sales turnover growth					+						
Profit growth					+						
Size of the firm	-					+				+	
Expected job creation					+						
In self-employed businesses											
Revenue growth		+	-					+			
Expected revenue growth next year	+	+	-								
Expected revenue growth in 5 years		+	-	+							

4.3.2 Growth for self-employed

For self-employed without employees, we measured growth in terms of revenue. In 2012, 21% of the self-employed experienced a decrease in revenue. However, this number rises to 37% in 2013, while only 18% of the self-employed were expecting such a decline. The poor performance of the self-employed witnessed in 2013 is in line with SMEs' results, where decreasing profits occurred more often than in 2012 (16% in 2012 versus 31% in 2013) (see Figure 4.11).

Figure 4.11 Realized and expected growth of self-employed revenue



Regarding location, we find that the Walloon self-employed outperform their Flemish counterparts, both in terms of realized and expected growth (see Table 4.3). Looking at the analysis of correlations and comparison of means, we also observe significant differences between regions. There is a positive correlation between being located in Wallonia and expected revenue growth (both for the next year and within 5 years' time). By contrast, being located in Flanders is negatively associated with both current and expected revenue growth. For Brussels, we only find a significant (positive) correlation between being located in Brussels and expected revenue growth in 5 years' time.

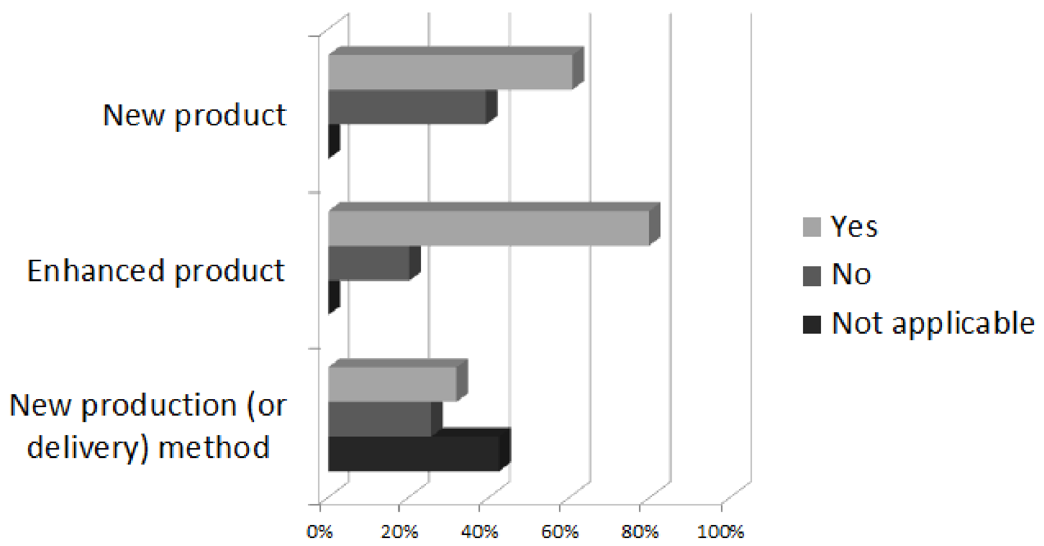
Finally, the comparison of sectors suggests that – in contrast with our findings for SMEs – not the service sector but the construction sector outperforms the other sectors for the self-employed. We see a positive correlation between the construction sector and realized revenue growth for self-employed, whereas this is not the case for SMEs.

4.3.3 Innovation

Innovation is presented as a key driver of growth as indicated by our correlation analysis (see Table 4.4). We can see that performance in terms of growth and innovation indeed tend to occur together. In our survey, we focus on product and process innovation: i.e., the introduction of new or significantly improved products (or services), and new or significantly improved production (or delivery) methods. In the second-wave survey only, we also grasped innovation performance by measuring the entrepreneurial orientation of the business.

In Belgium, a large majority of businesses report that they introduced some kind of product/service innovation within the last three years. Fewer introduced process or delivery innovations (see Figure 4.12). To measure the amplitude of the innovation, we also asked whether the innovation was new for the firm alone or for the entire industry. According to the responses, 48% of the new products/services, 59% of the enhanced products/services, and 60% of the new processes/delivery methods were new to the industry.

Figure 4.12 Product and process innovation



As suggested in Table 4.4, product innovation at the firm level is positively correlated to all measures of growth performance for SMEs, including profit. For the self-employed, introducing product innovation is not related to the performance within the same year, but, as may be anticipated, such an introduction is positively associated with expected revenue growth.

Table 4.4 Correlation between innovation and performance

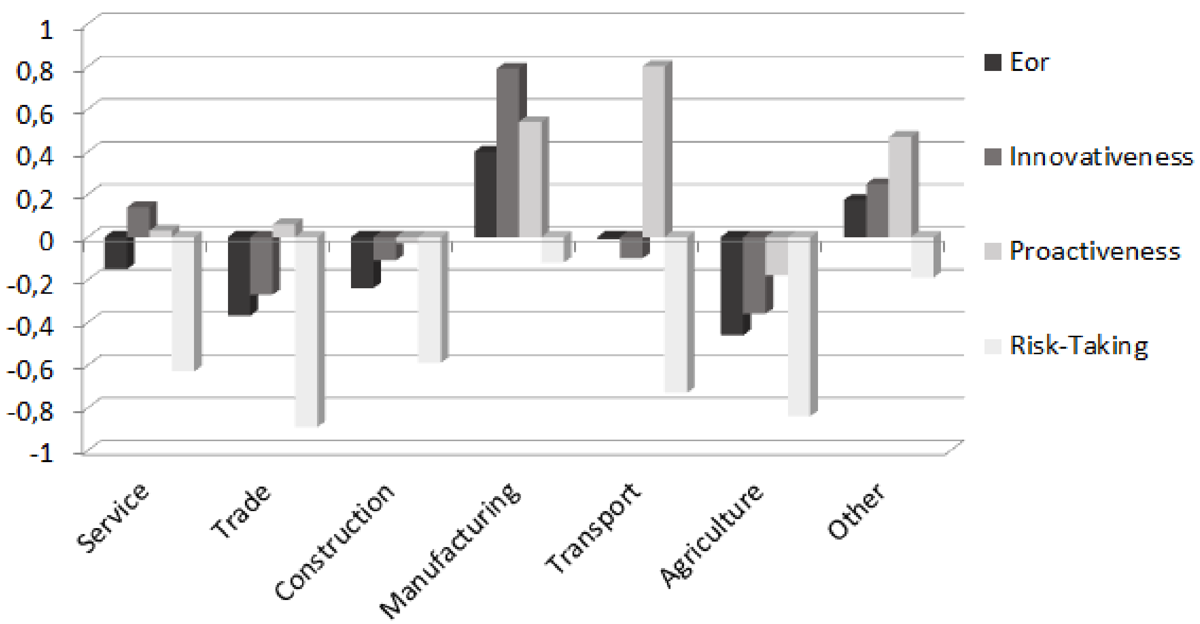
	Entrepreneurial Orientation	Innovativeness	Proactiveness	Risk-Taking	New product	Enhanced product
In SMEs						
Job creation			+		+	+
Sales turnover growth	+	+	+		+	+
Profit growth		+	+		+	+
Size of the firm	+		+		+	+
Expected job creation						+
In self-employed businesses						
Revenue growth						
Expected revenue growth next year	++				+	
Expected revenue growth in 5 years					+	

Interestingly, following our previous observations regarding gender differences, we performed an additional correlation analysis that suggests that introducing new product(s) occurs more often in SMEs owned by a man than a woman. Likewise, location is also linked to new product innovation—positively associated with Brussels, but negatively so for Flanders. Finally, product innovation occurs more often in the manufacturing sector, while being less common in the construction, agriculture and transport industries.

To further examine innovativeness and pioneering aspects of Belgian SMEs and the self-employed, we also measured the entrepreneurial orientation (EOr) of their businesses. Originally proposed by Miller (1983), the EOr concept describes the extent to which some firms adopt an entrepreneurial attitude by actually bringing innovation to the market, being a pioneer in their industry, and undertaking a bold, risk-taking strategy. Indeed, the key dimensions of EOr are risk-taking, proactiveness and innovativeness. For example, innovativeness is measured by asking questions related to the innovative performance level of the firm, such as the introduction of new lines of product(s), and proactiveness examines whether the firm is the first to introduce such products or services.

Considering EOr and its three dimensions separately, we find that innovativeness and proactiveness are both positively correlated with profit and sales turnover growth for SMEs (see Table 4.4). Proactiveness is central here, being also correlated to job creation and firm size. EOr as a whole is associated with sales growth and firm size in SMEs, as well as short-term expected growth by the self-employed (see Table 4.4). While EOr does not significantly vary by region, it is dependent upon sector (see Figure 4.13)

Figure 4.13 Entrepreneurial orientation by sectors



4.3.4 Internationalization

We understand internationalization as relative to an entrepreneurial exporter. The typical exporter is male, self-employed and located in Brussels (rather than the Flanders region), and tends to be found within manufacturing, trade, and agricultural sectors, but is less common in the services and construction industries.

From our 2,712 respondents, 43% consider themselves as exporters. More importantly, nearly one third of entrepreneurs expect export to be their main source of business in 5 years' time. As such, internationalization is an important performance indicator. Yet, this comes with the caveat that part of internationalization includes exposure to international competition. Unsurprisingly, we find that being an exporter is unrelated to realized performance in 2012 and 2013, within both SMEs and self-employed businesses. Interestingly, we do see a positive correlation with firm size and anticipated job creation within 5 years. It is also related to entrepreneurial orientation (all three dimensions) and innovation, particularly the introduction of new product(s) and processes at the firm level.

4.4 Subjective performance

Next to objective indicators like job creation and exporting (or not), we also asked entrepreneurs about their satisfaction regarding the performance of their own business, overall career and lives in general. In the SMESESAP surveys, we asked about the satisfaction of the entrepreneurs towards organizational goals—profit, sales growth, job creation, internationalization, environmental practices, and innovation. Factor analysis revealed two underlying dimensions: satisfaction levels of respondents related to (1) traditional economic goals (profitability, stability and growth), and (2) the performance of societal goals (creating jobs, innovation and environmental practices). In terms of career satisfaction, we adopted the scale used by van den Born and van Witteloostuijn (2013). Finally, we measured life satisfaction using the renowned 'Satisfaction With Life Scale' (Diener et al., 1985).

4.4.1 Satisfaction regarding traditional economic goals

Using a Likert-type scale running from -3 (totally dissatisfied) to 3 (totally satisfied), the average satisfaction regarding traditional goals is 1.04, with no significant differences between self-employed, entrepreneurs-owners of SMEs, and managers in SMEs (see Figure 4.14; traditional economic goals).

The analysis of correlation suggests that Walloon respondents are more satisfied than their Flanders counterparts regarding the performance of traditional business goals (see Table 4.5). Interestingly, we find that subjective and objective performance indicators are highly correlated, which suggests that they often occur simultaneously. For example, satisfaction with traditional economic goals is linked with the entrepreneurial orientation of the firm. Satisfaction can, however, also be negatively correlated with objective performance measures. More specifically, satisfaction with traditional economic goals negatively relates to exporting, which might indicate that traditional economic goals are subject to greater pressure when exposed to international competition.

When we probe deeper into the relations between objective and subjective performance measures by examining the relations for SMEs and self-employed separately, we find the following. For SMEs, the subjective performance of traditional goals is linked to actual job creation, sales and profit growth. For the self-employed, we observe that satisfaction levels for traditional economic goals are negatively correlated with a decline in revenue.

Figure 4.14 Subjective performance – satisfaction regarding traditional economic goals, societal goals, overall career and life

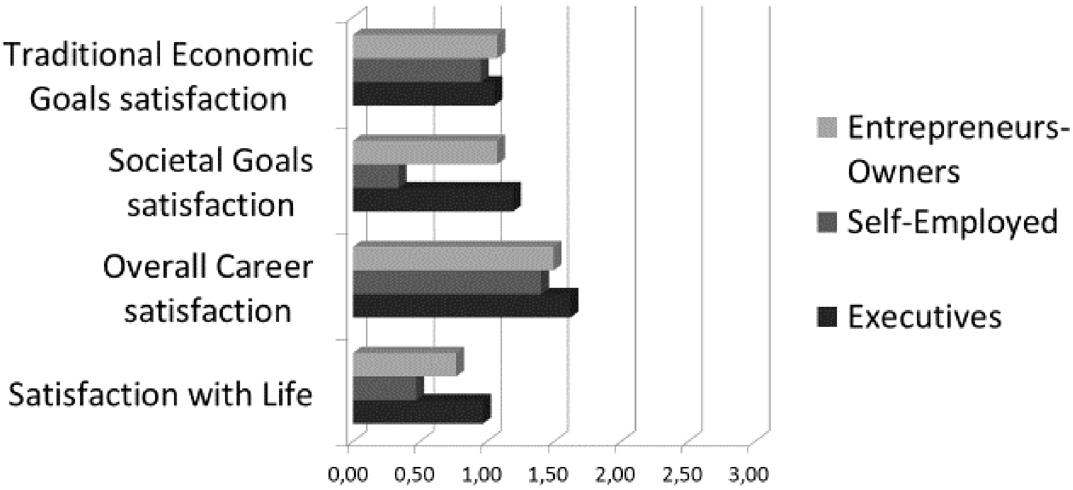


Table 4.5 Correlation between satisfaction, innovation and performance

	Traditional economic goals	Societal goals	Overall Career satisfaction	Satisfaction with Life
Gender				
Wallonia	+			
Flanders	-	-		
Brussels		+		
Being an SME (versus self-employed)		+		+
Exporting	-			
EOr	+	+	+	+
EOr – Risk-taking		+		
EOr - Innovativeness		+		+
EOr - Proactiveness		+	+	
New product		+	+	+
Enhanced product		+	+	
In SMEs				
Job creation	+	+	+	
Sales turnover growth	+	+		
Profit growth	+	+		+
Size of the firm			+	+
Expected job creation		+		
In self-employed businesses				
Revenue growth		+		
Revenue decrease	-			-
Expected revenue growth next year		+		
Expected revenue growth in 5 years				

4.4.2 Satisfaction regarding societal goals

In general, reported satisfaction with traditional economic goals is higher than that with societal goals (i.e., satisfaction with creating jobs, being innovative and protecting the environment). However, this difference is largely driven by the low score of the self-employed, who are significantly less satisfied with societal goals than their SMEs with employee(s) counterparts (see Figure 4.14). Note that gender differences are not significant for societal goals. For traditional goals, Flemish respondents, on the one hand, are less satisfied regarding the performance of societal goals. Respondents located in Brussels, on the other hand, are more satisfied than those in the rest of Belgium.

In terms of performance, reported satisfaction with societal goals is highly and positively correlated to the entrepreneurial orientation of the business (i.e., all three dimensions), and the introduction of new and enhanced products at the firm level. Satisfaction with societal goals also correlates positively with life satisfaction, indicating that high satisfaction levels with societal goals, unsurprisingly, produces high satisfaction with life in general. For SMEs, societal performance often occurs above par when all other performance indicators are scored well, too, except for firm size. For self-employed, societal performance is positively correlated with economic performance (i.e., revenue growth and expected growth in one year) (see Table 4.5).

4.4.3 Overall career satisfaction

As also suggested in Figure 4.14 (above), no significant difference between types of respondent is evident in relation to their overall career satisfaction. Similarly, no difference is found between economic sectors, gender or region. In terms of innovation performance, we again find a positive correlation with entrepreneurial orientation, especially proactiveness, plus the introduction of new and enhanced products at firm level.

For SMEs, subjective career satisfaction is positively correlated with job creation and firm size. Conversely, for the self-employed, career satisfaction is unrelated to revenue growth, expected growth, or even decline in revenue, which suggest that other factors are at play.

4.4.4 Satisfaction with life

Finally, we turn to examine overall life satisfaction for our sample. Here, the results show that the self-employed are significantly less happy than entrepreneurs or managers in SMEs (see Figure 4.14).

As previously mentioned, satisfaction with life is highly and positively correlated to the other dimensions of satisfaction. The data also reveal that the entrepreneurial orientation of the firm, especially innovativeness, and the introduction of new products, are associated with higher life satisfaction (see Table 4.5 above).

Alongside these findings, for entrepreneurs and managers in SMEs, life satisfaction ratings are related to several objective performance indicators at the firm level (i.e., profit growth and actual size). However, life satisfaction is not directly related to job creation (or destruction). For self-employed, reported life satisfaction is unrelated to revenue growth, which again suggest that other factors are at play.

4.5 Personality characteristics

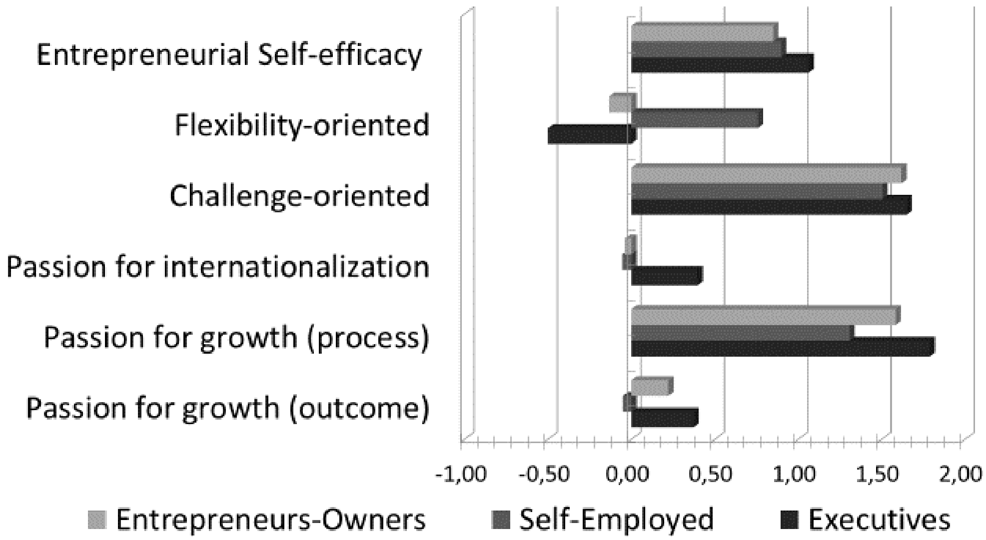
Returning to our analytical framework, we stated that performance is contingent upon four interacting levels of analysis: the (i) strategic, (ii) structural, (iii) environmental, and (iv) individual level. Those four components interact in a complex way to influence growth. In this section, we explore the individual entrepreneurial traits, such as grit, entrepreneurial attitudes, entrepreneurial self-efficacy, working experience and reasons for choosing an entrepreneurial career. We then examine how often these traits occur simultaneously with growth and other performance factors.

4.5.1 Personality traits

Self-efficacy is an academic construct used to describe the confidence an individual has in her or his competences. Entrepreneurial self-efficacy, therefore, refers to the levels of self-confidence an individual has in being a “good” entrepreneur. This includes such skills as thinking creatively, developing new ventures, designing new products, and bringing them to market. Two main reasons for choosing for an entrepreneurial career are exposed: the quest for a challenge and/or having more flexibility and a better work-life balance. In terms of entrepreneurial attitudes, we explored the interest of the entrepreneur towards entrepreneurial tasks such as export activities, tackling business challenges, and realizing growth. Indeed, a recent UCM report (Lesceux, 2014) suggests that passion is one of the key drivers of growth. In our case, we looked deeper into sources of passion, be it the entrepreneurial process behind growth (i.e., enthusiasm for tackling business constraints and new challenges) or growth itself (i.e., owning a large firm with more employees). Growth as a process refers to the fact that the entrepreneur likes the processes behind growth – i.e., to tackle business constraints, deal with complicated business issues, et cetera. Conversely, growth as an outcome involves the fact that the entrepreneur likes having a larger firm.

As shown in Figure 4.15, self-efficacy does not distinguish between entrepreneurs-owners, self-employed and managers in SMEs. Moreover, self-efficacy is positively linked to work experience in the private sector, but is unrelated to work experience in the public sector. Our evidence suggests that self-efficacy is related to entrepreneurial experience in terms of the number of business created, but not in terms of the years since establishing the first business. Thus, being a serial entrepreneur (e.g., founding more than two businesses) is often associated with higher self-efficacy. Finally, we also see that the level of self-efficacy reported by women is significantly lower than the level reported by male respondents in our sample.

Figure 4.15 Entrepreneurial traits

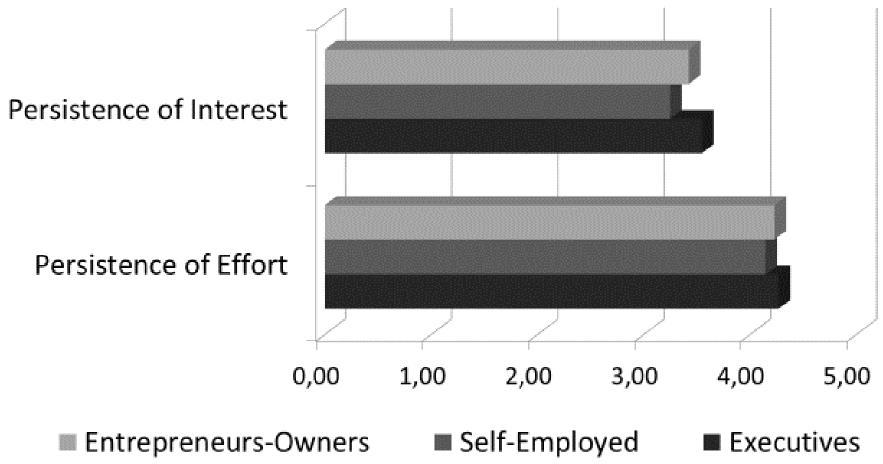


When turning our attention to flexibility, our data suggests that flexibility is significantly more important for the self-employed vis-à-vis managers and entrepreneur-owners. Having a flexibility orientation is also a career reason more often employed by women than by their male counterparts. Interestingly, flexibility is positively correlated with being challenge-oriented, suggesting that these goals are not mutually exclusive.

Revisiting our investigation of passion (that is, the above-discussed entrepreneurial traits) in relation to gender, location, sector, and the number of businesses founded, we find the following. For gender, we observe no significant differences with regard to a passion for exporting (that is, internationalization), tackling business constraints (growth as a process) and growing the firm (growth as an outcome). We do find that the location of the business activity matters. In particular, Flemish respondents are less interested in export activities, when compared to respondents in Wallonia and Brussels. We also notice sector differences. A passion for internationalization (or exporting) is slightly and positively related to experience within the private sector. Finally, the passion for internationalization and growth as a process are both positively related to being a serial entrepreneur. As expected, being a serial entrepreneur is unrelated to passion for growth itself: serial entrepreneurs would rather start a new firm, and tackle new challenges and constraints, rather than growing an existing firm. As a consequence, it is not surprising that if we examine passion for growth as an outcome (that is, growing the firm), we find that this interpretation of passion is positively associatated with being challenge-oriented.

Another interesting entrepreneurial measure is grit (see Figure 4.16). A personality trait is symbolized by perseverance and a passion for long-term goals. According to Duckworth et al. (2007), grit predicts performance in challenging domains over and beyond measures of competences because of its emphasis on stamina. In particular, grit entails the capacity to sustain both effort and interest in projects that can take months or longer to complete. In our survey, on the one hand, we find that grit is significantly lower for the self-employed compared to the owners and managers in SMEs, especially relative to persistence of interest. Persistence of effort, on the other hand, does not show any significant differences according to the type of respondent. Persistent of effort is highly and positively correlated to liking the entrepreneurial process, self-efficacy and being challenge-oriented. In other words, we observe that persistence of effort rather than interest occurs in conjunction with other important entrepreneurial traits discussed above.

Figure 4.16 Grit – persistence of effort and interest over time



Finally, we measured personality traits, using the HEXACO scale (Lee & Ashton, 2004). In Table 4.6, the definition of each of the HEXACO dimensions is provided. We find that our entrepreneurs have high integrity, extraversion and conscientiousness, but are less emotional or agreeable (see Figure 4.17). Differences in gender reveal that women report being more honest and more agreeable than men. Interesting differences also emerge with regard to location. On the one hand, respondents from Brussels are significantly less agreeable but more open to experiences than their Flemish counterparts. Flemish respondents, on the other hand, are slightly more sensitive than the rest of Belgium. To conclude, we find that the self-employed are significantly more diligent than their counterparts in SMEs.

Figure 4.17 HEXACO personality traits of Belgian entrepreneurs

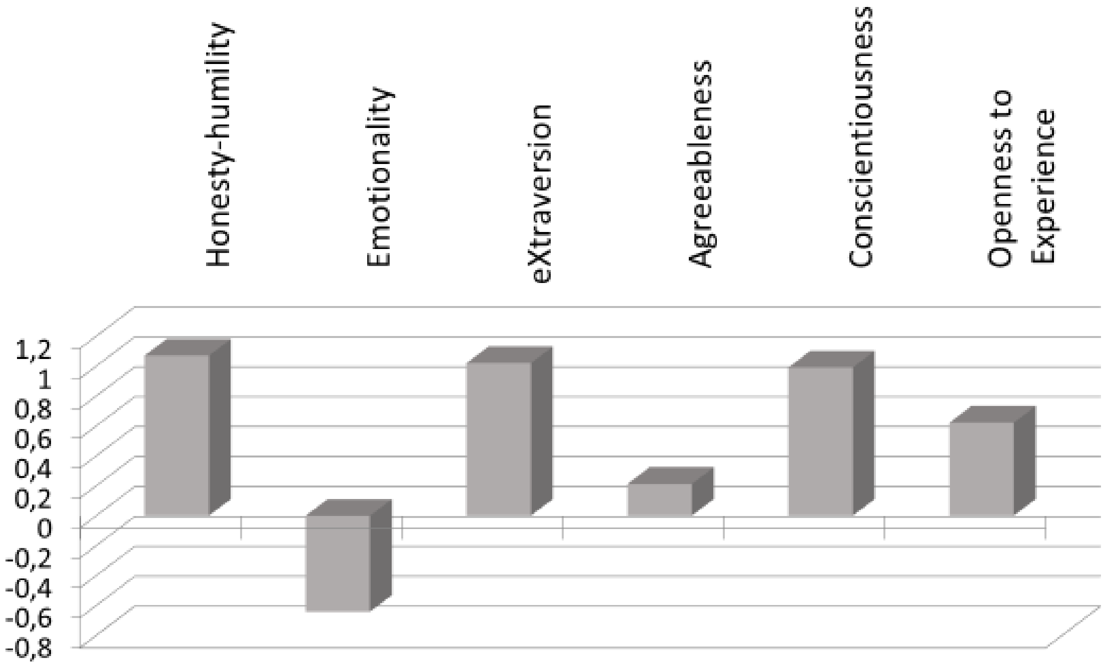


Table 4.6 HEXACO personality traits

HEXACO	Related adjectives
Honesty-humility	sincere, loyal, dead honest, trustworthy vs. boastfully, vain, greedy
Emotionality	sensitive, fragile, unstable, vs. stable, confident, balanced, determined
e**X**traversion	exuberant, cheerful, spontaneous, frank vs. introverted, closed, silent, gloomy
Agreeableness	good-natured, calm, patient, mild vs. bright, quick-tempered, irascible, hotheaded
Conscientiousness	careful, meticulous, precise, diligent, orderly vs. careless, inconsiderate, lazy, irresponsible
Openness to Experience	profound, original, philosophical, astute vs. uncritical, superficial, civil, submissive

4.5.2 Traits and performance

By examining the link between individual traits and performance, we reveal three entrepreneurial traits that recur relative to growth factors—(i) a passion for growth as a process, (ii) challenge-orientation, and (iii) higher self-efficacy (see Table 4.7). By contrast, the age of the respondent is systematically negatively related with growth, except for the actual size of the venture. The same conclusion is reached when examining the number of years since the respondents first established their business.

Some additional drivers are worthy of note. First, work experience in the public sector is negatively correlated with both job creation and the size of SMEs. By contrast, experience in the private sector and being a serial entrepreneur are both positively linked with the size of the venture. Other size drivers are perseverance in terms of interest and level of education. Yet, flexibility is negatively associated with larger SMEs. Interestingly, being flexible and having experience in the public sector are both negatively associated with size, which usually occurs more often for female as opposed to male entrepreneurs. Finally, a passion for growth as an outcome (having a large business) is not a systematic driver of performance in SMEs, where the passion for the process behind growth is more relevant and a passion for growth as an outcome is highly and positively correlated with the growth ambitions of the self-employed.

In conclusion, we show that some individual traits are closely related with growth. The entrepreneurs, self-employed or managers are associated with key drivers, notably in terms of passion and self-efficacy. Entrepreneurs bring their competences, needs and motives to the venture, which might affect the entrepreneurial project and, ultimately, its performance. That said, an entrepreneurial project will be submitted to external and internal constraints. It is this subject of constraints that we turn to in the following sections of this chapter. But before doing so, we first describe these additional aspects of entrepreneurship, starting with the strategic orientation implemented by our respondents within their respective ventures.

Table 4.7 Correlation between entrepreneurial traits and performance

	Self-efficacy	Flexibility-oriented	Challenge-oriented	Passion for growth (process)	Passion for growth (outcome)	Passion for export	Age
In SMEs							
Job creation	+		+	+		+	-
Sales turnover growth	+		+	+			-
Profit growth	+		+	+			-
Size of the firm	+	-				+	+
Expected job creation			+	+		+	
In self-employed businesses							
Revenue growth							-
Expected revenue growth next year	+			+	+		-
Expected revenue growth in 5 years	+		+	+	+	+	-

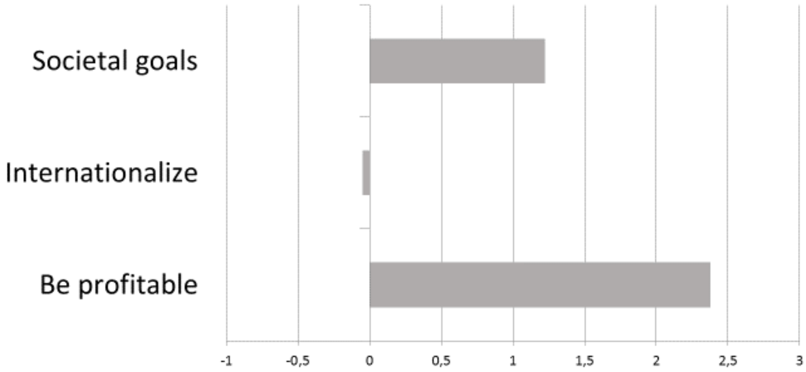
4.6 Business strategy

In the previous section, we saw that individual-level drivers, such as challenge-orientation and a passion for growth, often occur alongside actual performance. However, the way in which these drivers are translated into firm-level choices and strategy is relatively unknown. In this section, we examine this issue. We first explore goal-setting: the commitment of the entrepreneur to a variety of goals such as profitability, internationalization, innovation, job creation and environmental practices. We also look at the aspirations of entrepreneurs regarding the size of their venture(s). Finally, we investigate the strategic orientation of the venture via a series of strategic dimensions.

4.6.1 Goal-setting

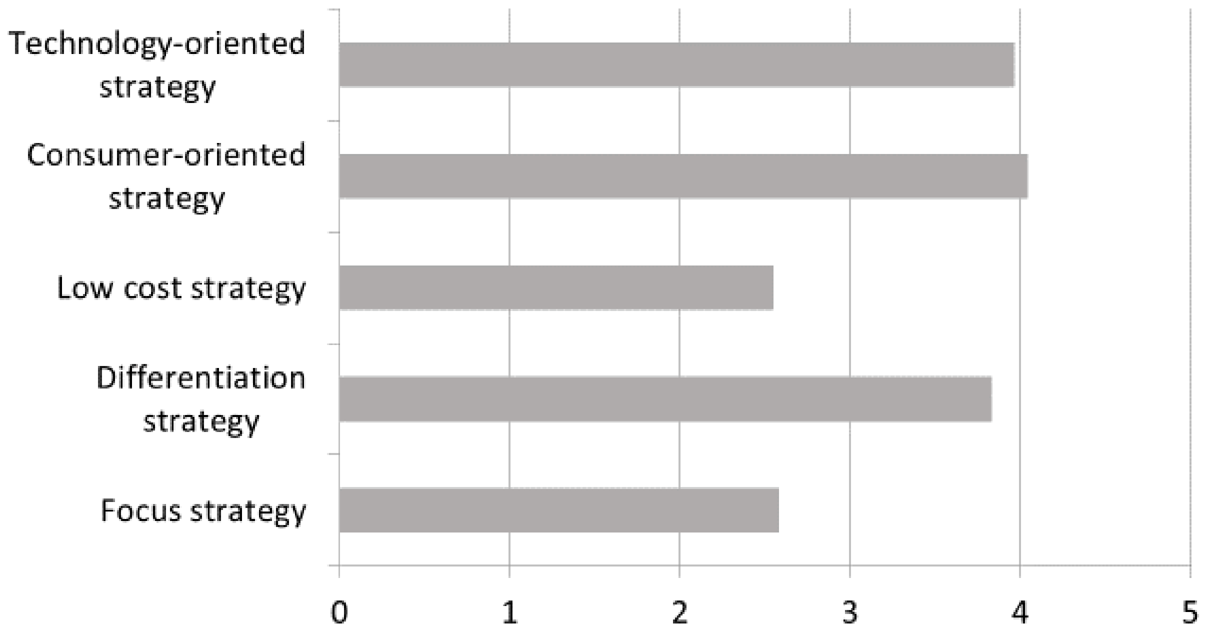
To examine business goals, we use three main dimensions—(i) profitability, (ii) internationalization, and (iii) societal contribution (i.e., innovation, job creation and environmental practices). As shown in Figure 4.18, profitability remains the main goal of the self-employed and SMEs. We also asked about the aspirations of entrepreneurs regarding the size of their venture(s)—as large as possible versus a limited size that they can manage alone, or with a few employees. Supporting the previous literature on growth aspiration (Cassar, 2007; Edelman et al., 2010), we find that only 12% of our respondents aspire for high growth.

Figure 4.18 Commitment to business goals



Similarly, in approaching strategic orientation, we considered five dimensions (using five-point Likert scales): (1) a technological strategy explicitly focused on the research and development (R&D) of new products; (2) a consumer strategy that, as the name implies, involves customer satisfaction, after-sales service and respecting consumer rights beyond legal requirements; (3) a low-cost strategy referring to producing goods and services at a low cost and undercutting the competition; (4) a differentiation strategy that involves the extent to which a firm is able to command high prices from the market in supplying superior products or services; and (5) a focus strategy that is employed when a firm is focused on a single niche—such firms build their reputation around a certain product, industry or clientele. We find that the most important dimensions are technological and consumer–oriented strategies, combined with the ability to differentiate products and/or services from direct competitors (see Figure 4.19).

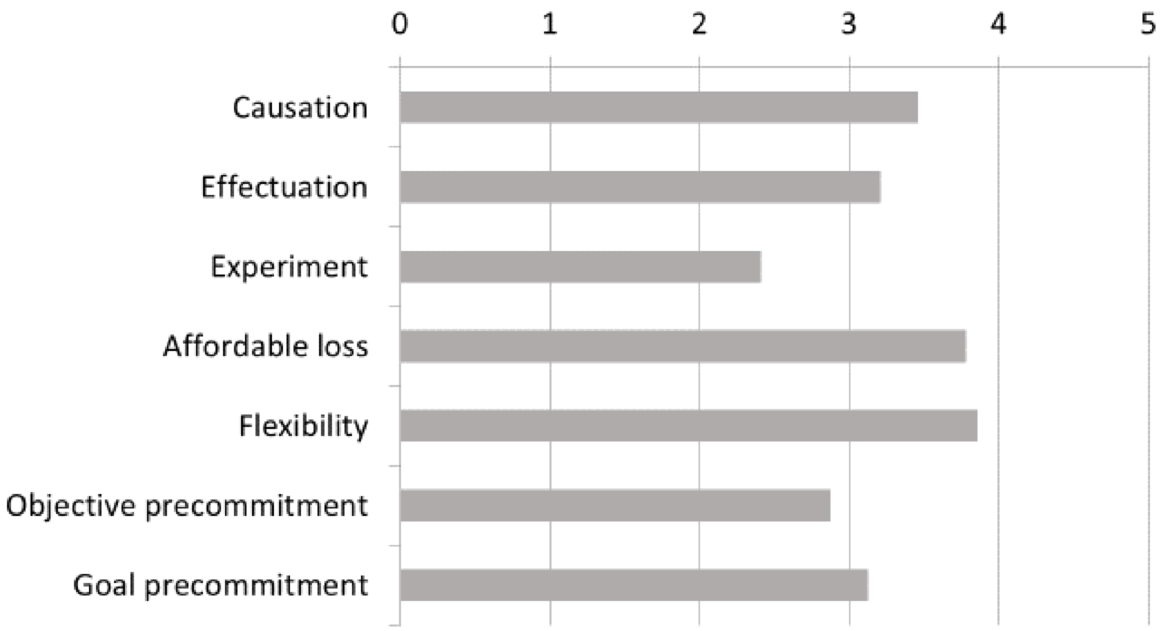
Figure 4.19 Strategic orientation of the firm



To complement the reflection on strategy, we also measured the extent to which Belgian entrepreneurs apply causation and effectuation logic in the development of new products (with five-point Likert scales). Entrepreneurs with a causal logic first define a strategic goal in terms of market opportunity, best return in spite of risk and long-term vision (see Chapter 7 on causation-effectuation). On the basis of the defined strategic goal, entrepreneurs then select the necessary resources and processes required to achieve the objective. To grasp this dimension, we asked our respondents questions such as the extent to which they analyzed long-term opportunities and selected what they thought would provide the best returns.

By contrast, entrepreneurs with an effectual logic first experiment with their existing resources prior to setting goals. According to these existing resources, these entrepreneurs identify a potential market opportunity that not only fits with the available resources, but also ensures that the potential risk does not exceed a predefined affordable loss. As a result, rather than making a decision based on a strategic long-term goal, the new product can evolve with flexibility as new resources emerge, alliances are developed and multiple pre-commitments are identified. Each dimension of effectuation is measured by several questions such as the extent to which respondents adapted what they were doing according to the available resources. The effectuation variable is an aggregate of five underlying dimensions: experimentation, affordable loss, flexibility, objective pre-commitments and goal pre-commitments (see Figure 4.20).

Figure 4.20 Causal and effectual logics of Belgian entrepreneurs



4.6.2 Strategy and performance

Before looking at the correlation between strategy and performance, we also examine the link with basic demographics—gender, sector, region, and type of business (i.e., self-employed versus SMEs with employees). For strategy, we look at commitment to goals (that is, commitment to internationalization, societal goals and profitability) and the strategic orientation of the firm (that is, technology-oriented, consumer-oriented, low-cost, differentiation, and focus strategy) and the effectuation/causation logic pair.

For sector, we find that respondents from manufacturing appear to commit more often to societal goals. Respondents from the manufacturing sector also place more importance on internationalization than those from the other sectors, especially when comparing with the construction and service industries. Yet, it will be no surprise that we see that respondents from the transport industry are higher committed towards internationalization and being profitable. This may be explained by the fact that, in this sector, the adoption of a focus strategy is stronger compared to the other sectors. In contrast, the service sector is less committed to profitability, exporting and contributing to societal goals than other sectors. However, firms in the service sector do adopt a focus strategy more often, most notably in alliances stemming from an effectual logic. This strategic approach, combining a focus strategy and alliances, is also typical for the self-employed, which suggests a niche strategy is in play. The trade industry rather tends to opt for profitability and customer satisfaction, and not so much for focus strategy and R&D activities. Finally, the 'other sectors' – which might comprise of emergent sectors – emphasize more internationalization and societal goals. Interestingly, no sector is significantly correlated to having greater (or less) growth aspiration.

While growth aspiration is thus not correlated to any sector, we do find significant differences for gender and type of respondent, with managers having more growth aspiration, and woman and the self-employed having less growth aspirations. Likewise, the self-employed tend to put less commitment into internationalization as well as causation. Interestingly, the latter is also correlated with gender – women in general apply less causal logic than men.

In terms of location, Walloon SMEs and the self-employed tend to put more emphasis on societal goals. In terms of strategy, they are also less focused on a particular niche (focus orientation), but develop more alliances than anywhere else in Belgium. Entrepreneurs in Flanders tend to commit less towards societal goals and demonstrate a preference for focus orientation. Moreover, in this region, entrepreneurs also invest less often in alliances and gravitate towards an effectuation logic, in general. In Brussels, meanwhile, entrepreneurs seem to have ventures with the most ambition; businesses from Brussels have higher aspirations than in the rest of Belgium, and demonstrate a greater commitment towards societal goals and internationalization. In addition, Brussels-based businesses resort to differentiation and flexibility more than entrepreneurs in the other regions.

When we turn to review the analysis of correlation, our results suggest that goal-setting by the decision-makers is associated with performance. Notably, growth aspirations for the venture are positively correlated with all performance measures, except revenue growth for the self-employed. For strategy, we see that a technological orientation of the venture often accompanies performance, especially in terms of innovation (measured as entrepreneurial orientation), job creation and sales growth.

We also observe that some strategic orientations do not occur with performance, and that some are associated with negative performance. For example, effectual logic is positively associated with performance for SMEs, but negatively so for the self-employed. A closer look at the underlying dimensions might elicit further insight. Second, a low-cost strategy is unrelated to the performance indicators in Table 4.8. According to existing strategic research (see Chapter 8), a low-cost strategy might be adequate in some settings, but totally inadequate in other contexts. As such, the correlation with performance would be neutralized because it does not take into account the variety of settings that may or may not fit with a low-cost approach. This will be examined further in Chapter 8. Third, a focus orientation is not associated with any performance indicators for SMEs. It would be insightful to investigate the potential fit with either the business context (dynamism of the environment for instance) and/or personality traits (see Chapter 8 for further examination). This strategic orientation is also associated to less revenue ambitions for the self-employed. As a focus strategy is often a preferred strategic orientation for the self-employed, this warrants further investigation.

Finally, actual revenue growth for the self-employed is uncorrelated to any strategic orientation, which points to the possibility that either particular contingencies have yet to be explored, or suggests that other critical variables operate beyond the control of the self-employed. In the next section, we focus on these variables occurring at the environmental level, such as regulation or access to resources. These variables can have a direct impact on performance, by restricting access to resources. However, this comes with the caveat that environmental factors can also interact with strategy, and even individual traits, when driving performance.

Table 4.8 Correlations between strategic orientations and performance

	Growth aspiration	Be profitable	Societal goals	Internationalize	Technology	Consumer	Focus	Low cost	Differentiation	Causation	Effectuation
In SMEs											
Entrepreneurial orientation	+		++	++	++	+				++	+
Job creation	+		+	+	+	+					
Sales turnover growth	+				+				+	+	+
Profit growth	+								+		
Size of the firm	+			+						+	
Expected job creation	+			+		-			+	+	
In self-employed businesses											
Entrepreneurial orientation	+		++	++	++	+			++		-
Revenue growth											
Expected revenue growth in 5 years	+		+	+			-			+	

4.7 Business environment

The business environment can simultaneously facilitate and constrain performance. The environment drives performance by providing business opportunities and supportive regulations that enhance the competitiveness of the venture. It also constrains performance if entrepreneurs are unable to access relevant resources, or if they do not implement a strategy that fits with competitive pressures. In this section, we examine three types of variables related to the environment.

- First, we look at the demand side of the business context and examine questions such as 'Can you easily find a demand (or market) for your new product(s)?', 'Are the product(s) rapidly obsolete?', and 'Are your customer(s) very sensitive to price?'
- Second, we explore variables related to the business environment in terms of supply. Here, we investigate whether the firm can easily access resources that are supplied by the environment such as finance, skilled workers or R&D.
- Third and finally, we focus on the environment as a provider of business regulations and analyze whether respondents perceive business regulations as a burden or as a source of opportunity. Here, we examine aspects such as whether respondents believe that regulations are adequately addressing issues facing SMEs and the self-employed, or whether SMEs and the self-employed can easily adapt to new procedures.

4.7.1 Demand side of the business context

To assess whether the business environment is auspicious for the commercialization of Belgian products, we examine three main variables:

- The dynamism of the sector (Miller, 1988): in a calm environment, production methods are relatively stable and products are not readily made obsolete; in turbulent environments, products rapidly become obsolete, and both production and promotion modes must adapt accordingly. The dynamism is measured on a seven-point Likert-type scale, varying from -3 (very calm environment) to 3 (very turbulent environment).

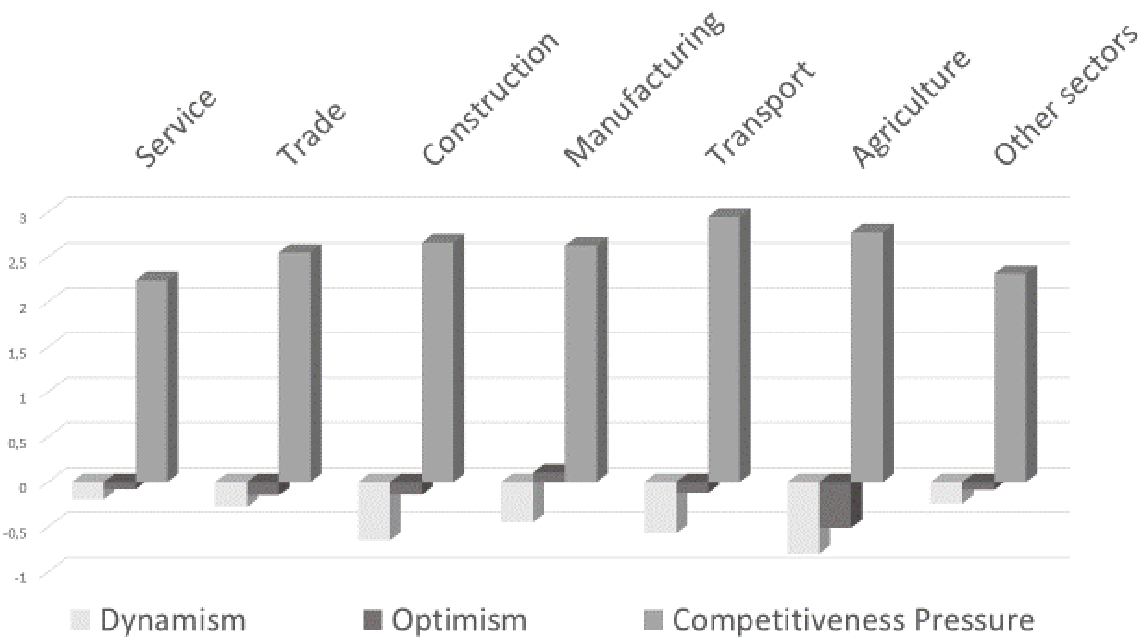
- The optimism of the entrepreneur: for optimistic entrepreneurs, their business environment provides new opportunities and markets for their products; for pessimistic entrepreneurs, the environment does not favor the development of the venture, as it fails to reward their creativity. Optimism is also measured on a seven-point Likert-type scale running from -3 (very unfavorable environment) to 3 (very favorable environment).
- The competitiveness pressure (Wijbenga & van Witteloostuijn, 2007): in highly competitive environments, a change in price automatically translates into losing customers; in less competitive environments, the firm can raise its prices without sustaining a drastic reduction in its market share. Competitiveness pressure is measured by asking respondents what would happen if they raise the price of their most important products by 10% (ranging from 1 "our customers would continue to buy from us in the same quantity" to 4 "our customers would stop buying from us"; higher scores therefore indicate a more competitive environment).

Both competitiveness pressure and dynamism of the environment significantly differ by sector and type of respondents.

First, entrepreneurs-owners report more dynamic and competitive environments than the self-employed without employees. Likewise, respondents located in Wallonia rather than in Flanders, and those being a woman both significantly associate with a calmer environment.

Second, the service sector is both more turbulent and less competitive than other sectors, which might provide a favorable context for growth (see Figure 4.21). By contrast, construction is at the same time less dynamic and more competitive, which may point to a less favorable business context when considering likely growth. However, a less dynamic environment, or more competitiveness, alone might not constitute a constraint per se. Manufacturing, for instance, is highly competitive yet benefits from a very favorable environment (optimism), which in turn provides grounds for growth. In line with our analytical framework, different contexts can provide the setting for better performances, provided that the strategic and individual choices fit with the specific context (see for more on this, Chapter 8).

Figure 4.21 Dynamism, optimism and competitiveness pressure in Belgian sectors



Along the same lines, we find that dynamism, optimism and competitiveness pressure are associated with specific strategic choices (see Table 4.9). First, more dynamic contexts seem to accompany aspects from an effectual (in particular, experimentation and flexibility) and a causal logic. Combined with the strong correlation between effectuation and causation, this observation indicates that such ambidexterity might not only be feasible, but is required within a dynamic environment. Chapter 7 on causation-effectuation will test this hypothesis in depth. Additionally, dynamism usually occurs with more differentiation, a focus strategy, a technological orientation and greater commitment to societal goals. Second, more competitiveness pressure corresponds to a reported emphasis on profit, and occurs less frequently with a focus and/or differentiation strategy and an effectual logic, especially flexibility. Finally, optimism tends to occur in conditions where there is greater commitment to societal goals, a technological-oriented strategy and an effectual logic, especially experimentation, in place.

Table 4.9 Correlations between demand-side variables and strategic orientation

	Dynamism	Competitiveness pressure	Optimism
Profit		+	
Societal goals	+		+
Technology-orientation	+		+
Consumer-orientation			
Focus	+	-	
Low cost			
Differentiation	+	-	
Causation	+		
Effectuation	+	-	+

The examination of correlations between environmental variables and performance elicits complementary insights (see Table 4.10). First, as expected, the dynamism of the environment is not directly related to performance for SMEs, except in the case of entrepreneurial orientation. However, we find that expected revenue growth occurs less often in more turbulent environments for the self-employed. Moreover, a more dynamic environment is associated to an actual decrease in revenue.

For competitiveness, the correlations show that higher pressure accompanies less frequent growth and is associated to an actual decrease in terms of size (number of jobs, volume of sales turnover, and profit). Optimism, by contrast, is positively linked with performance and an expected increase in job creation (for SMEs) and revenue growth (for self-employed).

Table 4.10 Correlations between demand-side variables and performance

	Dynamism	Competitiveness pressure	Optimism
In SMEs			
Entrepreneurial orientation	+	-	+
Job creation		-	+
Sales turnover growth		-	+
Profit growth		-	+
Size of the firm		-	+
Expected job creation		-	+
In self-employed businesses			
Entrepreneurial orientation	+	-	+
Revenue growth			
Expected revenue growth next year	-	-	++
Expected revenue growth in 5 years	-		++

4.7.2 Supply side of the context

The environment is not only a source of opportunity; it can also provide resources for SMEs and the self-employed. In order to understand these resources, we examine four different types of resource and the extent to which access to these resources is considered as a constraint by the entrepreneurs in our sample: (i) access to a skilled workforce, (ii) access to finance, (iii) access to high-quality suppliers, and (iv) access to high-quality external R&D (all measured with a seven-point Likert-type scale, ranging from -3 to 3).

In general, access to a skilled workforce and, to a lesser extent, to finance are both considered as constraints for the development of Belgian businesses (see Figure 4.22). Interestingly, only access to finance is correlated with reduced performance. More precisely, limited access to finance by SMEs frequently led to less growth (i.e., reduced job creation, sales or profit growth) and more often to a noticeable decrease in jobs, sales and profit. Likewise, the self-employed, who are constrained in their access to finance, report more frequent decreases in revenue.

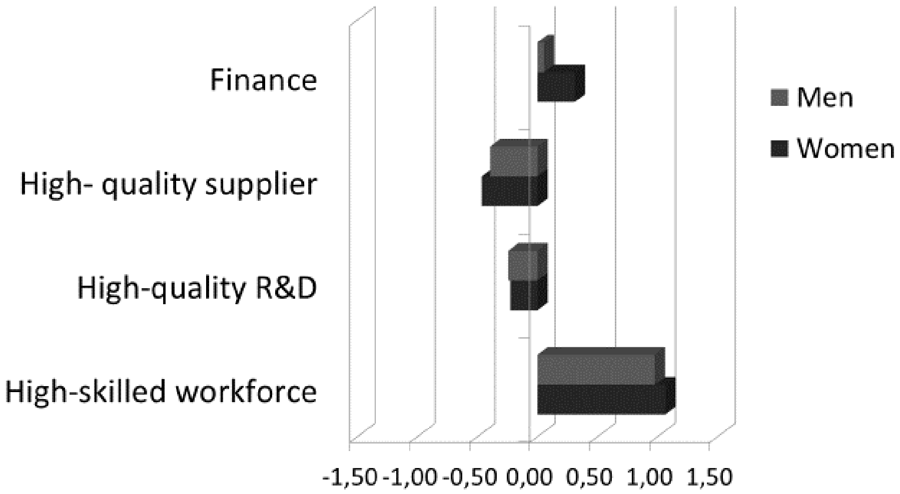
While access to finance is thus a key constraint, our data show that women and men are not equal in this respect, nor are SMEs and self-employed. To elaborate, a significant difference between male and female entrepreneurs exists – women admit more readily than men that a limited access to finance constrains their business. We also see that the self-employed report more difficulties in accessing finance than SMEs.

Ernst & Young (2014) suggest that access to finance is linked to location. More specifically, they report that in terms of investment volume, SMEs located in Wallonia are experiencing a growing deficit compared to those located in Flanders. Two explanations are suggested: (1) poor access to financing in Wallonia; and (2) greater risk-taking investment strategies are employed in Flanders. However, our data does not suggest any differences in location with regard to access to finance. This indicates that Walloon entrepreneurs do not necessarily face – or do not perceive – poorer access to finance.

Additionally, we find that access to finance is a greater constraint for entrepreneurs focused on societal goals, whereas the constraint reduces for those with growth aspirations. In other words, people with larger ambitions do not let access to finance become an obstacle to growth. It is also less of a burden for those who follow the "affordable loss principle", which states that the entrepreneur should look at what s/he is prepared to lose rather than focusing solely on the expected return.

Access to high-quality suppliers and external R&D, by contrast, are, on average, not considered a constraint. In line with this finding, access to high-quality R&D and suppliers is not correlated with our performance indicators. An exception is entrepreneurial orientation: the self-employed with higher entrepreneurial orientation tend to report greater difficulty in finding high-quality suppliers. Likewise, those who commit to societal goals and internationalization report more frequently that access to suppliers and R&D is a business constraint. Finally, R&D is often viewed as a constraint when respondents adopt a technological-oriented strategy and do experiment regularly.

Figure 4.22 Supply-side contextual variables: constrained access to resources



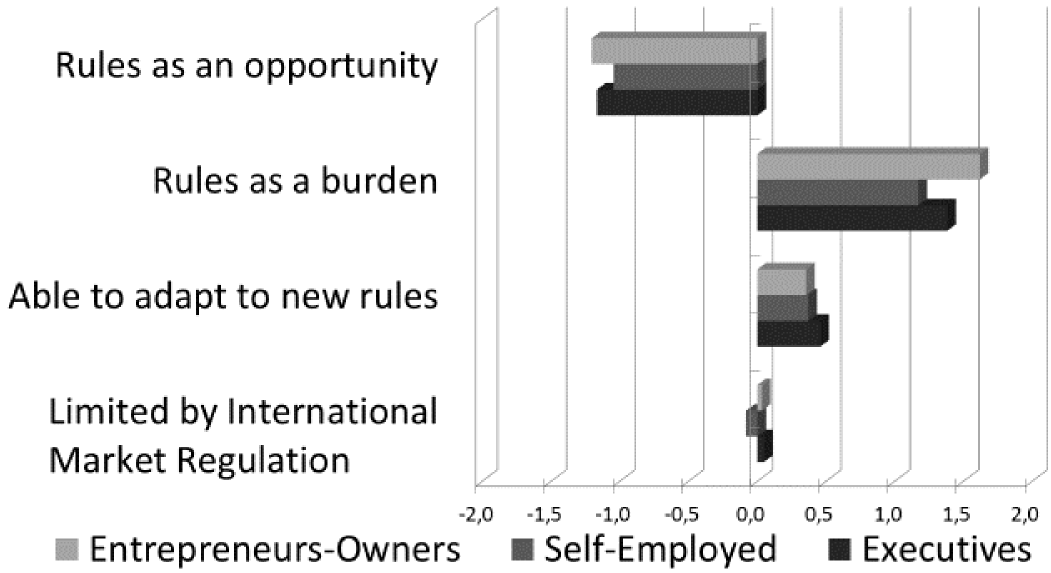
4.7.3 Red tape

To assess the influence of regulations on SMEs and self-employed, we measured five different dimensions:

- Rules as an opportunity (Anyadike-Danes et al., 2008): Belgian rules and regulations might provide entrepreneurs with business opportunities, by providing them with a competitive advantage over other companies, or by increasing the level of customer confidence in their products and services. This is measured on a seven-point Likert-type scale, from -3 (totally disagree) to 3 (totally agree).
- Rules as a burden (van Witteloostuijn & de Jong, 2011): dealing with rules and regulations might be excessively difficult for Belgian SMEs and the self-employed, therefore acting as a constraint to growth. This is measured on a seven-point-type Likert-type scale, from -3 (totally disagree) to 3 (totally agree), too.
- Capacity of a company to adapt to changing or new rules (van Witteloostuijn & de Jong, 2011): a source of burden may be related to the lack of information about the range of rules and regulations in Belgium affecting the company. Again, this is measured on a seven-point Likert-type scale that runs from -3 (totally disagree) to 3 (totally agree).

- International market regulation as a constraint (Batra et al., 2003): regulations within the EU market and abroad (e.g., labor regulation) can also be viewed as a constraint by entrepreneurs. As above, this is measured on a seven-point Likert-type scale, varying from -3 (totally disagree) to 3 (totally agree).
- Rules adequacy (Busenitz et al., 2000; De Clercq et al., 2010): we assess whether government policies consistently support the self-employed and SMEs. This is measured on a five-point Likert-type scale, from -2 (totally disagree) to 2 (totally agree).

Figure 4.23 Red tape for Belgian entrepreneurs



As suggested by Figure 4.23, rules are considered as a burden rather than a source of opportunity. This is especially true for entrepreneur-owners, who are significantly different from the self-employed in this dimension. Moreover, this burden is associated with less profit growth for SMEs and to less expected revenue growth for the self-employed.

Interestingly, the self-employed and entrepreneur-owners significantly differ in terms of rules adequacy. Indeed, the self-employed are less concerned by red tape than entrepreneurs, but at the same time they also consider that existing regulations are less adequate for their self-employed businesses. By contrast, entrepreneurs acknowledge the adequacy of regulations, but suffer from their amplitude.

Beyond the type of respondent, we find significant differences for gender and location. First, rules are viewed as less of a burden by women. Additionally, the service industry as a whole suffers less than other sectors from red tape (burden) and is less constrained by international market regulations. We note that, regionally, entrepreneurs located in Flanders indicate that they suffer more than entrepreneurs in Wallonia from international regulations.

4.8 Conclusion

In this chapter, we presented an overview of the variables measured by the SMESESAP surveys, and examined correlations, particularly but not exclusively with performance indicators. Two limitations apply. First, a correlation is an empirical relationship between two variables. It only suggests that the two variables of interest often occur together. However, it does not signify a causal relationship between those variables. Causal links are examined and discussed in the next chapters, to the extent possible, by focusing on the specific variables and their impact on performance. Please note that, when only one survey wave is used, we can never claim to offer causal insights given the cross-sectional nature of our data. Second, correlations show a general link between two variables while the link remains context specific. For instance, we find that the HEXACO personality traits are uncorrelated to performance, but do not take into account context-specific aspects.

In what follows, we examine more complex models and relationships between variables. More specifically, Chapter 5 on European Union standardization policy suggests that size and capabilities such as innovation and internationalization would allow for better adaptation to European standards. Again, this finding is dependent upon specific industries and regions. Chapter 6 on explicit and implicit motives highlights how different types of motivation interact when entrepreneurs and the self-employed set goals for their respective ventures. Chapter 7 on effectuation and causation strategy demonstrates that the interaction between causal and effectual logic, as well as the positive impact on entrepreneurial orientation, are induced by the level of dynamism within the business environment. Finally, Chapter 8 illustrates how personality traits, the business context and strategic choices interact to drive performance. Here, we show that depending on the context, a good “fit” between the business environment, personality traits of the entrepreneur and strategy deployed at the firm level is related to growth via job creation.

Part II

Producing evidence

Chapter 5

Environment

The perceived firm-level effect of European standardization[17]

5.1 Introduction

Technical standardization is a key pillar of the free common market program in the European Union (Pelkmans, 1987). A large number of stakeholders, such as manufacturers, consumers and policymakers, are involved in the formulation of technical standards. Such standards provide technical specifications approved by a recognized body or as agreed by economic stakeholders (European Commission, 2011, p. 17). They include rules, guidelines and/or characteristics for a company's activities or outputs, allowing for uniformization across the different parties applying these standards. The European Union (EU) implements EU–wide common standards to harmonize the technical properties of goods and services throughout its member states (see, e.g., European Committee, 2010; ETSI, 2013).

Since the establishment of CEN in 1961 (*Comité Européen de Normalisation*/European Committee for Standardization), European standards have been unified to form a single European market. Standardization is key in promoting domestic and international trade, labor mobility and economic growth across the EU (Blind et al., 2011; Blind, 2001; European Commission, 2012; Gandal & Shy, 2001; Miotti, 2009). Notably, Notaro (2011) suggests that standards can lift technical mobility barriers. Indeed, one of the goals of

[17] Some of the research material presented in this chapter refers to a working paper of the SMESESAP team:
Ramdani, D., van Witteloostuijn, A., Vanderstraeten, J., Hermans J., & Dejardin, M. (2014), The EU standardization: An exploration according to firm size and firm capabilities, *Working paper*, Antwerp: University of Antwerp.

standardization is to facilitate mobility of goods as well as labor across European countries. Accordingly, standards are expected to promote labor mobility within the countries that participate in the standardization programs by lowering the cost of uncertainty associated with assessing the quality of the labor.

Good coordination and unifying standards within the EU are expected to result in the enhancement of network externalities and economies of scale because a "level playing field" is guaranteed, which means that all firms are subject to the same laws and regulations (den Butter and Hudson, 2009). However, complying with the same laws and regulations does not imply that all firms have the same opportunities to succeed. For example, smaller ventures might experience difficulties in surviving within markets where larger competitors are able to spend more resources on lobbying for standardization rules that fit with their own capabilities. In such cases, standardization might be pursued as a strategy to prey on smaller firms, forcing the latter to compete at a higher cost (Salop & Scheffman, 1983). Indeed, in the European Union, where the dominant policymaking style is regulation (Jachtenfuchs, 2001; Majone, 2000) and where the role of private actors in international business regulation is institutionalized (Wigger & Nölke, 2007: 487), larger enterprises have larger incentives (i.e., a larger vested interest) and more means to develop such corporate lobbying strategies (Hood & Young, 1987). Besides smaller ventures, other types of firms might also experience difficulties in adequately addressing public policies such as EU standards (Shaffer & Hillman, 2000). For instance, firms lacking the necessary absorptive capacity (Zahra & George, 2002; Cohen & Levinthal, 1990) to adopt new or alternative technologies might have a harder time adapting to EU standardization. In contrast, enterprises with an international workforce, export experience or innovation capabilities may well be better equipped to adapt to standardization because of built–up experience and flexible organizational cultures (Radosevic, 2004).

Although micro–level effects of standardization are of interest in order to understand which types of firms are positively impacted by EU standardization and which are not, micro–level studies are scarce. By far the majority of studies focus on the macro–level impact at the European level, and to a lesser extent at the national level (Knill & Lehmkuhl, 2012). The current study complements this literature by examining business leaders' opinions as to the perceived firm–level impact of EU standardization. We explore a number of firm–level factors that might determine the relative benefit or cost of complying with EU *vis–à–vis* national standards. Specifically, we focus on firm size and firm capabilities, particularly innovation performance, export experience and international workforce. To this end, we employ data from the *Observatory of European Small and Medium Sized Enterprises* (SMEs) 2006/7 survey, in which responses from more than 17,000 firms in 30 European countries are reported. With these data, we can identify the self–perceived differential effect of standardization across industries and regions (i.e., Anglo–Saxon, Continental European, Eastern European, Mediterranean and Scandinavian/Nordic countries). To the best of our knowledge, this has not yet been investigated.

With our study, we offer three contributions. First, as far as we know, ours is the first study that examines the perceived impact of EU standardization at the firm level, focusing on the moderating effect of firm size and firm capabilities, to explore the extent to which these factors facilitate enterprises to benefit from EU standardization. Second, our data cover a wide variety of sectors in a large set of European countries, which offers the opportunity to explore whether effects differ across geographic and industry sub–groups. Third, because we employ business leaders' opinions to examine the perceived firm–level performance impact of standardization, we are able to break away from the commonly used objective but aggregate quantitative measures.

The focus on business leaders' opinions is appropriate because business leaders have experience in, and knowledge of, the implementation of standardization: Their cognitive judgments provide valuable information concerning the likely firm–level impact of standardization. Standardization is a multifaceted phenomenon, and its effects are often related to a wide variety of organizational aspects, such as strategy implementation and technological progress. Precisely evaluating the firm–level impact of such standards is therefore difficult. This is why den Butter and Hudson (2009) suggest distinguishing between external and internal compliance costs. The external compliance burden derives from transaction costs that originate from government regulation. The internal compliance burden comes from costs that a company would have faced during the process of internationalization. Such a distinction "has, to some extent, an arbitrary character and requires a good insight into the management of the firm" (den Butter and Hudson, 2009, p.146). This is why, we believe, our focus on the perceived firm–level impact of EU standardization adds to the current state of the art.

In the context of the larger research endeavour central to this book, this chapter reports the results from a study with a secondary database. With these data, we can do a broad cross-country comparative study, with a set of countries much larger than SMESAP's Belgium, the Netherlands (Brainport region), and the UK (Kent). The focus is on the effect of EU standardization on entrepreneurial behaviour, across class sizes, industries and countries. In the context of this book, a central question is: is the effect of European standardization different for smaller enterprises – and if so, what is then the direction of this differential effect. Or, in other words, do SMEs, in absolute and relative (i.e., vis-à-vis larger enterprises) terms, benefit from EU standardization, or are they put at a further competitive disadvantage?

5.2 Theoretical framework and hypothesis development

5.2.1 Firm size

There are three types of standardization (David, 1987): reference (e.g., measures for weight, height or size, and other dimensions of material measurements), minimal admissible attributes (e.g., product quality and safety levels), and product compatibility standardization. Reference standardization is already well established within the EU, forming the basis for minimal admissible attributes and product compatibility standardization. Studying reference standardization is therefore of limited interest because consensus has been reached that such standards are unlikely to have much impact on firm functioning. In contrast, admissible attributes and product compatibility standardization are both expected to highly influence the way enterprises operate. Therefore, in what follows, we focus on these two standardization types.

Minimal admissible attributes standardization aims to protect consumers from dysfunctional or unsafe products. Jones and Hudson (1996) argue that this type of standardization reduces consumer searching costs by lowering the uncertainty associated with assessing product quality. Through such standardization, the variation of product quality decreases and minimum quality standards are reached. However, the impact on total welfare is ambiguous. At the macro level, negative consequences for welfare include the decrease of variety available in the marketplace when firms that do not comply with the set standard are forced out of the market (Farrell & Saloner, 1986). At the firm level, firms originally producing lower quality products are obliged to make investments, often (very) large, in order to meet the minimal admissible attributes standards. This oftentimes turns out to be very costly, especially for small enterprises. The effect of admissible attributes standards on average production costs is thus higher for smaller firms because of economies of scale disadvantages. Contrary to small ventures, large enterprises are able to ascribe the additional standardization adoption costs to large production volumes. Thus, we expect that large firms benefit more from admissible attributes standardization than their small competitors – a clear con for SMEs.

Product compatibility standardization aims to stimulate competition and integration within a common market. Product compatibility is useful because consumers can enjoy network externalities (or demand–side scale advantages) as the number of consumers increases (Shy, 2011; Katz & Shapiro, 1985; Farrell & Saloner, 1985). Likewise, product compatibilities can be beneficial for the firm. Matutes and Regibeau (1988) suggest that the amplitude of a firm's incentives to pursue product compatibilities mainly depends upon the difference between the adoption cost to produce the compatible products, on the one hand, and the capacity of the firm to secure market opportunities and thus profit from selling compatible products, on the other hand. Producing compatible products (or complying with a newly–set standard) implies costs for the firm – i.e., investments in machinery, technology and /or production processes, and / or costs of organizational restructuring (involving, e.g., hiring new human capital). If the cost of standardization is smaller than the expected profit increase, compatibility is beneficial for the firm; if the cost of producing compatible products is higher than the expected profit increase, compatibility is undesirable, and is unlikely to be achieved (Antonelli, 1994).

Similar to the case of minimal admissible attributes standardization, we expect that compliance cost for compatibility standardization (that is, investments for producing compatible products) can affect firms differently, dependent upon the firm's size. For example, large enterprises might benefit from economies of scale, and therefore are less affected by internal compliance costs in comparison to small enterprises. Since production volumes of large firms are higher than those of their smaller counterparts, the average additional (overhead) cost per unit will be lower for larger ventures. Indeed, Dobrev and Carroll (2003) list several mechanisms that enable large firms to generate efficiency gains: for example, equipment and labor specialization, subsequent experiential learning, low per unit overhead costs, and savings from operational and capacity expansions. Again, this type of standardization can thus be argued to be disadvantageous for SMEs.

Additionally, we expect that large enterprises might be better equipped to engage in lobbying activities than their small counterparts. Because of relatively high bargaining power, large enterprises may be able to influence the standardization process for compliance up–front (Gehring & Kerler, 2008; Farrell & Saloner, 1985). In this way, they can lobby for compatibility with their existing production processes, which will lower their own compliance costs. Thus, large firms may be better positioned than their small counterparts to ensure that the standards are beneficial for them (i.e., protecting their vested interests). Moreover, they can use the new standard as a strategy to predate fringe firms by forcing rivals to compete at a higher cost (Salop & Scheffman, 1983). In such cases, standardization is very likely to become detrimental for small firms, forcing them to sell products at a higher price.

Finally, large companies might be better equipped to adapt to EU standards than their small counterparts. Large firms usually have deeper financial pockets and more technological resources. They enjoy scale advantages and have a wider activity portfolio (Nooteboom et al., 2007). This allows them to more easily find a fit with newly–set standards where such standards can offer new market opportunities. In addition, large enterprises face fewer capacity constraints than small ventures in gaining benefits from the market size expansion that often results from EU standardization efforts. Given that average additional costs and capacity constraints are lower for a large firm, we argue that larger companies gain more from EU standardization.

> ***Hypothesis 1 (H1):*** *The perceived benefit from EU standardization is positively associated with firm size.*

5.2.2 Firm capabilities

As explained above, standardization creates product compatibility and market integration, which together result in new opportunities for firms that want to expand their market coverage. Moreover, such integrated markets are often more competitive after standardization programs are implemented. Interestingly, only companies with sufficient capabilities to realize these opportunities are able to thrive in highly competitive markets with ample market opportunities. In what follows, we list a number of firm characteristics that might influence such capabilities. This implies that we identify features that may explain why some SMEs benefit more from EU standardization than others. In a nutshell, as will become clear below, the bottom line is that it may be expected that ambitious SMEs are more likely to benefit from European standardization than their non-ambitious counterparts.

First, we expect that **innovative** firms are able to reap greater benefits from standardization than their non-innovative counterparts. Coad and Rao (2008) show that innovation is of great importance for firm growth, indicating that innovative ventures are better able to capture new market opportunities than their non–innovative counterparts. In Schumpeter's terminology, innovation can be a trigger of a process of creative destruction. Innovation is a major source of firm growth by allowing companies to optimally exploit their resources through new technology. This might explain why firms active in the same market tend to differ considerably (Nelson, 1991). Such differences in innovative capabilities are especially relevant in the European Union. The European Commission has identified innovative capabilities as essential to withstand competitive single market pressures (Radosevic, 2004). Moreover, innovative capabilities can result in higher market opportunity exploitation and lower compliance cost because of enhanced absorptive capacity (Cohen & Levinthal, 1990; Zahra & George, 2002), which is "a set of organizational routines and processes by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capability" (Zahra & George, 2002, p. 186).

Another firm characteristic that might impact the ability to benefit from standardization relates to **exporting** activities. Standardization lowers international entry barriers between countries, and promotes international trade volumes between countries involved in the standardization program (Blind, 2001). There are at least two important reasons as to why exporting enterprises may gain more from EU standardization than non–exporting firms (Burpitt & Rondinelli, 1998; Bernard & Wagner, 1997; Bonaccorsi, 1992). The first reason is that exporting companies have higher learning capabilities. They are experienced in dealing with foreign markets, which makes them better equipped to capture new business opportunities abroad. The second reason is that exporting firms may well enjoy greater economies of scale advantages because they often serve large markets. As a result, they tend to be more competitive than domestically oriented ventures. Hence, standardization increases the exportability of products, which, in turn, facilitates economies of scale (den Butter & Hudson, 2009).

A third and final firm characteristic that may positively affect the benefit from standardization is the employment of **foreign labor**, either as a result of strategic choice or because of foreign ownership of the firm. Having access to human capital from different countries can play a key role in exploiting opportunities from the single market (Archibugi & Coco, 2005). By employing a workforce already accustomed to the newly–set standards, the company may reduce compliance cost. This is particularly relevant when EU standards differ from national regulations, implying that in–depth insights into these differences are necessary. Thus, we expect that employing foreign labor enhances the ability of an employer to cope with EU standardization, especially if these new standards differ greatly from their prior national counterparts.

> ***Hypothesis 2 (H2):*** *The perceived benefit from EU standardization is larger for (a) innovative, (b) exporting, and (c) foreign labor–employing enterprises.*

5.3 Data and measures

We utilize a dataset from the *Observatory of European Small and Medium Sized Enterprises 2006/7* (OE–SME), which is a survey that was carried out between November and December 2006 across the then 27 Member States of the European Union, plus Norway, Iceland, and Turkey. The main purpose of the survey was to collect information about general firm characteristics, business constraint perceptions, issues of competition, human resource bottlenecks, internationalization, and innovation. The respondents of the survey were business leaders responsible for strategic decision–making, most being general managers, owners or financial directors. A total of 17,283 enterprises were interviewed, of which 16,339 are SMEs. The sample is drawn from all firms active in the countries surveyed, in all industries, through a stratified random sampling technique—the sample is selected randomly based on each country's distribution across industry and firm size (number of employees) categories.

The dependent variable of our study is the declarative assessment of the business leader concerning the benefits of standardization in Europe. Our dependent variable (coined perceived standardization benefit) is the following survey item: "Nowadays, technical standards and certain regulations are often decided at the EU level to avoid trade barriers. Do you see any benefit for your enterprise that EU standards replace national regulations, or not?" The possible answers to this question are "No", "It depends" and "Yes", which we coded as –1, 0 and +1, respectively.

The independent variables are (i) firm size, (ii) innovation turnover, (iii) export share and (iv) employing foreign labor. Firm size is defined as the established classification of the firm category as used by the European Commission: i.e., micro–sized firm for enterprises that have 9 or fewer employees, small–sized firm for 10–49 employees, medium–sized firm for 50–249 employees, and large–sized firm for more than 250 employees. For innovation turnover, we use the following survey item: "Could you please estimate the percentage of turnover (annual sales) coming from new or significantly improved products or services in the last two years". The answer to this question ranges between 0 and 100 per cent. Export share is defined as the share of export compared to the firm's total sales in 2005. For foreign labor, we calculate the firm's share of employees coming from other countries compared to the venture's total number of employees.

Furthermore, we include firm growth as a control variable in order to avoid omitted variable bias issues. In this way, we seek to control for potential biases in the self–evaluation of the business leaders, isolating the latter from the effect of their firms' growth in the previous years. Firm growth is defined as the increase in the ventures' number of employees from 2005 to 2006 divided by their number of employees in 2005.

In addition, we add industry and country dummy variables to control for unobserved heterogeneity at the level of both industries and countries.

5.4 Empirical findings and discussion

Table 5.1 provides descriptive statistics and bivariate correlation coefficients. Our final sample consists of 14,964 firms: 9,525 (63.70 %) micro, 2,807 (18.80 %) small, 2,130 (14.20%) medium, and 502 (3.40 %) large–sized enterprises. The average sample size per country is 499 firms, with the smallest sample (254 ventures) in Luxemburg and the largest (888 companies) in Romania. Regarding the response of business leaders to the question of whether or not EU standardization benefits their enterprise, compared to prior national regulations, the total number of respondents is 13,612, with those answering "Yes" representing 34.3, "It depends" 10.4, and "No" 46.3 per cent. Our empirical results per industry are provided in Table 5.2 and in Table 5.3 per country region – i.e., Continental European, Eastern European, Scandinavian, Mediterranean and Anglo–Saxon countries. Note that due to the nature of our dependent variable as an ordinal scale, we ran ordered logistic regressions to estimate our empirical model specifications.

The regression results, after controlling for country and industry–level heterogeneity, in the baseline model reveal that the perceived benefits of standardization are smaller for smaller ventures, as expected per Hypothesis 1. The regression coefficient for medium–sized firm is –0.365 ($z < 0.05$), for small–sized firm –0.640 ($z < 0.01$) and for micro–sized firm –0.648 ($z < 0.01$), with large–sized firm serving as the benchmark category. This result gives clear initial evidence supporting Hypothesis 1. Note that the smaller perceived benefits for small firms are not an indication that small ventures always accrue negative or positive (absolute) benefits, as our coefficients reflect the relative effect vis–à–vis the benchmark category of large enterprises. It may, for example, be the case that small firms perceive negative benefits and large companies positive gains.

Looking at the effect of EU standardization for different industries reveals differences across industries (see Table 5.2). Interestingly, we find that firm size does not matter in the hotel & restaurant, transportation, storage & communication, or financial intermediaries industries: None of the firm size dummy variables in these industries are statistically significant. Furthermore, the firm size dummy variables slightly matter for manufacturing (micro–sized firm: –0.470, with $z < 0.10$), real estate, renting & business activities (small–sized firm: –0.801, with $z < 0.10$), and health & social works (micro–sized firm: –1.370, with $z < 0.10$) industries. Similarly, the firm size dummy variables are significant for the wholesale & retail industry (small–sized firm: –0.699, with $z < 0.10$; and micro–sized firm: –0.837, with $z < 0.05$). Moreover, all firm size dummy variables are statistically significant for construction, wholesale & retail (–1.256, with $z < 0.05$, for micro–sized firm; –1.581, with $z < 0.05$, for small–sized firm; and –0.821, with $z < 0.10$, for medium–sized firm), and other communication, social and public services (–1.624, with $z < 0.01$, for micro–sized firm; –1.827, with $z < 0.01$, for small–sized firm; and –2.325, with $z < 0.01$, for medium–sized firm) industries.

Recall that our argument as to why large enterprises are more likely to benefit from EU standardization than their smaller counterparts is threefold: economies of scales in dealing with the compliance cost, better market opportunities from the single market that are related to their large portfolio of activities, and superior lobbying resources to shape the standard upfront. This logic largely applies to industries such as construction, wholesale & retailing, and other communication, social and public services. However, these mechanisms are not so likely to be at work in the hotel & restaurant, transportation, storage & communication, and financial intermediaries industries. To explain this, we suggest yet another mechanism, related to industry maturity.

Specifically, regarding the finding that the effect of the firm size dummy variables is significant in some industries but not in others, we suggest that this might be explained by the technology lifecycle argument. Industries differ in terms of their maturity and, related to that, their harmonization level, which may be independent of EU standardization efforts. Indeed, in many industries, standardization emerges over time as technology moves toward maturity. This “natural” process often materializes without public intervention. Technological maturity implies that the technology has reached pervasive diffusion, its characteristics being well–known by stakeholders (Nieto et al., 1998). Note that technological maturity does not mean that further progress is absent, but rather that new technology is developed on the basis of common platforms that have been approved by all key stakeholders. At this stage, the technology is widely dispersed (Beise, 2004); all stakeholders have accumulated experience and knowledge as to what can and cannot be achieved with this technology.

Accordingly, in such mature industries, stakeholders can potentially benefit from network effects (Grübler et al., 1999; Egyedi & Sherif, 2008). Stakeholders therefore have an incentive to negotiate about how to resolve difficulties related to technical bottlenecks by harmonizing products via standardization, from which they all gain equally through common network effects. A clear example of an industry experiencing global harmonization of a mature technology is that of financial intermediaries. This industry is fully compatible as a result of a series of standardizations introduced to facilitate banking transactions of customers between banks within and across countries (see, e.g., Bátiz–Lazo & Wood, 2002). In this case, the internal need for harmonization precedes the external EU standardization efforts. Accordingly, compliance costs to EU standards are lower for both large and small ventures, as all firms already operate under global standards. This can explain the absence of a significant firm size effect in those mature industries.

Moreover, our results in Table 5.3 indicate that the effect of firm size varies across all European countries. We find that firm size dummy variables do not matter at all in affecting the perceived benefit of standardization in Continental European and Scandinavian countries, and have little influence for micro–sized firm (–1.19, with $z < 0.05$) in Anglo–Saxon countries. In contrast, the impact of firm size is significantly negative in Eastern European and Mediterranean countries: the coefficient is –0.564 ($z < 0.05$) for medium–sized firm, –0.850 ($z < 001$) for small–sized firm and –0.633 ($z < 0.01$) for micro–sized firm in Eastern European countries, and –0.636 ($z < 0.05$) for medium–sized firm, –1.102 ($z < 0.01$) for small–sized firm and –0.795 ($z < 0.05$) for micro–sized firm in Mediterranean countries. This set of findings suggests that small enterprises are less likely to gain benefits from standardization than their larger counterparts in Eastern European and Mediterranean countries. Apparently, EU standardization is more likely to be experienced as a struggle by small firms in countries from these areas of Europe. Next to economies of scale disadvantages, small firm ventures in Eastern and Mediterranean countries may be less well developed than what is implied by European standards. If this is the case, then the adoption costs are very large for (especially smaller) firms in these countries, compared to their counterparts in Continental European, Scandinavian or Anglo–Saxon countries. Likewise, in Continental European and Scandinavian countries, where earlier national standards were close to the newly–set EU standards anyway, implying that compliance costs are low for both large and small companies, as these already operate within expected standards. This might explain the absence of a significant effect in these regions of Europe. In all, Hypothesis 1 is partly confirmed.

For Hypothesis 2, we find strong evidence supporting the argument that innovative, exporting and foreign labor-employing firms are more likely to benefit from EU standardization than their non–innovative, non–exporting and non–foreign labour–employing counterparts, respectively. Indeed, the general model including all observations reveals that innovation turnover (0.008, with $z < 0.01$), export share (0.008 with $z < 0.01$) and foreign labor (0.009 with $z < 0.01$) are all significantly and positively associated with perceived standardization benefit. The result for each industry is almost parallel to the general model, with the exception of a few industries (see Table 5.2). Furthermore, we find similar results as to the effect of the innovation turnover, export share and foreign labor variables for the countries in the different regions (see Table 5.3). Our evidence suggests that enterprises having such technological, experience and learning capabilities are more likely to perceive benefits from EU standardization, which provides support for Hypothesis 2.

Table 5.1 Descriptive statistics and bivariate correlations

#	Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8
1	Perceived Standardization Benefit	−0.13	0.93	−1.00	1.00								
2	Large–Sized Firm	0.03	0.18	0.00	1.00	0.06							
3	Medium–Sized Firm	0.14	0.35	0.00	1.00	0.05	−0.08						
4	Small–Sized Firm	0.19	0.39	0.00	1.00	−0.03	−0.10	−0.22					
5	Micro–Sized Firm	0.64	0.48	0.00	1.00	−0.04	−0.24	−0.54	−0.62				
6	Innovation Turnover	13.16	21.21	0.00	100.00	0.11	0.00	0.00	0.00	−0.01			
7	Export Share	5.19	17.89	0.00	100.00	0.11	0.12	0.17	0.02	−0.19	0.10		
8	Foreign Labour	2.98	11.94	0.00	100.00	0.03	0.00	0.01	0.05	−0.05	−0.02	0.05	
9	Firm Growth	0.10	1.31	−0.99	64.00	0.02	−0.01	−0.01	−0.02	0.03	0.04	0.00	0.02

S.D. = Standard deviation; Min = Minimum value; and Max = Maximum Value.

Table 5.2 Ordered logistic regression results per industry

	All		Manufacturing		Construction		Wholesale & retail		Hotel & restaurant		Trans, storage & comm	
	Coef.	*z*	*Coef.*	*z*	*Coef.*	*z*	*Coef.*	*z*	*Coef.*	*z*	*Coef.*	*z*
Variables of interest												
Firm size												
* Medium–sized	–0.365**	–2.55	–0.098	–0.38	–0.821*	–1.89	–0.430	–1.09	0.681	1.03	0.384	0.80
* Small–sized	–0.640***	–4.52	–0.111	–0.42	–1.581**	–3.70	–0.699*	–1.81	–0.073	–0.12	–0.327	–0.67
* Micro–sized	–0.648***	–4.78	–0.470*	–1.77	–1.256**	–3.06	–0.837**	–2.24	–0.107	–0.18	–0.168	–0.38
Innovation turnover	0.008***	6.68	0.005**	1.96	0.009**	2.27	0.011***	4.16	–0.004	–0.70	0.019***	3.45
Export share	0.008***	6.32	0.008***	3.61	0.011*	1.70	0.009***	3.14	0.026*	1.93	0.007*	1.65
Foreign labor	0.009***	3.27	0.013*	1.74	0.006	1.02	0.015**	2.16	0.014**	2.12	0.007	0.60
Control variables												
Firm growth	0.018	0.87	–0.033	–0.43	0.421***	2.56	–0.095	–1.22	0.090	0.55	0.004	0.12
Country dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Sector dummy	Yes		–		–		–		–		–	
Log likelihood	–6241		–1155		–874		–1357		–437		–408	
# of obs	6893		1279		988		1507		544		454	
LR Chi^2	814.16		174		184		172		103		76	
Prob > Chi^2	0.00		0.00		0.00		0.00		0.00		0.00	
Pseudo R^2	0.06		0.07		0.09		0.06		0.11		0.09	

* p < .1; ** p < .05; *** p < .01 (two–tailed test); Coef.= regression coefficient; and z = z–value.

Table 5.2 Ordered logistic regression results per industry (*continued*)

	Financial int.		Real est., rent & buss activ.		Health & soc works		Other comm, soc & pers. serv	
	Coef.	*z*	*Coef.*	*z*	*Coef.*	*z*	*Coef.*	*z*
Variables of interest								
Firm size								
* Medium–sized	0.117	0.18	–0.605	–1.44	–1.147	–1.49	–2.325***	–2.72
* Small–sized	–1.007	–1.48	–0.801*	–1.94	–1.327	–1.62	–1.827**	–2.15
* Micro–sized	–0.571	–0.99	–0.504	–1.30	–1.370*	–1.91	–1.624**	–2.08
Innovation turnover	0.007	1.12	0.008***	3.12	0.153**	2.32	0.009	1.31
Export share	0.005	0.60	0.015***	3.32	–0.007	–0.63	0.022*	1.96
Foreign labor	–0.010	–0.59	0.003	0.39	–0.001	–0.08	0.041**	2.03
Control variables								
Firm growth	0.050	0.22	0.112	0.97	0.195	0.67	0.045	0.58
Country dummy	Yes		Yes		Yes		Yes	
Sector dummy	–		–		–		–	
Log likelihood	–322		–944		–309		–245	
# of obs	387		1064		350		320	
LR Chi^2	89		171		78		93	
Prob > Chi^2	0.00		0.00		0.00		0.00	
Pseudo R^2	0.12		0.08		0.11		0.16	

* p < .1; ** p < .05; *** p < .01 (two–tailed test); Coef.= regression coefficient; and z = z–value.

Table 5.3 Ordered logistic regression results per country group

	Continental European		Eastern European		Scandinavian		Mediterranean		Anglo–Saxon	
	Coef.	*z*	*Coef.*	*z*	*Coef.*	*z*	*Coef.*	*z*	*Coef.*	*z*
Variables of interest										
Firm size										
* Medium–sized	0.017	0.05	–0.564**	–2.45	0.267	0.71	–0.636***	–2.11	–0.63	–0.97
* Small–sized	0.025	0.07	–0.850***	–3.69	–0.049	–0.13	–1.102***	3.73	0.81	–1.26
* Micro–sized	–0.320	–0.99	–0.633***	–2.86	–0.241	–0.67	–0.795***	–2.83	–1.19**	–1.97
Innovation turnover	0.008**	2.18	0.010***	5.53	0.152***	4.38	0.005**	2.26	0.01*	1.71
Export share	0.147***	4.35	0.007***	3.61	0.012***	3.44	0.005	1.58	0.02**	2.30
Foreign labor	0.011***	3.62	0.015	1.21	–0.011*	–1.65	0.010*	1.77	0.02***	2.64
Control variables										
Firm growth	0.125	0.93	0.021	0.62	0.001	0.01	0.085	1.12	0.14	0.26
Sector dummy	Yes		Yes		Yes		Yes		Yes	
Log likelihood	–1036		–2261		–814		–1597		–213	
# of obs	1248		2334		916		1620		343	
LR Chi^2	83.84		91.69		86.00		41.22		35.70	
Prob>Chi^2	0.00		0.00		0.00		0.00		0.00	
Pseudo R^2	0.04		0.02		0.05		0.01		0.08	

* p < .1; ** p < .05; *** p < .01 (two–tailed test); Coef. = regression coefficient; and z = z–value. We classify the countries except Turkey as follows: Anglo–Saxon (Ireland and UK), Continental European (Belgium, Germany, France, Luxemburg, Netherlands and Austria), Eastern European (Czech Republic., Estonia, Latvia, Lithuania, Hungary, Poland, Slovenia, Slovakia, Bulgaria and Romania), Mediterranean (Greece, Spain, Italy, Portugal, Cyprus and Malta), and Scandinavian/Nordic (Denmark, Finland, Sweden, Norway and Iceland).

5.5 Conclusion and policy implications

Gaining more insight into the impact of standardization is important as EU regulations experience what is sometimes referred to as a "deficit of credibility" (Majone, 2000; Gehring & Kerler, 2008). Indeed, trust in a newly–set standard should enhance economic and welfare development as European enterprises then benefit from both standardization and reduced market failures (den Butter & Hudson, 2009). In contrast, a lack of legitimacy jeopardizes the overall integration goal behind the standardization process. Particularly, the danger is that the "harmonization of policies can be harmful when local economies are diverging too much" (Jamet, 2011, p. 563). By controlling for industry and region, our firm–level study provides quantitative evidence about firm size classes and capabilities that facilitate EU standard compliance throughout the common market territory. The current study shows that EU standardization is not perceived as being persistently and equally beneficial by all enterprises in all industries across all European countries. This contradicts the widespread belief that standardization is always beneficial (e.g., European Commission, 2012) and, as such, widely accepted in the business world. Especially, we find that ventures of micro–small–medium size are less likely to perceive benefits from EU standardization than their larger counterparts, particularly in the construction, wholesale & retail, and other communication, social and personal services industries, and in Eastern European and Mediterranean countries. Additionally, we find that innovative, exporting and foreign labor–employing companies are more likely to perceive benefits from standardization than their non–innovative, non–exporting and non–foreign labor–employing counterparts.

Of course, our study is not without limitations, pointing to promising avenues for future research. Here, we would like to emphasize three such avenues. First, our study is about the relative and perceived impact of EU standardization. Due to the nature of our survey data, we could not conclude anything as to the absolute and actual benefits of EU standardization for specific types of firms and/or certain regions within Europe. Second, and likewise, our data cannot distinguish between the impact of different types of standardization, although the standardization effect may well differ across such types (e.g., Frakes, 2013; Dawes, 1999; Leukel, 2004). For instance, minimal admissible attributes standardization may especially impact lagging enterprises from Eastern

Europe, which may not be the case for product compatibility standardization, ceteris paribus. Finally, as standards continuously evolve and are rendered obsolete by competing technology (Kasemir et al., 2000), further research might focus on the dynamic aspect of the impact of standardization.

Overall, our findings provide additional insights regarding the impact of standardization, suggesting that standardization is not only a cost or an institutional constraint, but also opens a set of opportunities for leveraging a firm's capabilities (Oliver & Holzinger, 2008), such as those associated with innovation and internationalization, in the larger (integrated) European market. As a mirror image of this finding, we must conclude that all enterprises do not similarly consider the EU standardization as a bonus. Particularly, our finding that the perceived benefit of standardization is not equally distributed across firms, industries and countries is of interest for the stakeholders in the EU's standardization processes – namely, national governments, business associations and the European Commission. Key would be that in order to accelerate the standardization program and its integration objective, smaller ventures, particularly from Eastern European and Mediterranean countries, develop the capabilities required to reap the benefits from EU standardization. Rather than untargeted subsidies, it can be suggested the use of policy instruments that are tailored toward supporting the identified capabilities: innovation performance, export experience and international workforce. Overall, our finding suggests that SMEs are particularly vulnerable, specifically those that are not ambitious by being non-innovative and non-internationally oriented.

Chapter 6

Entrepreneur

Entrepreneurial motives and social responsibility[18]

6.1 Introduction

The world seems to be engaged in a quest for a renewed form of capitalism (Porter & Kramer, 2011; Szmigin & Rutherford, 2013). Equating business with making money ventures is argued to be unsustainable, from both an ethical and economic perspective (Enderle, 2009), as making money does not automatically imply creating wealth for society (Cohen et al., 2008). Furthermore, shareholders are not the only legitimate stakeholders that management have to consider (Pruzan, 2001), which further undermines profit as the ultimate criterion for measuring organizational success. Instead, Porter and Kramer (2011) recently argued that shared value creation could be a new legitimate paradigm for measuring organizational success. In contrast with traditional economic goals, shared value creation is aimed at the improvement of the quality of life within society (Porter & Kramer, 2011): an economic model that creates jobs, is innovative, and takes care of people and the environment.

Entrepreneurs have a huge responsibility in driving this renewal. Social entrepreneurs are explicitly part of the movement (Austin et al., 2006), but they are not the only ones involved. As suggested by Schumpeter (1934), entrepreneurs have a function as social engineers (Zahra et al., 2009). They are (co-)responsible for advancing social development, particularly by creating something new and improved, notably through innovation. Furthermore, they occupy a unique position in promoting shared values

---

[18] Some of the research material presented in this chapter is from a working paper of the SMESESAP team: Hermans, J., Slabbinck, H., Brassey, J., Dejardin, M., Vanderstraeten, J., Ramdani, D., & van Witteloostuijn, A. (2014), Changing the world: entrepreneur's motives and commitment in shared value creation. Working paper, Antwerp / Namur: University of Antwerp / University of Namur.

within their venture (Pruzan, 2001). However, balancing the goals of all stakeholders while sustaining the economic viability of the firm is not an easy task (Surie & Ashley, 2008). The difficulties in creating shared value therefore calls for a thorough examination of entrepreneurs' motives because acquiring, processing and creating shared value requires specific personal drivers or motivational needs that provide entrepreneurs with the necessary energy to achieve those superordinate goals (Enderle, 2009, p. 291). In the literature, tentative answers circulate, pointing to the potential role of the entrepreneurial spirit and in the "joy of finding" (Enderle, 2009), personal fulfillment, need for achievement and helping society (Germak & Robinson, 2013) or, simply put, the joy of changing the world, as proposed by Nobel Prize Laureate Muhammad Yunus.

In this Chapter 6, we provide empirical evidence regarding the personal drivers of entrepreneurs who engage in shared value creation. We build on the theory of human motivation, as introduced extensively in Chapter 3, to explain why changing the world can be a source of joy, and we highlight the elements that might promote or prevent entrepreneurs from enjoying this endeavor. Specifically, we draw on McClelland's theory of human motivation, and consider three key motives: the needs for achievement, power and affiliation. Furthermore, McClelland argues that two motivational systems co-exist: implicit motives residing in the unconscious mind of the individual, and explicit motives that individuals are aware of and can express consciously. As argued in Chapter 3, a large body of empirical evidence in psychology shows that indeed implicit and explicit motives are distinct constructs, with specific and combined effects on a wide range of attitudes, behaviors and outcomes.

The main goal of the current study is to advance our understanding of shared value creation by putting forward the entrepreneurs' individual motives as important antecedents of shared value creation (Porter & Kramer, 2011). In addition, we add to the extant literature regarding human motivation by showing that implicit and explicit motives are distinct constructs that have specific and combined effects on business goal-setting (McClelland et al., 1989). Before introducing our design and presenting our evidence, we first turn to the underlying theoretical logic. In advance, we would like to emphasize that this chapter largely draws on insights introduced in Chapter 3, using similar theory, much of the same data, and the same sample of entrepreneurs, albeit now applied to the issue of entrepreneurial social goals. However, to enhance this Chapter 6's stand-alone readability, we decided not to worry about repetitiveness.

6.2 Theoretical framework

6.2.1 Definition of human motives

Motives are human dispositions that impel people toward goal-directed actions (Brody & Ehrlichman, 1997). They are capacities to experience specific types of incentives as rewarding and others as aversive (Greenwald et al., 2003; Schultheiss et al., 2010). Research on human motives can be traced back to the early 1950s, and focuses on three main motives (McClelland, 1961; Schultheiss et al., 2010): the needs for achievement, affiliation and power.

Individuals who score high on achievement have a recurrent preference for the attainment of excellence, or competition with a standard of excellence (McClelland et al., 1953). They enjoy mastering complicated tasks by themselves (McClelland & Burnham, 2003), seek excellence and obtain a positive feeling from doing things better than before (Code & Langan-Fox, 2001). For that reason, a well-established argument is that becoming an entrepreneur or achieving business success is driven by a strong need for achievement (Collins et al., 2004; McClelland, 1961). People high in achievement set goals that they deem ambitious, but feasible: not too easy, but not too difficult either (Brody & Ehrlichman, 1997). For instance, Atkinson and Litwin (1960), as well as Weiner (1992), found that people high in need for achievement have a greater preference for tasks of intermediate difficulty or moderate levels of risk compared to people low in need for achievement (Brody & Ehrlichman, 1997, pp. 196-197).

An important caveat to 'doing things better' is that this only pertains to the need for achievement when the related action is initiated for the mere pleasure of executing and mastering the task (Stam et al., 2012). Yet, when someone tries to do things better, in order to get noticed, or for the sake of establishing, maintaining or restoring a romantic relationship, the act would not reflect an achievement motive, but rather a power (to get noticed) or affiliation (for the sake of a relationship) motive.

The need for affiliation reflects the motive for establishing, maintaining, and restoring warm affective ties with others (Brody & Ehrlichman, 1997; Winter, 1991). People high in affiliation are generally very socially engaged. For example, they make more phone calls, write more letters and pay more visits than people low in affiliation (Schüler & Brandstätter, 2013). Furthermore, research on interpersonal behavior and group dynamics showed that individuals high in affiliation avoid interpersonal conflicts (McClelland & Watson, 1973), and prefer feedback on how the group is getting along rather than on how the group is performing (McClelland & Watson, 1973).

Finally, the need for power relates to a recurrent preference for having influence and/or control over other people (Code & Langan-Fox, 2001). Individuals high in power enjoy having an (emotional, physical or social) impact on others and the world in general (Winter, 1991). In order to feed their need for power, people with a high need for power seek to stand out publicly. They do so, for example, by engaging in risky behavior (McClelland & Watson, 1973) or by accumulating prestigious possessions (Winter, 1973).

Motivational dispositions or needs are usually described with reference to variation in dispositional strength and arousability (Code & Langan-Fox, 2001; Schultheiss et al., 2010). For example, in an environment with affiliation-relevant stimuli, individuals high in affiliation will have their need aroused more often and more strongly than individuals low in affiliation. Motives may therefore be associated with three main functions (McClelland, 1987). First, motives *orient* behaviors. For entrepreneurs, this means that motives influence the way in which entrepreneurs perceive the world, including business opportunities and the resources at their disposal to reap these opportunities. In particular, business opportunities that echo the dominant motives of the entrepreneur are more likely to be discovered. Second, motives *select* behaviors. They influence the way in which entrepreneurs assess business opportunities, set goals and select daily activities. Entrepreneurs are more likely to select projects with which they can satisfy their motives. Finally, motives *energize* behaviors. They influence the time and energy dedicated to the entrepreneurial project. Entrepreneurs channel energy toward activities that bring pleasure, and they divert energy away from activities that generate dissatisfaction.

Following the above logic, our key argument is that shared value creation is more likely to be set as a business goal, and acted upon within the entrepreneurial enterprise, when this business model provides motivational satisfaction for the entrepreneur running the venture. Consequently, value creation must deliver prestige to power-oriented entrepreneurs, challenge to achievement-oriented entrepreneurs, and warm connections to affiliation-oriented entrepreneurs.

6.2.2 Implicit and explicit motives

Over the past 70 years, research clearly shows that we have to distinguish two motivational systems that differ in many aspects: implicit versus explicit motives or needs (McClelland et al., 1989; Schultheiss et al., 2009). First, implicit needs are unconscious drivers that influence an individual's behavior outside her or his consciousness, whereas explicit needs refer to the motives that individuals consciously ascribe to themselves. Explicit or self-attributed motives relate to the way people see themselves, being used to construct their self-concepts: Who they think they are and what they think they want in life. Second, implicit motives are acquired during early childhood on the basis of non-verbal affective experiences that do not require symbolic conceptualizations (McClelland et al., 1989; Slabbinck et al., 2011). In contrast, the development of explicit motives requires the linguistic conceptualization of what is valuable or important at the cultural level (McClelland et al., 1989). Therefore, explicit motives are formed later in life, and independently through verbally mediated learning (Thrash et al., 2007).

Third, explicit and implicit motivational systems respond to different cues or "incentives": implicit needs are closely related to intrinsic incentives, while explicit needs are aroused by extrinsic cues. On the one hand, non-verbal cues are crucial (Schultheiss and Pang, 2007) for the arousal of implicit needs because of their pre-verbal and affective nature. Implicit needs are aroused by factors intrinsic to a task (Kehr, 2004b), referred to as "task incentives" (McClelland et al., 1989). People will be attracted to a given task when the (execution of the) task intrinsically brings pleasure. For example, people with a high implicit need for power will be drawn to tasks that allow them to influence others or the world in general, whilst people with a high implicit need for achievement will be attracted to tasks that are intrinsically challenging – i.e., tasks that they *personally* deem ambitious, but still feasible.

On the other hand, explicit motivational systems are more likely to be aroused by factors extrinsic to the activity (Kehr, 2004a), such as explicit social instructions and incentives (McClelland et al., 1989). For instance, the most effective incentive for an entrepreneur who is implicitly driven by power, are the intrinsic characteristics of the project: Projects that allow an implicitly power-driven entrepreneur to influence people or the world in general will provide greatest satisfaction. By contrast, an entrepreneur who is explicitly power-oriented will be attracted to projects that are socially recognized as a source of prestige even if those projects are not associated with the possibility to influence others or the world. Actually, such an entrepreneur might avoid projects that harm her or his reputation even if this means missing out on actually "changing the world".

A key insight from motivational psychology is that implicit and explicit motives differ in their impact on behavior (Brunstein & Schmitt, 2004; Kehr, 2004a; McClelland et al., 1989; Schultheiss et al., 2010; Schultheiss et al., 2009). Because implicit motives rely upon affective experiences and operate unconsciously, they are more likely to predict spontaneous behavior. Moreover, since implicit motives are relatively stable and enduring, and provide the necessary energy for the execution of satisfying tasks, they are also more likely to predict long-term behavioral trends. Given the conscious and verbal nature of explicit motives, these are more likely to predict behavior that is the subject to conscious thought and deliberation (Schultheiss, 2008). For example, only individual differences in implicit motives can predict long-term career success (McClelland et al., 1989), whereas differences in explicit motives reveal decision and appraisal outcomes when people think through the topics carefully, such as task choice and task enjoyment (e.g., Biernat, 1989).

Table 6.1 provides an overview of the differences between explicit and implicit motives. In line with these large differences, over the past seventy years the literature suggests a pervasive lack of substantial correlations between measures of implicit and explicit motives, even if commensurable measures of implicit and explicit motives are used (Schultheiss et al., 2009; Thrash et al., 2007). As a result, the scores related to an individual's implicit system might be opposite to those regarding his or her explicit motives, often to the surprise of the respondent (Nosek, 2005). Nonetheless, explicit and implicit systems have important interactions, too (Brunstein & Maier, 2005). First, explicit motives act as gatekeepers of the energy provided by the implicit system. As expressed by McClelland et al. (1989, p. 693), an implicit need "gives a poor indication of the area of life in which a person will strive to do better or be entrepreneurial. Self-attributed motives, plans, and goals are needed to show the direction in which the [...] motive will turn." When explicit and implicit motives are congruent, implicit motives provide the energy that is channeled by the aligned explicit motives and subsequent goals (McClelland et al., 1989). In that case, people might experience flow (Kehr, 2004b). By contrast, incongruent systems may trigger performance deficits, as well as physical and emotional distress (Kehr, 2004b; Schultheiss et al., 2011). Motives incongruence can therefore be considered as a hidden stress factor (Baumann et al., 2005).

6.2.3 Motives and (business) goal setting

Goals are mental representations of what the future could be, enabling individuals, and hence entrepreneurs, not to give up (Carsrud & Brännback, 2011; Perwin, 2003). Goal-setting mechanisms have gained attention in entrepreneurship research (Carsrud & Brännback, 2011; Cohen et al., 2008), as well as in social psychology (Brunstein et al., 1998; Hofer et al., 2010; Kehr, 2004b; Thrash & Elliot, 2002). Both literatures suggests that human motives and goal-setting are closely related: Motives channel attention and energy toward "goal-relevant" tasks and away from "goal-irrelevant" tasks (Cohen et al., 2008). For Locke and Latham (2002), conscious goals are dominant, as these affect goal setting and performance irrespective of the subconscious, especially for purposeful and proactive people (Binswanger, 1991). They build on Bandura (1977) to claim that individuals have the possibility to control their own lives through conscious thinking, and to pull out from the subconscious what is in line with their explicit motives. This is consistent with Brunstein et al. (1998), who suggest that explicit motives are more closely related to the development of goals, being supported by sequential–analytical operations such as thinking and planning (Baumann et al., 2005). However, Thrash and Elliot (2002) and Hofer et al. (2010) demonstrate that implicit needs have an impact on goal setting, too, through processes of self-regulation. If the execution of a given goal turns out to be congruent with implicit motives, the decision-maker will gain satisfaction, and s/he will learn that s/he needs to update her or his conscious goals.

Table 6.1 Differences between implicit and explicit motivational systems

	Implicit motives	Explicit motives
Locus of operation	Operate outside a person's consciousness (Slabbinck et al., 2011) Are associated with implicit representations in *extension memory*, an extended semantic network operating according to connectionist principles and supported by intuitive– holistic processes (Beeman et al., 1994 in Baumann et al., 2005)	Needs that people consciously ascribe to themselves (Greenwald et al., 1998) Are explicit verbal representation format of *intention memory* that is supported by sequential–analytical operations such as thinking and planning (Baumann et al., 2005)
Acquisition	Acquired during early childhood on the basis of non-verbal, affective experience (McClelland et al., 1989; Slabbinck et al., 2011)	Develop later and independently through verbally mediated learning (Thrash et al., 2007) as they require the linguistic conceptualization of what is valuable or important at the cultural level (McClelland et al., 1989).
Arousal	Non-verbal cues are crucial (Schultheiss & Pang, 2007) Aroused by factors intrinsic to a task (Kehr, 2004b)	Aroused by factors extrinsic to the activity (Kehr, 2004b), e.g., social incentives (McClelland et al., 1989)
Measurement	Requires latency-based instruments	Through self-reported questionnaires
Behavioral impact	More likely to predict general performance: success over time (managerial success in McClelland et al., 1989; political success in Winter, 1991) and non-declarative behavior Impact on goal setting through self-regulation (Koestner et al., 1992; Thrash & Elliot, 2002)	More likely to predict immediate and self-reported performance (Brunstein & Schmitt, 2004) such as task enjoyment and subjective well-being (Slabbinck et al., 2011) More closely related to the development of goals (Kehr 2004b; Brunstein et al., 1998; Baumann et al., 2005)

For Kehr (2004a, b), the dominance of explicit motives does not negate a possible influence of implicit motives. Specifically, he proposes that implicit motives affect goals when two conditions are met: (1) the arousal of the implicit motive; and (2) the absence of competing cognitive preferences. As suggested by Greenwald et al. (2005), social behavior is often driven by implicit impulses, but their effects can be reduced if the individual makes a conscious effort to control her or his behavior. This is especially true for strategic thinking and goal setting, when entrepreneurs consciously reflect on the future direction of their business. As a result, we may expect a conditional impact of implicit motives on goal setting. That is, when extrinsic and intrinsic cues trigger similar behavioral tendencies, explicit motives will amplify the impact of implicit motives on goal setting (Kehr, 2004b; Thrash & Elliot, 2002). However, when extrinsic and intrinsic cues trigger conflicting behaviors, the dominance of the explicit motives will suppress implicit impulses (Kehr, 2004b; Locke & Latham, 2002).

6.3 A model of human motives and shared value creation

Building on Pruzan (2001), Enderle (2009), Cohen et al. (2008), as well as Porter and Kramer (2011), we consider that traditional economic goals, such as profitability (Levie & Autio, 2011), are not the only purpose of firms. Rather, we focus on the creation of shared value and the commitment to social goals. This vision of entrepreneurs is aligned with Schumpeter's (1934) claim that, beyond profitability, entrepreneurs have a function as social engineers who are responsible for advancing social development, notably through innovation (Zahra et al., 2009). As such, we investigate which human motives translate into a business model that creates jobs, is innovative and takes care of the environment. In the previous section, we saw that both implicit and explicit motives can have an effect on goal setting. Now, we consider their specific and combined effects when entrepreneurs are setting goals inside their venture, especially goals related to the creation of shared value.

6.3.1 Achievement and shared value creation

The need for achievement has long been associated to entrepreneurial behavior. It has been presented as a central "trait" of entrepreneurs, influencing the probability of being an entrepreneur, as well as its subsequent performance (Collins et al., 2004). However, McClelland's theory of human motivation suffered greatly from the dismissal of the trait-based research in entrepreneurship (Aldrich & Wiedenmeyer, 1993; Gartner, 1988). Recently, calls for a renewal of motivational research were heard (Brandstätter, 2011; Carsrud & Brännback, 2011), urging people not to look at entrepreneurial traits (who is the entrepreneur), but rather at how entrepreneurial behavior and performance are shaped by entrepreneurial motives (what does the entrepreneur do). We agree with these authors, but we also think that changing the research questions might not be enough. Indeed, entrepreneurship research tends to neglect the fundamental differences between explicit and implicit needs (Johnson, 1990; Stam et al., 2012) both for the measurement of motives and grounding of hypotheses. Yet, when examining the impact of motives on entrepreneurial behaviors, researchers should fully acknowledge such differences.

Because explicit motivations are aroused by extrinsic cues (Kehr, 2004a), such as social incentives (McClelland et al., 1989), we first examine whether shared value creation is socially recognized as a challenge. Indeed, entrepreneurs who are consciously achievement-oriented will commit to shared value creation only if society presents this as a challenge. In the way it is defined and advertised, shared value creation is a challenge worthy of being raised (Hägglund & Samuelsson, 2009; Warburton, 1998) – and hence as a way to address society's challenges (Porter & Kramer, 2011). Very recently, Germak and Robinson (2013) provided qualitative evidence linking the explicit need for achievement and the commitment of entrepreneurs to shared value creation. In an interview-based survey, they identified the need for achievement as a strong motivation of nascent social entrepreneurs. In line with this finding, we expect explicit achievement motivation to positively impact on the commitment to shared value creation (H1a).

By contrast, implicit motives are aroused when performing the task and simply enjoying what has to be done (Kehr, 2004b; Schultheiss & Pang, 2007). As a result, we examine whether shared value creation is intrinsically a source of challenge that entrepreneurs will enjoy in their daily activities. If they feel pleasure when engaging in the creation of shared value, they recognize the need to update their conscious goals and commit more to social goals. However, the daily routine of shared value creation might not be as rewarding as expected. First, achievement-driven entrepreneurs want concrete and short-term feedback on their performance (McClelland & Burnham, 2003), which might not be the case in business settings related to shared value creation. Second, achievement-oriented entrepreneurs usually prefer meeting a challenge on their own (McClelland & Burnham, 2003). However, entrepreneurs that are involved in shared value creation have to reach out to other people and involve them in the project. Indeed, entrepreneurs cannot perform all the tasks by themselves that are necessary when engaging in shared value creation. Job creation, for instance, implies sharing the daily challenge of the venture with others: entrepreneurs have to delegate and accept that others will perform some of the activities that the entrepreneurs are accustomed to carrying out alone before the venture's growth. In Chapter 3, we provide evidence that implicit need for achievement is a key driver of entrepreneurial success at the beginning of the business, but hampers long-term business growth. We therefore expect a positive effect of explicit need for achievement, but no effect of implicit need for achievement on the commitment to shared value creation.

> ***Hypothesis 1a (H1a):*** *Higher explicit need for achievement is positively related to the commitment to shared value creation.*

> ***Hypothesis 1b (H1b):*** *Higher implicit need for achievement is not related to higher commitment to shared value creation.*

6.3.2 Affiliation and shared value creation

While the need for achievement has attracted a lot of attention within entrepreneurship research, the need for affiliation remains relatively untapped. However, some arguments lead us to expect a positive effect of explicit affiliation on the creation of shared value. Indeed, the commitment to social and environmental goals has been associated with emotional affect and a greater sense of responsibility towards other people (Keogh &

Polonsky, 1998). Thus, shared value creation can be regarded as a strong extrinsic cue for the explicit affiliation motive. Furthermore, people who engage in sustainable development are deemed to be part of a social movement that favors connectedness between people, social groups and nations worldwide (Rondinelli & Berry, 2000; Warburton, 1998); they form a community that ignores borders. Hence, creating shared value is a process full of intrinsic opportunities to satisfy the implicit affiliation motive. In other words, shared value creation provides people high in affiliation with extrinsic and intrinsic cues needed to arouse their motives. People with a high need for affiliation will perceive, select and channel their attention to tasks that echo their need for affiliation. Therefore, we expect that it will translate into a higher commitment to shared value creation.

First, we expect that people explicitly driven by affiliation will emphasize the creation of shared value in their business (H2a). Because explicit motives do not conflict with their implicit counterparts, we also expect a positive impact of implicit need for affiliation on the commitment to shared value creation. Finally, we expect an amplification of the implicit effect (H2b) when people with congruent motives go through a flow experience (Kehr, 2004b).

> ***Hypothesis 2a (H2a):*** *Higher explicit need for affiliation is positively related to the commitment to shared value creation.*
>
> ***Hypothesis 2b (H2b):*** *Higher implicit need for affiliation is positively related to the commitment to shared value creation, especially if explicit need for affiliation is high.*

6.3.3 Power and shared value creation

As for the affiliation motivation, power has been neglected in the entrepreneurship literature. However, McClelland and Burnham (2003) presented the power motivation as a key driver in business settings. Power-oriented entrepreneurs might act as “heroes” who exercise power on behalf of others in an altruistic manner (McClelland & Burnham, 2003). Moreover, power has been linked to leadership occupancy (Schuh et al., 2013). Assuming that high-value generation of any kind in a business context – i.e., job creation or innovation – is associated with prestige (Pruzan, 2001), we expect that people with a high power disposition will also emphasize these goals at the organizational level. A strong power disposition might also be positively linked to innovativeness. For example, Frischer (1993) shows that the innovative climate of a project is higher when power-oriented managers empower their subordinates and provide them with a sense of responsibility. Power-oriented people gain satisfaction from bringing changes to the world and influencing the way people live every day. Because social goals and the creation of shared value are about changing the world for the better, the creation of shared value intrinsically provides incentives for people with a high implicit power disposition.

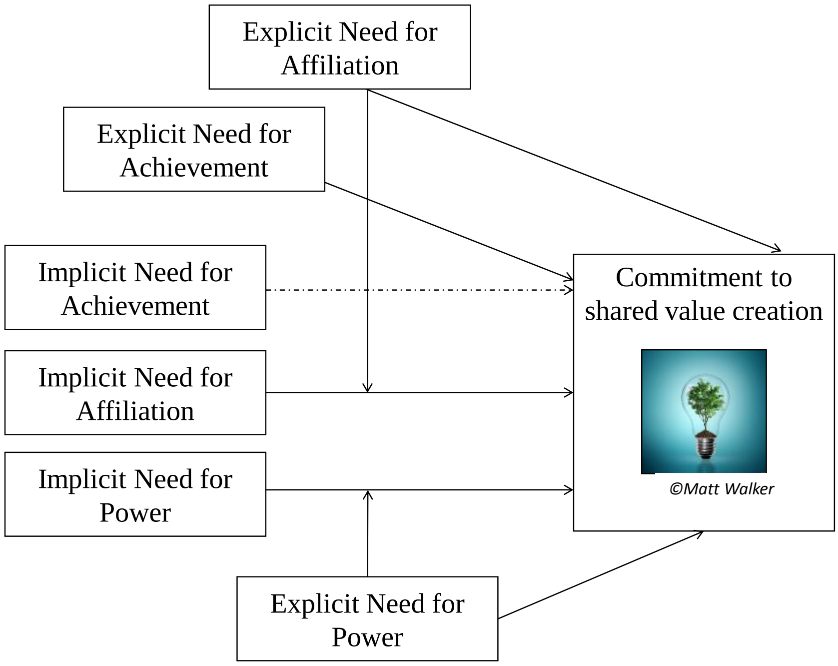
However, social incentives in the environment might not support shared value creation as a viable option for people who are consciously power-oriented. Indeed, it has been argued that individuals might resist social change because of the negative stereotypes that are associated with activists as agents of social change (Bashir et al., 2013). Even if people high in power might enjoy having an impact on the world through their commitment to shared value creation, they might consciously avoid such goals because of the potential negative amalgam. Instead, their attention may be diverted toward other goals that are deemed socially prestigious, such as more economic gain. For that reason, we expect a negative effect of explicit need for power on the commitment to shared value creation.

In this case, explicit and implicit motives are conflicting. For that reason, we expect a positive impact of implicit need for power if, and only if, the individual is at the same time low in explicit power. In modeling terms, we expect explicit power to negatively moderate the positive link between implicit power and commitment to societal goals (see Figure 6.1). The direct impact of implicit need for power occurs (1) because this need is activated by task-intrinsic stimuli (Kehr, 2004b), notably having an impact on the world (2) when the implicit impulse is not neutralized by an explicit power motivation – the conflicting motive.

> ***Hypothesis 3a (H3a):*** *Higher explicit need for power motivation is negatively related to the commitment to shared value creation.*

Hypothesis 3b (H3b): Higher implicit need for power is positively related to the commitment to shared value creation, provided that explicit need for power is low.

Figure 6.1 Motives and their impact on the commitment to shared value creation



6.4 Method

6.4.1 Context of the research

The data were collected in the context of the SMESESAP project that included a two-wave survey as well as a series of workshops on entrepreneurial motives, as explained in Part I above. At the end of the first survey, we announced our intention of organizing a series of workshops on entrepreneurial motivation, and invited respondents to fill in their email for more information. Six months later, we used this list of email contacts to invite respondents to the workshops. We invited key decision-makers from small businesses because what they tend to think and want affects their business more directly than in the case of larger organizations (Baum & Locke 2004, p. 596). As such, it is an ideal setting to (re)open the entrepreneurial mind (Carsrud & Brännback, 2011; Carsrud & Brännback, 2009): understand how personal motives are translated into business outcomes. From the 2,712 people who completed the first wave survey, 220 registered on-line for a workshop, and 120 people eventually attained the workshops. Because some participants were colleagues or acquaintances who received the invitation through forwarded emails, not all participants could be matched with the survey data. As a result, the sample is composed of 108 key decision-makers: 37 self-employed without employees and 71 executives in a small business with employees.

Firm-level variables (goal setting, and type of business) as well as individual-level control variables (gender, culture, and entrepreneurial experience) were collected during the SMESESAP 2012 survey. Data about explicit motives were gathered online six months later when participants registered for the workshops that were scheduled for the summer of 2013. Implicit motives were measured during the workshops: after a short welcome, the participants were first led to a computer room where their implicit motives were assessed along with measures on entrepreneurial self-efficacy (see Chapter 3). Afterwards, the workshop focused on a dialogue regarding on McClelland's theory of human motivation, the interaction between motives and business performance, and strategies to implement the theoretic insights of the workshop into real business practice.

6.4.2 Measures

Implicit needs

Because implicit motives operate largely outside a person's consciousness and (most) people lack introspective access to their implicit motives (Schultheiss & Pang, 2007), we assessed implicit motives indirectly using a Shortened Pictorial Attitude Implicit Association Test (see Chapter 3 for a detailed discussion). The SPA-IAT is an adaptation of the Brief Implicit Association Test (BIAT: Sriram & Greenwald, 2009), which is considered as one of the most reliable techniques for the measurement of implicit processes (Bar-Anan & Nosek, 2014).

Data from all critical blocks were used to compute SPA-IAT scores, and scores were calculated according to the scoring recommendations of Nosek et al. (2014). Extreme latencies below 400 milliseconds and above 2000 milliseconds were recoded to these boundaries and the first two trials of each block were discarded. Individual SPA-IAT scores were computed using the D measure (Greenwald et al., 2003). The D measure is calculated as the difference between mean latencies of the two critical SPA-IAT blocks divided by the standard deviation of latencies in the blocks (Nosek et al., 2014). We estimated internal consistency of the SPA-IATs by dividing each critical block into two sub-blocks of equal length. The first sub-block contained the even trials and the second the odd trials, and SPA-IAT scores were calculated for each sub-block separately. The Spearman–Brown coefficients revealed a good split-half reliability for all three SPA-IAT (SPA-IAT pow-ach: .79; SPA-IAT pow-aff: .77; SPA-IAT ach-aff: .78). Finally, for reasons of interpretability and comparability with explicit motive scores, we calculated absolute SPA-IAT scores for each motive. To do so, we averaged the 'relative' SPA-IAT score for power versus achievement motive and the 'relative' SPA-IAT score for the power versus affiliation motive to obtain an 'absolute' score of the SPA-IAT power motive. Similar algorithms were used to construct the absolute SPA-IAT affiliation and SPA-IAT achievement scores.

Explicit needs

We used the achievement, affiliation and dominance subscales of the Personality Research Form (PRF: Jackson, 1984) for the assessment of the explicit motives. Each subscale consisted of 16 statements and participants indicated to what extent each statement fitted them on a five-point Likert scale with the following anchor points: 1 = "does not fit at all" and 5 = "fits very well". Sample items of the subscales were: (power) "The ability to be a leader is very important to me"; (affiliation) "I try to be in the company of friends as much as possible"; and (achievement) "I will not be satisfied until I am the best in my field of work". After recoding the reversed items, explicit motive scores were calculated by averaging the scores of all items of each subscale. Internal consistencies were good to excellent (PRF achievement: $\alpha = .80$; PRF affiliation: $\alpha = .87$; PRF dominance: $\alpha = .89$).

Table 6.2 Descriptive data and correlation matrix (n = 108)

	Mean	SD	Min	Max	Shared value creation	Explicit achievement	Explicit affiliation	Explicit power	Implicit achievement	Implicit affiliation	Implicit power	Gender	Entrepreneurial experience	Self-employed vs. SME
Shared value creation	1.41	1.06	-1.33	3.00										
Explicit achievement	3.86	0.49	2.43	4.93	.306**									
Explicit affiliation	3.34	0.61	1.12	4.68	0.24*	0.31**								
Explicit power	3.49	0.50	2.31	4.81	0.15	0.52**	0.20*							
Implicit achievement	0.08	0.43	-0.80	1.10	0.01	0.07	0.09	0.06						
Implicit affiliation	0.39	0.42	-0.94	1.30	-0.14	0.13	0.22*	-0.03	-0.45**					
Implicit power	-0.47	0.45	-1.69	0.74	0.12	-0.19	-0.29**	-0.03	-0.55**	-0.50**				
Gender	1.27	0.45	1.00	2.00	-0.17	-0.04	0.08	-0.23*	-0.05	0.06	-0.01			
Entrepreneurial experience	12.40	8.63	0.00	33.00	0.02	0.10	0.13	0.07	-0.18	0.20*	-0.02	-0.11		
Self-employed versus SME	0.66	0.48	0.00	1.00	.25**	0.25**	0.00	0.32**	0.03	-0.04	0.01	-0.36**	0.16	
Culture	0.47	0.50	0.00	1.00	-0.13	0.10	0.08	0.01	-0.05	0.19	-0.12	-0.03	0.30**	0.25*

* $p < 0.05$; and ** $p < 0.01$.

Table 6.3 OLS regressions on the commitment to shared value creation (standardized coefficients; n = 108)

Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control variables								
Gender	-.08	-.13	-.13	-.13	-.12	-.12	-.14	-.11
Entrepreneurial Experience	.04	-.00	-.01	-.00	.03	.03	-.01	.00
Self-employed vs. SME	.27**	.24*	.24*	.25*	.22*	.22*	.22*	.22*
Culture	-.21*	-.24*	-.24*	-.24*	-.21*	-.21*	-.21*	-.21*
Main and conditional effect								
Explicit Achievement		.27*	.27*	.26*	.29**	.29**	.30**	.30**
Explicit Affiliation		.21*	.22*	.21*	.24*	.24*	.27**	.24*
Explicit Power		-.13	-.13	-.13	-.15	-.15	-.15	-.15
Implicit Achievement			-.05	-.06				
Explicit * Implicit Achievement				.05				
Implicit Affiliation					-.18†	-.18†		
Explicit * Implicit Affiliation						-.00		
Implicit Power							.22*	.23**
Explicit * Implicit Power								-.20*
R^2	.11	.22	.23	.23	.25	.25	.27	.31
Adjusted R^2	.07	.17	.17	.16	.19	.18	.21	.24
F	3.17*	4.15***	3.65**	3.27**	4.21***	3.70***	4.57***	4.84***
ΔR^2 (reference model)				.00 (3)		.00 (5)		.04* (7)

† $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Dependent variable: commitment to social goals

To measure goal setting, respondents from the SMESESAP 2012 survey were asked about the importance they attach to different goals (Brunstein et al., 1998; Hofer et al., 2010) for their business on a seven-point Likert scale, ranging from "very unimportant" to "very important". Items included pure economic objectives (i.e., "profitability", "stability of the firm" and "sales growth"), as well as business goals that reflect value-creation for the society (i.e., "being innovative", "taking care of the environment", and "job creation"). In order to distinguish traditional economic goals from shared value creation, we first performed a Principal Component Analysis with a varimax rotation. The factor analysis explained 57 per cent of the variance and revealed two underlying factors: shared value creation (taking care of the environment, creating jobs and being innovative) versus pure economic goals (being profitable, achieve sales growth, have a stable business). The factor "shared value creation" explains 37 per cent of variance; it has an eigenvalue larger than 1, an appropriate pattern of loadings, and a Cronbach's alpha of 0.615, which is reasonable in exploratory research (Hair et al., 2005).

Additionally, we performed a two-factor confirmatory analysis with AMOS 21 in order to examine the within and between statistical structure of the scale. The Chi-square for the model was non-significant ($\chi 2= 11.623$, DF = 8, p= .169) and results from absolute fit (GFI =.965), parsimony fit (RMSEA = .065) and relative fit (CFI = .956) indices each demonstrated adequate fit. Furthermore, not single modification index was over 4. The factor loading ranged from .56 to .72 for the commitment to societal goals, and from .35 to .69 for traditional economic goals. Overall, all this suggests that the statistical structure of our dependent variable is sound. The composite was computed as a summated scale, by taking the average of the three components.

Control variables

When exploring entrepreneurs' motivations, Johnson (1990) recommends considering the individual, the venture and the social context as potential factors influencing the relationship between motivations and any dependent variable. While our model focuses on the congruence between explicit and implicit motives, we include control variables that account for the different categories proposed by Johnson (1990). First, related to the venture's characteristics, we distinguish between self-employed and SMEs with employees with a dummy variable (self-employed = 0; SME with employees = 1). At the individual level, we control for gender (male = 0; Female = 1) and entrepreneurial experience (number of years since the creation of the first business). Research on gender effects indicated that men and women apply different management styles (Minniti, 2009), are active in different business sectors (Minniti, 2009), differ in intention to establish new businesses (Davidsson & Honig, 2003), and might realize different venture growth (Cooper et al., 1994). Entrepreneurial experience influences the selection and adaptation of venture goals (Ucbasaran et al., 2010). Finally, the social context is measured in terms of cultural differences, indicated by the principal language of the respondent (French-speaking = 0; Dutch-speaking = 1). Indeed, culture has been related to both entrepreneurship (Thurik & Dejardin, 2012) and motivational research (Hofer et al., 2010).

6.5 Results

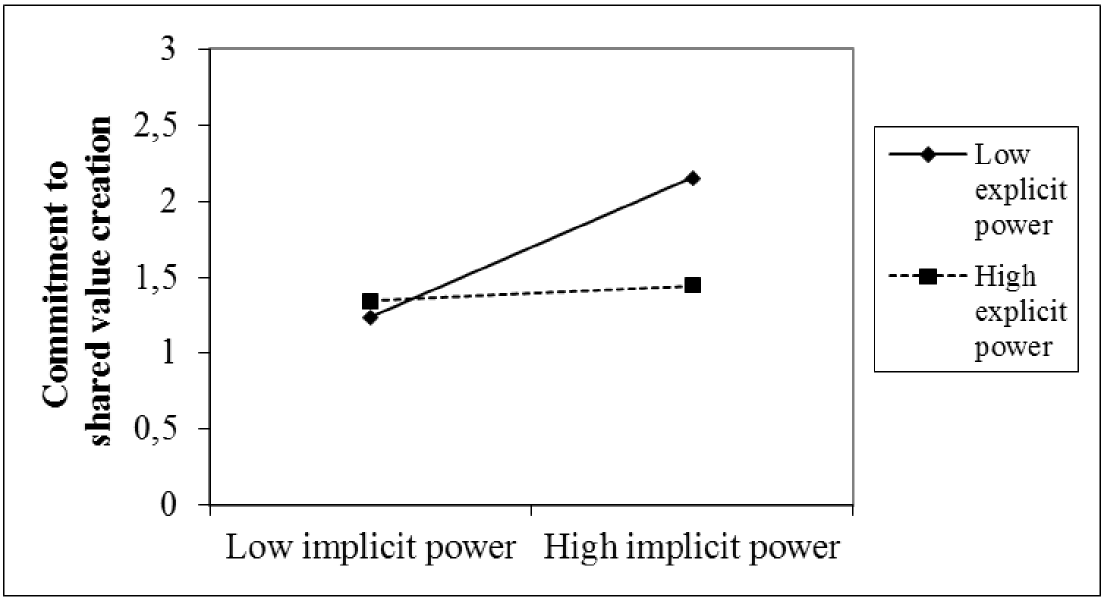
A series of OLS regression analyses was conducted on the commitment to shared value creation. For each implicit motive, we entered the control variables as a first block (Model 1), the explicit motives as a second block (Model 2), the implicit motives as a third block (Models 3, 5, 7), and the interaction term between the implicit motive and its explicit counterpart as the fourth block (Models 4, 6, 8). For the ease of interpretation and because each implicit motive score can be expressed as a linear combination of the other implicit motive scores (see Table 6.2 regarding the construction of the absolute SP-IAT scores), we estimated separate models for each motive. To determine the merits of adding the interaction terms to the models, we calculated the change in R-square and assessed its significance using an F-test. Variance inflation factors (VIF) were calculated to assess the impact of multicollinearity on parameter estimates. Because all VIFs were far below the common cut-off threshold of 10 (maximum VIF = 1.54), we concluded that multicollinearity is not a problem (Hair et al., 2005). Prior to conducting the regression analyses, we mean-centered all continuous variables to facilitate the interpretability of our results (Preacher et al., 2007). Explicit-implicit congruence was tested as a product term between the corresponding explicit and implicit motive scores, like in Hofer et al. (2010, 2006). Below, we present our results in relation to the individual hypotheses.

According to Hypothesis 1a, entrepreneurs' commitment to shared value creation inside their venture is positively associated with explicit need for achievement. The regression results, after controlling for language, gender, firm size and entrepreneurial experience, show that the commitment to societal goals is greater for people high in explicit achievement. As shown in Table 6.3, Models 3 and 4, the relationship between explicit need for achievement and commitment to societal goals ($\beta = .26$, $p < 0.05$) is significant and positive. The significant and positive impact of explicit achievement is also systematically found in Models 4 to 8. As such, our findings offer strong support for Hypothesis 1a. Our results confirm the importance of explicit achievement motivation for entrepreneurial behavior, in this case the commitment to an innovative and responsible business model. Hypothesis 1b posits that implicit achievement does not influence the commitment on shared value creation. Models 3 and 4 offered support for this null hypothesis.

Hypothesis 2a suggests that the explicit need for affiliation has a positive impact on the commitment to shared value creation. Our results from Models 5 and 6 indicate that people higher in explicit need for affiliation have a higher commitment to shared value creation ($\beta = .24$, $p < 0.05$). We also find positive and significant coefficients in Models 2 to 8. Our findings therefore offer support for H2a. Hypothesis 2b posits that implicit need for affiliation is positively related to the commitment to social goals, especially if explicit affiliation motivation is high. Surprisingly, we find a marginally significant and negative impact of implicit affiliation on the commitment to shared value creation. Furthermore, the interaction with its explicit counterpart is not significant. Therefore, we do not find any support for H2b.

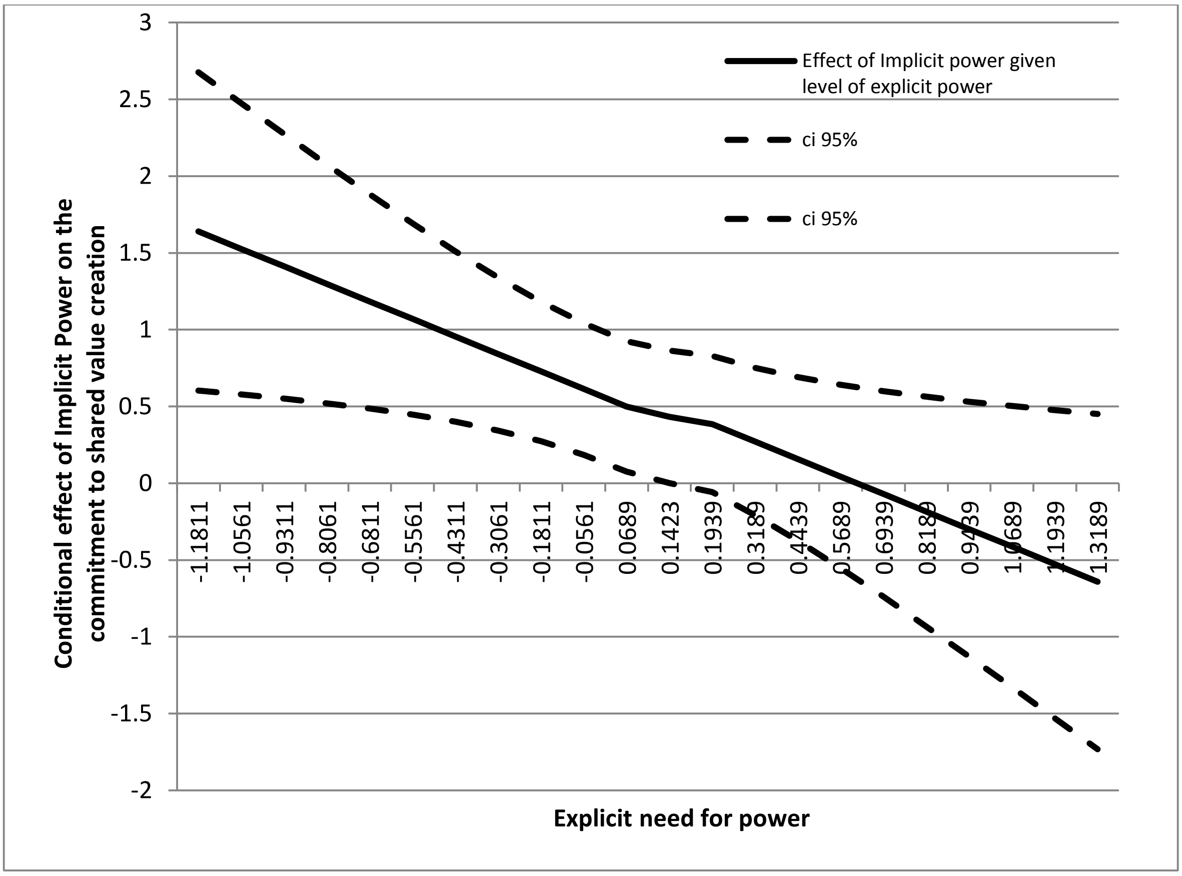
Hypothesis 3a states that the explicit need for power is negatively associated with the commitment to shared value creation. While the coefficient is negative for all tested models, it is not significant. H3a is not supported. H3b states that implicit need for power is positively associated with the commitment to shared value creation if, and only if, the entrepreneur is not consciously power-oriented. In modeling terms, it supposes that explicit power motivation negatively moderates the relationships, such that the impact of implicit power no longer holds for those who are consciously power-oriented. Indeed, we expected that people who are consciously power-oriented will fear the negative stereotypes associated with activism, and consequently refrain from engaging in shared value creation. As shown in Model 8 in Table 6.3, the interaction between implicit and explicit needs for power is significant and negative (β= -.20, p <0.05). Motives explain 14 per cent of the variance over and above the control variables. A further three per cent is explained by adding the interaction in the equation, which significantly improves model fit compared with the model without the interaction effect. The graph of this interaction, included in Figure 6.2, shows that the relationship between entrepreneurs' implicit power dispositions and their commitment to societal goals within the venture is more positive for people low in explicit power. In fact, the graph suggests the absence of a relationship between implicit power and commitment to shared value creation for entrepreneurs with a high explicit power motivation.

Figure 6.2 Interaction between implicit and explicit needs for power – Impact on the commitment to societal goals



We identified the region of significance by applying the PROCESS macro (Hayes, 2012) in SPSS. In addition to estimating the coefficients of the model using OLS regression, PROCESS computes conditional effects in moderation models. While Figure 6.2 presents the effect of implicit power for two arbitrary levels of the moderators ("low" level as the mean - 1sd, and "high" level as the mean + 1sd), PROCESS estimates the conditional effect of implicit power on the commitment for shared value creation for all levels of the moderator, as well as the amplitude of the effect and its significance. Accordingly, Figure 6.3 presents the effect of implicit power on the commitment to shared value creation for different levels of explicit need for power. In line with Figure 6.2, it shows that the effect of implicit power on the commitment to shared value creation is positive and significant when explicit power, the moderator, is below 0.14. In absolute terms, it corresponds with a level of self-reported need for dominance of 3.6 on a 5-points Likert scale from 1 "not at all like me" to 5 "very much like me". It also means that the effect of implicit power is positive and significant for 60.18% per cent of the observations. Hypothesis 3b therefore receives strong support from the combined interpretation of Figures 6.2 and 6.3.

Figure 6.3 Conditional effect of implicit power on the commitment to shared value creation, at different levels of the moderator (explicit need for power)



6.6 Discussion

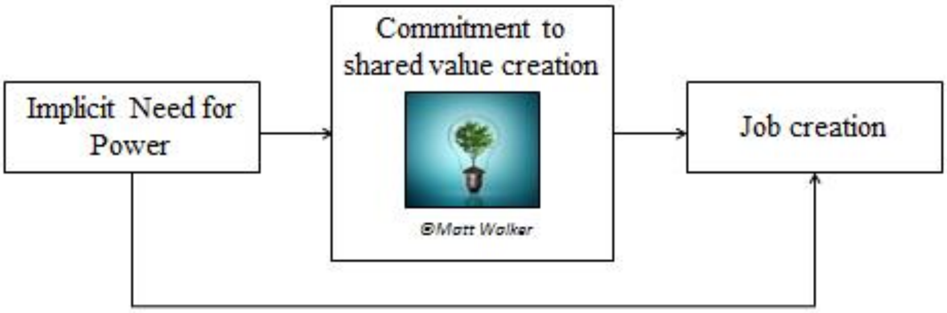
In the entrepreneurship literature, the need for achievement has received much more attention than the other two basic needs (i.e., need for affiliation and power). Furthermore, the amalgamation of an explicit and implicit need for achievement has led to ambiguous results (Johnson, 1990), both in terms of impact on entrepreneurial intention (decision to become an entrepreneur) and entrepreneurial success (the venture's performance). However, our findings show that achievement is not the only driver that matters for entrepreneurial behaviors. Especially, we find that the implicit need for power might be central for explaining goal setting and, perhaps, even performance in the long term.

Indeed, we find that power is the only implicit motive that influences goal setting in terms of shared value creation. It means that power is a central motive that provides entrepreneurs with intrinsic satisfaction when they daily engage in shared value creation. For achievement and affiliation-driven entrepreneurs, the daily routine of value creation might not be as rewarding as expected. For affiliation-driven entrepreneurs, difficulties in balancing shared value with economic survival may well trigger interpersonal conflicts, thereby threatening the intrinsic enjoyment that affiliation-driven entrepreneurs strive for. Likewise, achievement-driven entrepreneurs generally prefer meeting a challenge on their own (McClelland & Burnham, 2003), which might be less likely in the pursuit of shared value creation. Job creation alone, for instance, implies delegation towards a growing number of employees. The lack of performance feedback may also hamper the enjoyment to engage effectively in shared value creation. In this case, a positive self-regulated mechanism would be unlikely, neutralizing any effect of implicit affiliation and achievement on goal setting.

By contrast, the daily execution of shared value creation does seem to bring satisfaction to the power-driven entrepreneurs. Through self-regulation, the power-driven entrepreneur learns that she or he has to commit more to shared value creation, as reflected in the previous section. But does this also lead to higher performance? To shed some tentative light to this question, we look at the impact of implicit power on realized job creation. Because we have this information for SMEs only, we focus on the 71 executives who participated in our workshop. We first test a mediation model (see

Figure 6.4) where power first influences goal setting, which in turns impacts performance in terms of job creation.

Figure 6.4 Commitment to shared value creation as a mediator between implicit power and actual job creation



However, the commitment to shared value creation is not significant in this model. A first explanation is that the translation of commitment into actual results is contingent on specific contexts that we do not identify. A second explanation is that the effect of commitment on job creation is delayed as today's commitment only translates into higher performance years later. A third possible explanation is the fact that conscious, or self-reported, commitment is not enough to ensure that this translates into actual performance. Energy is also needed throughout all daily activities when engaging in shared value creation. It is not enough that entrepreneurs declare being committed to shared value creation; they actually need to do and enjoy working on this.

In line with the third explanation, we find a direct impact of implicit power on job creation: the higher the implicit need for power of the entrepreneur, the higher the probability of actual job creation in his or her SME. In Table 6.4, we provide the result of a logistic regression on the probability to create jobs in Belgian SMEs. It shows that for the creation of jobs, both explicit and implicit needs for power matter, both positively influencing the odds of creating jobs. As explicit and implicit power are no longer conflicting, the negative interaction term is no longer significant. Interestingly, explicit affiliation and achievement are no longer significant either, which indicates that those drivers are indeed important in terms of self-reported commitment, but do not directly translate into higher performance, maybe because actually enagaging in shared value creation does not provide achievement and affiliation-driven entrepreneurs with intrinsic satisfaction. The results of the logistic regression even indicates that implicit affiliation might have a negative impact on job creation (,< 0.1). Even if entrepreneurs commit more to shared value creation, they lack the energy to go through with it and fail to turn their goals into actual performance.

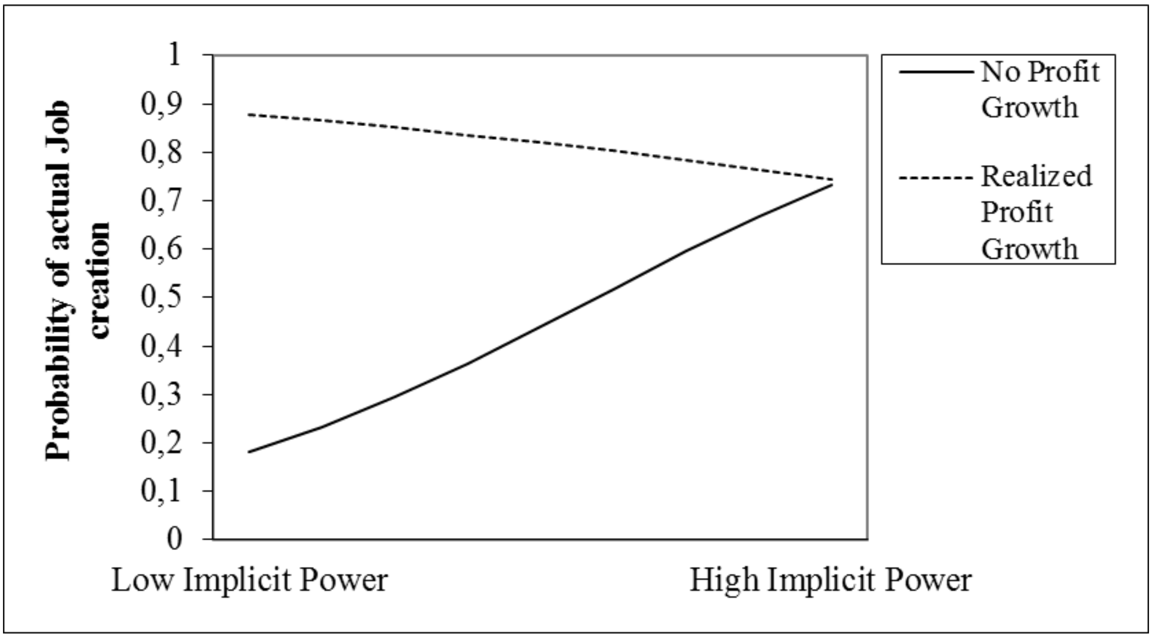
According to Table 6.4, both explicit and implicit power enhance the probability of actual job creation, while self-reported affiliation, achievement or even commitment to shared value creation do not impact actual job-creation performance. It also suggests that the effect of implicit power is contingent upon a contextual variable, notably realized profit growth. Specifically, the positive effect of implicit power is significant only when the SME does not experience profit growth. It means that implicit power provides the entrepreneur with the necessary energy to create jobs in unfavorable contexts – i.e., in a setting featuring the absence of profit growth. However, when profit growth is actually realized, implicit power is no longer needed as job creation is largely driven by profit growth instead. The interpretation of Figure 6.5 provides a complementary insight, indicating that executives with a high implicit need for power have the same probability to create jobs, independent of their profit growth. For executives who have a lower implicit need for power, the probability to create job is high only if the SME experiences profit growth.

Table 6.4 Logistic regressions on realized job creation (n = 71)

Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control variables								
Gender	.75	.75	.51	.57	.57	.83	1.13	1.31
Entrepreneurial Experience	-.00	-.00	-.02	-.02	-.02	-.03	-.03	-.01
Culture	.47	.47	.41	.31	.27	.29	.02	.24
Main and conditional effect								
Commitment to shared value creation		.00	-.09	-.11	-.17	-.20	-.41	-.46
Explicit Achievement			-.00	.15	.20	.22	.31	-.22
Explicit Affiliation			-.25	-.21	-.00	.04	-.15	.06
Explicit Power			1.86*	1.85*	1.84*	1.78*	2.08**	2.49**
Implicit Achievement				.02				
Explicit * Implicit Achievement				-1.05				
Implicit Affiliation					-1.44†			
Explicit * Implicit Affiliation					.79			
Implicit Power						1.22†	1.16	2.87*
Explicit * Implicit Power						.23	.14	-.73
Realized Profit Growth							-1.56*	-1.76*
Realized Profit growth * Implicit Power								-3.89*
Constant	-.99	-1.00	-.55	-.46	-.41	-.44	.72	.42
- 2 Log likelihood	94.65	94.65	84.81	84.12	81.04	81.3	75.12	69.56
Overall % of correct answers	57.7	57.7	66.2	69	69	67.6	70.4	71.8
Nagelkerke R^2	.05	.05	.21	.23	.27	.27	.36	.43
Chi^2	2.63	2.63	12.47†	13.16	16.24†	15.98†	22.16*	27.72**
Δ Chi^2 (reference model)	2.63	.00 (1)	9.838*	.69 (3)	3.77 (3)	3.51 (3)	6.17*	5.56*

† p < 0.1 ; * p < 0.05 ; and ** p < 0.01.

Figure 6.5 Impact of implicit power on job creation depending on realized profit growth



6.7 Conclusion

In this chapter, we advance our understanding of shared value creation and its antecedents in terms of individual motivations. We examine the specific effects of explicit motivations as well as their combined effects with implicit needs on the entrepreneurs' commitment to shared value creation. The results of the current study suggest that the commitment to shared value creation, on average, is positively influenced by the explicit need for achievement, explicit need for affiliation and implicit need for power, provided that the entrepreneur is not consciously power-oriented. A direct impact of implicit power occurs (1) when this need is activated by task-intrinsic stimuli and (2) when the individual's attention is not channeled away by a competing explicit orientation. As such, we offer support to Kehr's (2004b) hypothesis about intrinsic motivation. In this case, the implicit need for power is activated by the enjoyment brought by having an impact on people and the world at large, by being a social engineer, and by changing the world. However, entrepreneurs who are consciously power-oriented do not find the social incentives to invest in shared value creation. On the contrary, as proposed by Bashir et al. (2013), social cues might be detrimental to the commitment to shared value creation: activists may suffer from strong negative stereotypes. While achievement-oriented entrepreneurs are not worried about what people think of them (McClelland & Burnham, 2003), this is especially harmful for people who are consciously power-oriented and are looking for prestigious goals.

Our research also contributes to the literature on entrepreneurial motivations. First, we find that the need for achievement is not the only motive that matters for entrepreneurial behavior and that the one-sided focus on the achievement motive in prior work may well have been unfortunate, especially when wealth creation is at stake. Second, we confirm that explicit and implicit motives are independent but interacting constructs that influence business goal setting. Our study indicates that, even in a context where explicit motives are expected to be the most influential (e.g., strategic planning), implicit motives influence the entrepreneur's behavior outside of his or her awareness. Our findings show that implicit motives can influence actual behavior as illustrated by the impact of the implicit need for power on the commitment of entrepreneurs to shared value creation. They also supports the submission of implicit motives to conflicting explicit motives. This is especially important as research on motivations in entrepreneurship (and business ethics, for that matter) still ignores the conceptual and methodological differences between explicit and implicit motivational systems. By contrast, our research suggests that a full understanding of the impact of motivation can only be gained through careful consideration of the interaction between implicit and explicit motives.

However, we do not find a positive impact of implicit affiliation. A possible explanation is that the daily routine of value creation is not as rewarding as expected in terms of affiliation. In this case, a positive self-regulated mechanism would be unlikely, neutralizing any effect of implicit affiliation on goal setting. Notably, difficulties in balancing shared value with economic survival might trigger interpersonal conflicts, thereby threatening the intrinsic enjoyment that affiliation-driven entrepreneurs strive for. It definitely points to the need for a deeper understanding of implicit affiliation and its relationship with shared value creation. This is important because the lack of intrinsic enjoyment may also hamper performance. In the Discussion section of this chapter, we provide evidence that indicates that explicit affiliation and achievement are indeed important in terms of self-reported commitment, but that they do not directly translate into higher performance, maybe because actually engaging in shared value creation does not provide achievement and affiliation-driven entrepreneurs with intrinsic satisfaction. It also shows that power is the only implicit driver that positively influences job creation. In line with McClelland and Burnham (2003), power is indeed found to be the greatest motivator.

Finally, our findings suggest that some individual-level control variables that are traditionally related to entrepreneurial behaviors, such as gender and entrepreneurial experience, are not directly associated with the commitment to shared value creation. However, the estimates of our models provide evidence that the type of business matters, the self-employed without employees being significantly less engaged in shared value creation than key decision-makers in small firms with employees. Social context seems to matter too, with culture being significant in all models. Indeed, existing congruence research, such as Hofer et al. (2010), already suggests that basic human psychological mechanisms might apply irrespective of the cultural environment. More specifically, they state that "While accepting the position that an individual's striving is strongly conditioned by sociocultural norms that define what is socially desirable and good or socially undesirable and bad, we propose that … the alignment of consciously represented goals and implicit motives … play a decisive role in the process of individuals' goal commitment" (Hofer et al., 2010, pp. 751-752). As a result, it might be interesting to further research the contextual drivers of shared value creation, as well as their interactions with individual motives.

From a methodological viewpoint, we apply a state-of-the-art measure of implicit motives. We provide a first application of the BIAT for motives in a business setting, which is a strong alternative to the demanding projective methods that have been used so far. Because of the exploratory nature of this project, the sample size and possible representativeness are important limitations. Another limitation is the nature of the dependent variable, as this self-reported measure might already integrate self-censorship, notably when asking entrepreneurs who are consciously power-oriented about their commitment to social goals. Even if we did not find that explicit power has a direct negative impact on shared value creation, it might still influence the way they report their commitment in our survey. Yearly social and shareholder reports, notably, may well provide interesting measurement alternatives. Finally, we assume intrinsic and extrinsic incentives *a priori.* A more robust measure of social norms, on the one hand, and actual enjoyment of the task, on the other hand, might provide essential insights.

Practical implications derived from this research may also prove useful. First, we claim that the implicit need for power is of the utmost importance for the creation of shared value. As suggested by Muhammad Yunus, we posit that changing the world is fun, especially for people who are implicitly driven by power. However, we also suggest that society may not provide the power-oriented entrepreneur with the social incentives to engage in shared value creation. In other words, society might not advertise shared value creation as a prestigious, powerful goal. Conflicting social norms could therefore neutralize the enjoyment associated with changing the world – for instance, through the diffusion of negative stereotypes attributed to activism. For a higher commitment to shared value creation, public authorities might reflect on the way to avoid such conflicting norms. For entrepreneurs themselves, we show that unconscious motives do matter. We claim that a better understanding of the interplay between implicit and explicit motives should shed light on why entrepreneurs sometimes struggle to reach the goals they voluntarily set (Kehr, 2004b). With such understanding, entrepreneurs can reach a better fit between their business project and inner motives, so that they are strong enough to reach their goals, especially in relation to shared value creation.

Chapter 7

Strategy

Causation, effectuation and entrepreneurial orientation[19]

7.1 Introduction

Chapter 5 focuses on the impact of aspects of the environment, Chapter 6 on characteristics of the entrepreneur, and this Chapter 7 on features of the venture – i.e., its strategy, specifically causation versus effectuation. The main body of entrepreneurship research draws on bounded rationality decision models, in which purposeful opportunity searching (Drucker, 1998) and carefully selecting and researching target markets (Kotler, 1991) dominate. Since Sarasvathy's (2001) seminal article on effectual thinking, entrepreneurship scholars slowly started to recognize that because entrepreneurs are creative problem-solvers operating in uncertain and ambiguous environments, they might apply effectual instead of causal thinking processes during start-up development. Effectual thinking involves unplanned logic of action; causal thinking is planned. The argument goes that entrepreneurs following a causation strategy start from a certain goal (e.g., a ten per cent market share increase) and apply a number of means, such as market segmentation, decided upon on the basis of explicit selection criteria to attain this goal. They thus follow a predefined plan. In contrast, entrepreneurs applying an effectual development strategy operate in an unplanned manner. They start from a given set of means, after which a number of effect

[19] Some of the research material presented in this chapter refers to a working paper of the SMESESAP team: Vanderstraeten, J., Hermans, J., Ramdani, D., van Witteloostuijn, A., & Dejardin, M. Causation and Effectuation in turbulent times: conditional impact on entrepreneurial orientation. *Working paper*, Antwerp / Namur: University of Antwerp / University of Namur.

selecting criteria are applied. The criteria that define the entrepreneurs' decisions are 'imposed' by the level of affordable loss or tolerable risk (Sarasvathy, 2001).

Although Sarasvathy (2001) and Read and Sarasvathy (2005) theoretically juxtapose causation and effectuation, Andries et al. (2013) show that these development strategies can occur simultaneously. Their case-based analysis shows that elements from causation and effectuation can be employed concurrently. Moreover, they suggest that under uncertainty, a simultaneous focus on action and planning might increase company performance. Unfortunately, these interaction effects remain untested, empirically. Also other scholars call for additional research in which the relationships between effectual and causal strategies with environmental uncertainty are examined. For example, Read et al. (2009, p. 584) suggest in their future research section that "perhaps the ultimate normative recommendation is to use both regularities and contingencies with a combination of positioning and construction strategies, and with the application and level of each depending on the uncertainty of the particular decision."

The present study extends and empirically tests these arguments. It posits that the level of environmental uncertainty impacts the effects of following a causal development strategy, and empirically tests the interaction effects between planned and unplanned logics of action, and environmental uncertainty (Andries et al., 2013; Read et al., 2009). In addition, the present research addresses the lack of studies focusing on outcome measures of effectual and causal development strategies (Perry et al., 2012). As an outcome measure, we focus on entrepreneurial orientation, which is widely recognized as being positively related to company performance (Wiklund & Shepherd, 2005). In summary, our research goal is: "How do the strategy development strategies 'effectuation' (that is, unplanned logic of action) and 'causation' (that is, planned logic of action) interact with environmental uncertainty, and what is the impact on firm-level entrepreneurial orientation?"

By investigating this research question, we make four principal contributions to the entrepreneurship literature in general, and to studies about effectuation and causation in particular. First, few researchers have empirically tested effectuation (Perry et al., 2012). Since Sarasvathy's (2001) article suggesting that entrepreneurs might follow effectual development strategies, most papers have focused on conceptual and theoretical argument development. As suggested by Edmondson and McManus (2007), the open-ended questions that have been tackled, to date, show that the literature about effectual development strategies remains in a nascent state. Recently, some first empirical papers emerged. Indeed, after almost a decade of conceptual papers, the research domain is ready for empirical research (Perry et al., 2012). As yet, most empirical research focuses on qualitative and explorative research (for example, Harting, 2004; Harmeling et al., 2004), with a few exceptions such as Wiltbank et al. (2009) and Clausen et al. (2012), who engage in quantitative theory testing. Quantitative data has been employed to tackle closed research questions such as the impact of causation on risk-taking (Clausen et al., 2012). In the present study, we examine the relationships between causation, effectuation and environmental uncertainty, and the impact on entrepreneurial orientation. As such, our study is perfectly in line with the current state-of-the-art of the effectuation-causation research domain, and the recognition that quantitative theory testing is needed.

Second, although most studies focus on new venture creation, Wiltbank et al. (2009) advocate that the idea of unplanned logic of action is also appropriate for strategy development in established companies (for example, product or service development). Unfortunately, research in this area is very limited (Johansson & McKelvie, 2012). An exception is the work of Brettel et al. (2012), demonstrating that effectual principles are employed in corporate R&D projects. To the best of our knowledge, our study is the first to examine the product or service development strategy of existing companies in relation to causal and effectual thinking processes.

Third, authors such as Kraaijenbrink (2008) suggest that the different dimensions of causation and effectuation are independent, and should not be interpreted as two extremes. The possibility of interaction under different circumstances has been suggested by Andries et al. (2013) and Read et al. (2009), but yet remains to be tested. Therefore, our paper is one of the first to empirically examine whether causation and effectuation might interact with each other, and with the level of environmental uncertainty.

Fourth and finally, Perry et al. (2012) provide evidence that most studies focus on the antecedents and influencers of causation and effectuation. They show that Harms and

Schiele (2012) is one of the few studies examining the consequences of causation and effectuation. We contribute to the literature by examining the effects of (un)planned logic of action on entrepreneurial orientation, a construct that has been proven to be directly and positively related to company performance (Wiklund & Shepherd, 2005). We are aware of only one other study focusing on the impact from effectuation and causation on entrepreneurial orientation (Clausen et al., 2012). Yet, Clausen et al. (2012) did not examine possible interaction effects between effectuation and causation, nor do they examine the relationships between these development strategies and environmental uncertainty. Our study thus extends this research, by examining the interactions between causation, effectuation and environmental uncertainty.

In what follows, we first develop our hypotheses in a theoretical background section, after which we explain our empirical study in the methods section. The results from our analysis are presented in the result section. Before concluding, we provide recommendations for future research while highlighting limitations. Finally, we present our findings in a discussion section. Regarding SMESESAP data, we combine information from both the first and second survey wave.

7.2 Theoretical background and hypothesis development

7.2.1 Planned logic of action and the degree of entrepreneurialism

There have been three main developments in the field of entrepreneurship since Shane and Venkataraman (2000) wrote their seminal article on the conceptual framework of entrepreneurship research: (i) research on a more nuanced view of who the entrepreneur is; (ii) an ongoing theoretical conversation regarding the discovery versus the creation of entrepreneurial opportunities; and (iii) the identification of specific mechanisms of entrepreneurial action, including causation and effectuation, and their potential impact on the firm and society as a whole (Venkataraman et al., 2012). The work on (un)planned logic of action is part of the third development.

The concept of "planning" has been proposed by cognitive theorists as the link between cognition and action. More specifically, planning is a hierarchical thought process or "bridge" that transforms cognition into pre-defined goals (Frese & Zapf, 1994).

Entrepreneurs recognize opportunities, and subsequently exploit them via pre-defined goals (Bhave, 1994). They envision a certain goal and employ hierarchical, linear and rational thought processes in order to attain this goal. Such hierarchical thought processes are also called causation (Sarasvathy, 2001). Interestingly, Clausen et al. (2012) provide preliminary evidence that companies following causal thought processes during the start-up development stage display higher degrees of innovativeness, risk-taking and proactiveness – the three dimensions of entrepreneurial orientation (Covin & Slevin, 1989). Indeed, it has been argued that entrepreneurialism thrives when companies follow planned processes. Business planning has been proposed as an important precursor to entrepreneurial action. It accelerates entrepreneurial activities such as product/service development and the subsequent organization of the venture to sell the new product or service (Delmar & Shane, 2003). Making decisions occurs in a much quicker and efficient way when business planning is in place (Delmar & Shane, 2003), and planning activities such as risk assessment positively relate to innovation success (Salomo et al., 2007). Moreover, thanks to planning, people can proactively and systematically take the necessary steps to attain goal achievement (Brews & Hunt, 1999), without being distracted by side activities (Robinson, 1984). Thus, due to planning, entrepreneurial characteristics such as innovativeness, proactiveness and risk-taking can thrive.

> ***Hypothesis 1 (H1):*** *Planned logic of action (that is, causation) positively relates to an organization's degree of entrepreneurialism, measured by firm-level entrepreneurial orientation.*

7.2.2 Planned logic of action, unplanned logic of action and entrepreneurial orientation

Recently, the mainstream causal development model has been challenged by scholars arguing that entrepreneurship is a circular, means-driven and risk-averse process (Sarasvathy, 2001). In contrast to causation, such thinking processes do not involve planning. A company employing an unplanned development strategy starts from its current means and tries to attain the best results possible according to available resources. Experimenting with various strategies is at the heart of unplanned logic of action. Interestingly, retrospective studies (Bhide, 2000; Shuman et al., 1985) provide evidence that following your intuition leads to better results than systematically applying business planning. As a consequence, many researchers tend to advocate trial-and-error development models over carefully planned strategies. They argue that because entrepreneurs are scarce in time and money, planning is less valuable than engaging in "real", "hands-on" business activities. For example, Carter et al. (1996) explain that actively buying business equipment is a much stronger signal to convince others that you are truly committed to your venture, than engaging in business planning. Moreover, entrepreneurial characteristics such as intuition align with unplanned logic of action rather than systematic planning activities. Thanks to their intuition, entrepreneurs can identify and evaluate opportunities. Business planning becomes redundant when entrepreneurs face unexpected contingencies (Allinson et al., 2000). Such arguments advocate that unplanned logic of action is better suited for entrepreneurial activities such as (radical) innovations and exploration (March, 1991) than planned logic of action (Sarasvathy, 2001). Causation (or planned logic of action) is thus more suitable for exploitation; effectuation (or unplanned logic of action) and triggers (radical) innovations (March, 1991).

Interestingly, researchers slowly started to recognize that the *true* value of an "ambidextrous" organization may not lie in the distinct impact of exploitation *or* exploration, but in their interaction (He & Wong, 2004). We argue that this is also the case for the joint effects of causation (which is suitable for exploitation) and effectuation (which is suitable for exploration). Their interaction effects might lead to truly entrepreneurial firms that are able to simultaneously take risks, be proactive and pursue innovations. Firms might thus not only benefit from planning activities (Delmar & Shane, 2003), but are also in need of unplanned logic of action to respond to unexpected contingencies. Hence, previous studies show positive associations between planning flexibility (Barringer & Bluedorn, 1999; Kemelgor, 2002) or strategic adaptiveness (Dean & Thibodeaux, 1994), and entrepreneurial orientation. This has been corroborated in Clausen et al.'s (2012) preliminary study. The authors not only reveal positive direct relationships between causation and the sub-dimensions of entrepreneurial orientation (see Hypothesis 1), but also between the effectual sub-dimensions experimentation, flexibility and pre-commitments, and entrepreneurial orientation.

> ***Hypothesis 2 (H2):*** *Unplanned logic of action (that is, effectuation) will positively influence the relationship between planned logic of action (that is, causation) and entrepreneurial orientation. A firm simultaneously following planned and unplanned development strategies will be more entrepreneurial than a firm only opting for planned logic of action.*

7.2.3 Towards a contingency model: The interplay between planned logic of action and environmental dynamism

That the environment has an impact on an organization's strategy making has been acknowledged by a wide range of studies within the strategic management domain (e.g., Covin & Slevin, 1989; Wu, 2010). To conceptualize and understand the impact from the environment, Dess and Beard (1984) argue that environmental influences can be construed along two overarching dimensions: the degree of environmental uncertainty and the degree of resources available in the organization's surroundings. In particular, environmental uncertainty has an impact on the choice of effectual or causal development models (Sarasvathy, 2001). Such environmental uncertainty emerges from – amongst others – the competitive environment, which is generally construed along two dimensions: dynamism and complexity (Dess & Beard, 1984). These respectively represent discontinuity and rate of change (Miller & Droge, 1986), and heterogeneity and concentration (Dess & Beard, 1984) in the industry. In particular, the first (that is, environmental dynamism) is of interest for the current study.

More specifically, effectuation is inherently a cyclical process, while causation involves linear thought. As a consequence, planned logic of action is expected to be aligned with static, linear and independent environments that change infrequently. To the contrary, effectuation thrives in dynamic, nonlinear and ecological environments. For example, calculating expected returns for decisions is impossible under the unique circumstances that characterize an uncertain entrepreneurial environment (Chandler et al., 2011). Moreover, early proponents of strategic planning advocate that in uncertain environments with high degrees of dynamism and complexity, it is more difficult to follow pre-defined strategic plans (Mintzberg, 1973; Thompson, 1966). Indeed, given that entrepreneurial situations change rapidly, business planning is undermined in dynamic environments (Bird, 1988). As a consequence, we expect that the unique circumstances from a dynamic environment hamper the level of entrepreneurship in adopting a causal strategy. We hence expect that in highly dynamic environments, following a causation approach would be less entrepreneurial.

> ***Hypothesis 3 (H3):*** *Environmental dynamism will negatively moderate the relationship between planned logic of action (that is, causation) and entrepreneurial orientation: A firm's causal development strategy will be less strongly associated with its entrepreneurial orientation when environmental dynamism is high rather than low.*

7.2.4 Extending the contingency model: The interplay between planned logic, unplanned logic and environmental dynamism

As explained above (see Hypothesis 2), it is expected that entrepreneurial firms simultaneously following planned and unplanned development strategies are able to further amplify the positive effect of solely following planned strategies. We now argue that the interaction effect of such effectual and causal development strategies is affected by the level of environmental uncertainty. More specifically, when operating under uncertainty, entrepreneurial firms experiment with various business models (Andries & Debackere, 2007). Although stable environments allow firms to follow pre-defined plans, this is often not possible in unstable ones. Uncertain environmental conditions force companies to focus on effectuation processes *only*, such as strategic alliances instead of strategic planning processes – for example, sophisticated market research (Sarasvathy, 2001). In unstable environments, planning is impossible (Mintzberg, 1973; Thompson, 1966). Following these arguments, we expect that the positive amplification effect of simultaneously following a planned and unplanned development strategy will be negatively influenced by higher degrees of environmental dynamism.

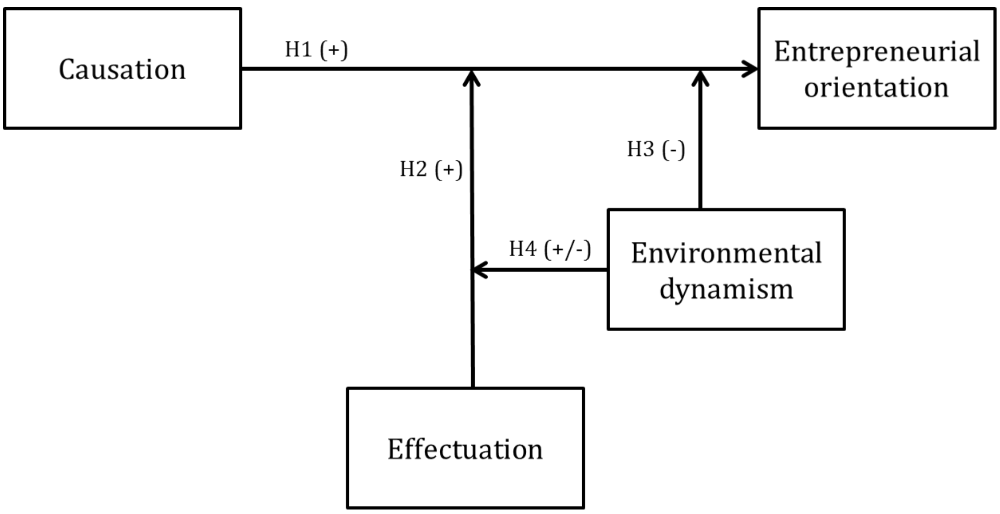
Hypothesis 4 (H4-): *Environmental dynamism will negatively moderate the positive interaction effect of a firm's planned (that is, causal) development strategy and its simultaneous unplanned (that is, effectual) development strategy. The higher the level of environmental dynamism, the less strong this interaction effect will be.*

On the other hand, there is also a stream of researchers arguing that a simultaneous focus on planned and unplanned development strategies thrives under uncertainty (Andries et al., 2013). Such researchers argue that planned logic of action positively affects entrepreneurial dimensions, such as proactiveness. Moreover, in unstable environments, a simultaneous focus on planned and unplanned logic of action is necessary to allow for higher degrees of entrepreneurialism (Clausen et al., 2012). Planned logic of action allows the company to follow a pre-defined goal, while simultaneous unplanned strategies enables the exploitation of unexpected contingencies (Sarasvathy, 2001).

Hypothesis 4 (H4+): *Environmental dynamism will positively moderate the positive interaction effect of a firm's planned (that is, causal) development strategy and its simultaneous unplanned (that is, effectual) development strategy. The higher the level of environmental dynamism, the stronger this interaction effect will be.*

Below, we summarize the hypotheses in a conceptual model.

Figure 7.1 Conceptual model



7.3 Method

7.3.1 Sample

To avoid common-method variance (Brannick et al., 2010; Chang et al., 2010), we used the data from our two questionnaire waves for this chapter's study. Data used for the independent variables of our conceptual model come from the 2012 questionnaire; data used to measure the dependent variable entrepreneurial orientation are from the 2013 questionnaire. As suggested by Chang et al. (2010, p. 179), collecting data at different points in time minimizes any potential common-method variance bias. In 2012, we received answers from 640 Belgian companies with at least one employee.[20] In 2013, all 640 SMEs that filled out the first questionnaire received the follow-up questionnaire. In total, 201 respondents completed the 2013 questionnaire, implying a response rate of 31.41 per cent. From these 201 SMEs, 162 companies provided valid information (listwise) on all variables used in our regression models.

7.3.2 Variables

Independent variables: effectuation, causation and environmental dynamism

To measure the development strategies "effectuation" and "causation", we employed a scale developed by Chandler et al. (2011) (see Appendix 7.1 for the separate items). It is important to note that Chandler et al. (2011) focus on the companies' start-up process, while our study acknowledges that effectual and causal development strategies can also be employed during subsequent product/service development. We thus introduced our scale by asking "Please think about the strategy you followed while developing your company's newest product/service and indicate the extent to which you agree or disagree with the following statements". Respondents had to choose amongst the answers on a five-point Likert scale, ranging from "I strongly disagree" to "I strongly

[20] Although we also gathered data for self-employed without employees (see Chapter 4 with descriptive data), we decided to leave this group out for the current chapter's study. The descriptive analysis of Chapter 4 shows that there are different forces at play in self-employed businesses vis-à-vis SMEs with regard to the relationships between effectuation, causation, and entrepreneurial orientation. We find that both causation and effectuation are positively correlated with entrepreneurial orientation for SMEs, but not for self-employed. For self-employed, we even have a negative correlation between entrepreneurial orientation and effectuation (see Table 4.8 in Chapter 4).

agree". Six factors emerged with factor analysis (Maximum likelihood, with Varimax rotation): a six item one-dimensional construct for causation (Cronbach alpha = 0.849), and five sub-dimensions for effectuation: a three-item factor for affordable loss (Cronbach alpha = 0.868), a two-item factor for experimentation (Cronbach alpha = 0.795), a four-item factor for flexibility (Cronbach alpha = 0.634) and two dimensions related to pre-commitment. The first sub-dimensions for pre-commitment consists of two items, and involves the amount of pre-commitments and the frequency with which they have been used. We called this sub-dimension "objective pre-commitments" (Cronbach alpha = 0.902). The other sub-dimensions consist of four items, which refer to the advantages pre-commitments offer to the company. For example, respondents were asked whether by working closely together with people/organizations, the company was able to expand its capabilities. We called this sub-dimension "goal pre-commitments" (Cronbach alpha = 0.820).

Although Chandler et al. (2011) suggest that the six pre-commitment items would all load onto one factor, they did not include the items loading onto our goal pre-commitment factor in their scale development study. They merely added these items from a conceptual point. Interestingly, our results are in line with those from Clausen et al. (2012), who also found a separate factor for the items loading onto our goal pre-commitment factor. Our findings are in line with previous research, where Cronbach alpha's varied from 0.62 to 0.85 (Chandler et al., 2011; Clausen et al., 2012). Reliability analysis on the effectuation factor as a whole provides a Cronbach alpha of 0.519. This low alpha is a first indication that, although "effectuation" is perceived as one concept in literature (e.g., Sarasvathy, 2001), it might be more appropriate to examine its sub-dimensions instead.

Environmental dynamism is measured with Miller's (1988) scale. Respondents were asked to answer the following questions: "My company must change its marketing practices frequently (e.g., semi-annually)", "The rate at which products/services are getting obsolete in my industry is very high", and "The modes of production/service development change often in a major way". We employed a seven-point Likert scale from -3 ("I strongly disagree) to +3 ("I strongly agree"). All items load onto one factor and reliability analysis gives a Cronbach alpha of 0.692. Our results are in line with previous research (for example, Wijbenga & van Witteloostuijn, 2007, where Cronbach alpha reached 0.66).

Dependent variable: entrepreneurial orientation

To measure entrepreneurial orientation, we employ a widely adopted scale developed by Covin and Slevin (1989). Entrepreneurial orientation consists of three components: risk-taking, innovativeness and proactiveness. For example, to measure risk-taking, respondents were asked to rate the following statement on a seven-point Likert scale from -3 ("I strongly disagree) to +3 ("I strongly agree"): "In general, my business has a strong proclivity for high-risk projects (with chances of high returns)". A sample item from innovativeness is "In general, my business favors a strong emphasis on R&D, technological leadership and innovations". Proactiveness is measured with items such as "In dealing with its competitor, my business typically initiates action to which competitors then respond" (see Appendix 7.1 for all items). Our factor analysis results in three factors: risk-taking (three items; Cronbach alpha = 0.835), innovativeness (three items, Cronbach alpha = 0.857), and proactiveness (two items, Cronbach alpha = 0.826). In the original scale, proactiveness consists of three items. Our factor analysis forced us to delete the item "In dealing with its competitor, my business typically adopts a very competitive 'undo-the-competitors' posture". This might be because this statement may be too extreme for the Belgian culture. For example, Belgium scores relatively lower on Hofstede's individualism dimension than the United States, where the original scale has been developed (Covin & Slevin, 1989). As explained by Miller (1983), the three sub-dimensions comprise a one-dimensional construct (Cronbach alpha = 0.778). Our results are in line with previous research, where the Cronbach alpha reached 0.836 (Wales et al., 2013).

Control variables: gender, manager-owner and entrepreneurial experience

We include gender, manager-owner and level of experience as control variables. First, although Sonfield et al. (2001) found that there are no significant gender differences in strategies chosen by business owners, and Fischer et al. (1993) did not find performance differences among men- and women-owned enterprises, other studies provide mixed results. For example, some studies indicate that women are more cautious and have less problem-solving capabilities in risky situations than men (Johnson & Powell, 1994), and others report performance differences across females and males (Cuba et al., 1983; Hisrich & Brush, 1987). First, regarding owner-manager, research suggests that performance outcomes do not differ between owner-managed firms and firms managed by non-owners (Hay & Morris, 1979). It has been argued that non-owner managers often build their entire livelihood around the company, and pursue organizational health because their income often depends on compensation plans and bonuses (Lewellyn & Huntsman, 1970). However, in entrepreneurship literature, the owner-manager is often defined as being the "true" entrepreneur. For example, Gartner (1990) provides an interesting quote from one of the experts in his Delphi study (p.18): "I prefer the traditional definition of an owner-managed business. It seems to me that ownership makes a difference in the motivation and interests of the manager". Therefore, we include the variable manager-owner in our analyses. Finally, we add the level of entrepreneurial experience of the respondent. As proven by Read and Sarasvathy (2005), expert entrepreneurs are more likely to choose effectual company development strategies, whereas novice entrepreneurs opt for causal processes. Therefore, we asked the respondents when they founded their first business.

7.3.3 Regression analysis

Data were analyzed using the hierarchical multiple regression technique and Hayes's (2012) PROCESS macro for moderation modeling and three-way interactions. This technique is appropriate to gain insights into the (relative) importance of, and relationships amongst, independent variables in the prediction of the dependent variable (Hair et al., 2005). As explained by Hair et al. (2005), a ratio of observations to independent variables of at least 5:1 and preferably 15:1 is required to maintain power at 0.80 and reach generalizability of the results. In our most extensive three-way interaction model (that is, the models with all effectual sub-dimensions), we have a total of 14 variables (three independent variables, three two-way interactions, one three-way interaction and seven control variables). The required number of observations is thus minimally 70 and preferably 210. The number of cases in our sample is 162, thus reaching a ratio from 11:1 when all variables are simultaneously put into the model. To reduce the risk of multicollinearity, we only included independent variables with a bivariate correlation of maximum 0.75. The correlation matrix can be found in Table 7.1. We also report the variance inflation rate in the results section. All independent variables are mean centered to simplify interpretation (Cohen et al., 2003).

7.4 Results

We tested the hypotheses through moderation models. Table 7.2 represents the results for Model 1 (control variables), Model 2 (control variables and direct effects), Model 3 (control variables, direct effects and two-way interactions), and Model 4 (control variables, direct effects, two-way interactions and three-way interaction). Model 1 shows that the respondent's gender does not affect firm-level entrepreneurial orientation; we thus do not find a significant relationship between gender and firm-level entrepreneurial orientation. To the contrary, the respondent's function does significantly affect firm-level entrepreneurial orientation ($B = .292$; $p < .05$). This means that executive respondents score higher on entrepreneurial orientation than manager-owner respondents. Finally, we also find a positive significant effect for the level of entrepreneurial experience and entrepreneurial orientation ($B = 0.20$; $p < .05$).

The unconditional direct effect represented by Hypothesis 1 can be found in Model 2. Here, we see that causation positively relates to entrepreneurial orientation ($B = .491$; $p < .001$). Thus, we find support for Hypothesis 1. Model 3 shows the results for Hypotheses 2 and 3, examining the two-way interaction effects as included in our conceptual model. We find a significant positive interaction effect between causation and effectuation ($B = 0.496$; $p < 0.01$). This result supports Hypothesis 2. For environmental dynamism, we observe a significant negative interaction effect between causation and environmental dynamism ($B = -.165$; $p < .05$). This result supports Hypothesis 3. To further examine these interaction effects, we also probe them in Figures 7.2 to 7.5.

Table 7.1 Means, standard deviations, maximum, minimum and bivariate correlations

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12
1. Entrepreneurial orientation	0.01	1.24	-3.00	2.56	1.00											
2. Causation	3.48	0.78	1.00	5.00	0.42**	1.00										
3. Environmental Dynamism	-0.28	1.39	-3.00	3.00	0.30**	0.34**	1.00									
4. Effectuation	3.19	0.53	1.40	4.60	0.24**	0.37**	0.28**	1.00								
5. Experimentation	2.43	0.99	1.00	5.00	0.16*	0.04	0.17*	0.56**	1.00							
6. Affordable loss	3.73	0.92	1.00	5.00	0.03	0.08	0.08	0.56**	0.08	1.00						
7. Flexibility	3.83	0.59	1.00	5.00	0.17*	0.22**	0.19*	0.50**	0.02	0.34**	1.00					
8. Objective pre-commitments	2.80	1.04	1.00	5.00	0.22**	0.34**	0.24**	0.70**	0.28**	0.18*	0.19*	1.00				
9. Goal pre-commitments	3.16	0.94	1.00	5.00	0.13	0.42**	0.16*	0.60**	0.12	0.12	0.20**	0.30**	1.00			
10. Gender	1.08	0.27	1.00	2.00	-0.05	-0.03	0.03	0.17*	0.05	0.12	0.07	0.18*	0.07	1.00		
11. Manager-Owner	1.36	0.77	1.00	3.00	0.14	0.20*	0.04	-0.01	0.05	0.02	0.05	-0.13	0.02	-0.02	1.00	
12. Entrepreneurial experience	15,68	9.95	0.00	42.00	0.12	0.02	0.05	-0.03	0.02	0.06	-0.01	-0.06	-0.09	0.04	-0.23**	1.00

Variables are not mean centered. Entrepreneurial orientation and environmental dynamism are measured on a seven-point Likert scale from -3 ("I strongly disagree) to +3 ("I strongly agree"). Causation, effectuation and its sub-dimensions are measured on a five-point Likert scale from 1 ("I strongly disagree") to 5 ("I strongly agree"). For gender, there are two categories; 1 = male; 2 = female. For manager-owner, there are three categories; 1 = owner, 2 = self-employed, 3 = executive. For the current sample, we only focused on owners and managers (that is, SMEs). Entrepreneurial experience is measured using the time since the entrepreneur first started a business (in years). p * < .05; and p ** p < .01. Two-tailed significance. Sample size = 162.

Table 7.2 Hierarchical linear regression

Outcome	Model 1	Model 2	Model 3	Model 4
Constant	-.462	-.184	.031	.051
	(.467)	(.427)	(.418)	(.423)
Control variables				
Gender	-.225	-.285	-.481	-.497
	(.352)	(.325)	(.321)	(.325)
Manager-owner	.292*	.173	.197+	.197+
	(.128)	(.119)	(.117)	(.117)
Entrepreneurial experience	.020*	.017+	.016+	.016+
	(.010)	(.009)	(.009)	(.009)
Direct effects				
Causation		.491***	.441**	.445**
		(.128)	(.127)	(.127)
Effectuation		.225	.174	.201
		(.183)	(.181)	(.194)
Dynamism		.136*	.171*	.179**
		(.067)	(.067)	(.070)
Two-way interaction effects				
Causation*Dynamism			-.165*	-.172*
			(.079)	(.081)
Causation*Effectuation			.496**	.449*
			(.179)	(218)
Effectuation*Dynamism			-.177	-.159
			(.119)	(.128)
Three-way interaction effects				
Causation*Effectuation*Dynamism				-.037
				(.095)
F-statistic	2.641+	7.895***	7.043***	6.319***
R^2	.048	.255	.282	.282
Adjusted R^2	.030	.234	.253	.248
R^2 change	.048+	.186***	.060**	.001

$^+$ < .1; * < .05; ** p < .01; and *** p < .001. Dependent variable is Entrepreneurial Orientation (EO). Standard errors in parentheses. VIF for all models ≤ 2.10. For the ease of interpretation, causation, effectuation and dynamism are mean-centered. Listwise. Two-tailed. Unstandardized coefficients. Sample size = 162.

The interaction effect between causation and effectuation (Hypothesis 2) is visualized in Figure 7.2. From this plot, we can conclude that the positive effect of causation on entrepreneurial orientation is particularly strong when the company simultaneously follows an effectuation strategy. To further examine this moderation effect, we used the Johnson-Neyman technique (Hayes, 2012). Through bootstrapping, it provides the values within the range of the moderator in which the association between causation and entrepreneurial orientation is significant. Figure 7.3 plots the effect of causation given effectuation. The y-axis represents the moderator values (in this case, effectuation), and the left x-axis the marginal effect of causation given effectuation. The marginal effect is visualized by the full line. The dotted lines represent the 95% bootstrap confidence intervals. As indicated by Berry et al. (2012), conditional effects are significant when both confidence interval lines lie below or above zero. Figure 7.3 reveals that the marginal effect of causation is significant when effectuation reaches -0.33 (or 2.86 without mean centering).[21] For values of effectuation equal to or above -0.33, the effect is not only positive, but also statistically (i.e., the confidence intervals do not straddle at zero) and substantively (i.e., the marginal effect line is not flat) significant. This is true for 67.9% of the observations. For effectuation values that are lower than -0.33, the effect is statistically non-significant. Thus, although the effect sign turns and $ME(CAUS|DYN = HC_{min}) < 0$, this effect is non-significant. Following Berry et al. (2012), these results nuance our earlier results for Hypothesis 2. More specifically, we find that the marginal effect of causation on entrepreneurial orientation is only significant at high levels of effectuation.

[21] Effectuation is measured on a five-point Likert scale, running from from 1 ("I strongly disagree") to 5 ("I strongly agree"). Thus, when the moderator value is 2.86 or above (that is, almost value "neutral" or above on the five-point Likert scale), respondents answered that their company follows effectual company development strategies. Our analysis thus shows that *only* when the company simultaneously follows effectual and causal development strategies, there is a positive effect on firm-level entrepreneurial orientation.

Figure 7.2 Two-way interaction between causation and effectuation

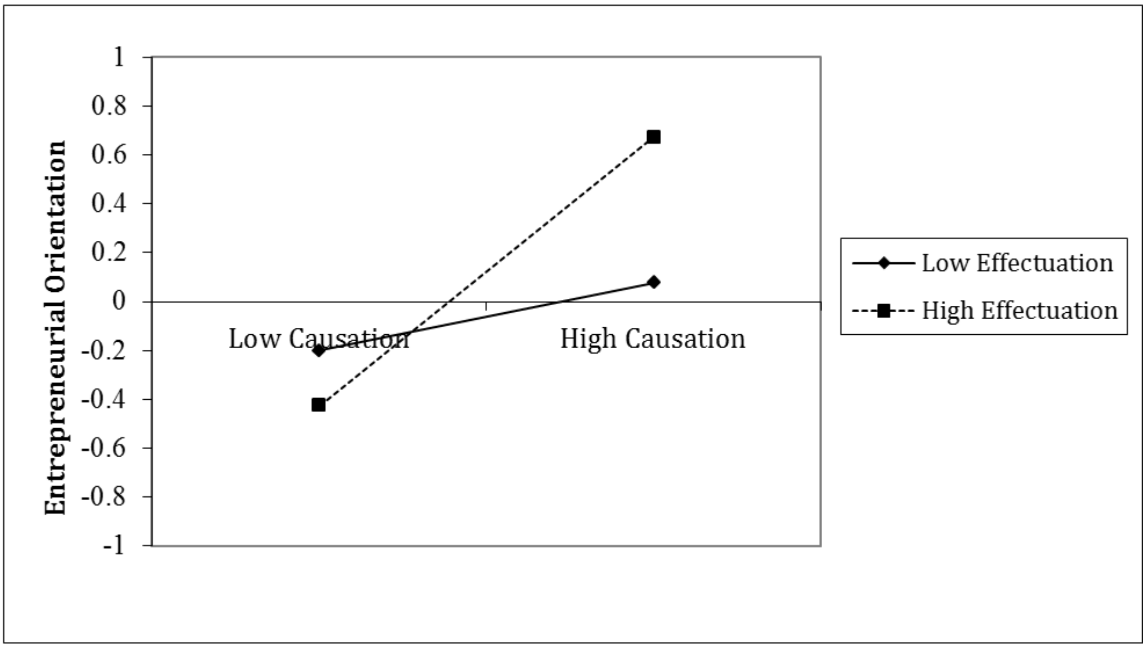
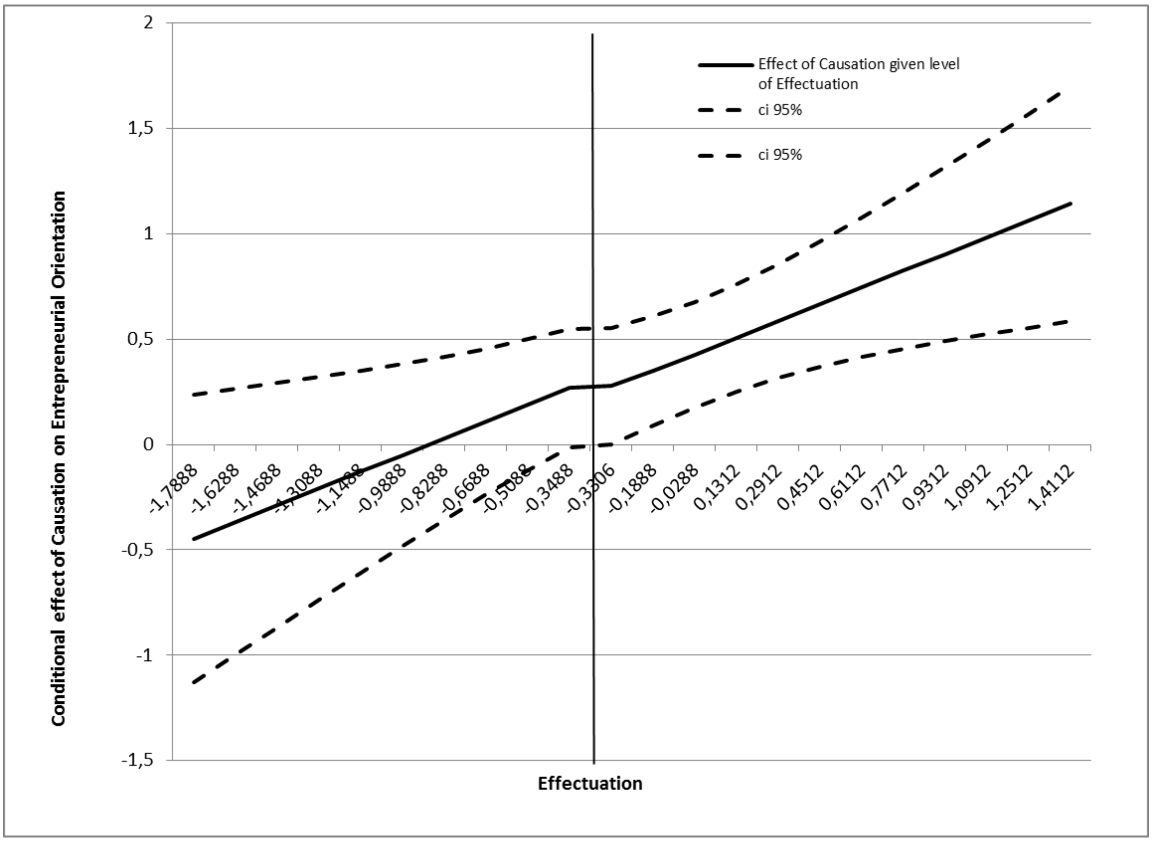


Figure 7.3 Johnson-Neyman region of significance for the conditional effect of causation given effectuation



The interaction between causation and environmental dynamism (Hypothesis 3) is visualized in Figure 7.4. From this plot, we can conclude that the positive effect of causation on entrepreneurial orientation is particularly strong in stable environments. To further examine this moderation effect, again, we used the Johnson-Neyman technique (Hayes, 2012). Figure 7.5 plots the effect of causation given entrepreneurial dynamism. This figure reveals that the marginal effect of causation is significant until environmental dynamism reaches 0.88 (or 0.60 without mean centering).[22] For values of environmental dynamism under .88, the effect is not only negative, but also statistically (i.e., the confidence intervals do not straddle at zero) and substantively (i.e., the marginal effect line is not flat) significant. This is true for 78.4% of the observations. For environmental dynamism values equal to or higher than 0.88, the effect is statistically non-significant. Thus, although the effect sign turns and ME(CAUS|DYN = HC_{max}) < 0, this effect is non-significant. These results nuance our earlier results for Hypothesis 3. More specifically, we find that the marginal effect of causation on entrepreneurial orientation is only significant at low levels of environmental dynamism.

Finally, Model 4 (Table 7.2, see above) reveals that there is no significant three-way interaction effect between causation, effectuation and environmental dynamism.

---

[22] Environmental dynamism is measured on a seven-point Likert scale, ranging from -3 ("I strongly disagree") to +3 ("I strongly agree"). Thus, when the moderator value is below 0.60 (that is, below value "neutral" on the seven-point Likert scale), respondents answered that their company must *not* change its marketing practices frequently, that the rate at which products/services are getting obsolete in their industry is *not* very high, and that the modes of production/service development do *not* often change in a major way. Our analysis thus shows that only in such stable environments, the marginal effect of causation on entrepreneurial orientation is significant.

Figure 7.4 Two-way interaction between causation and environmental dynamism

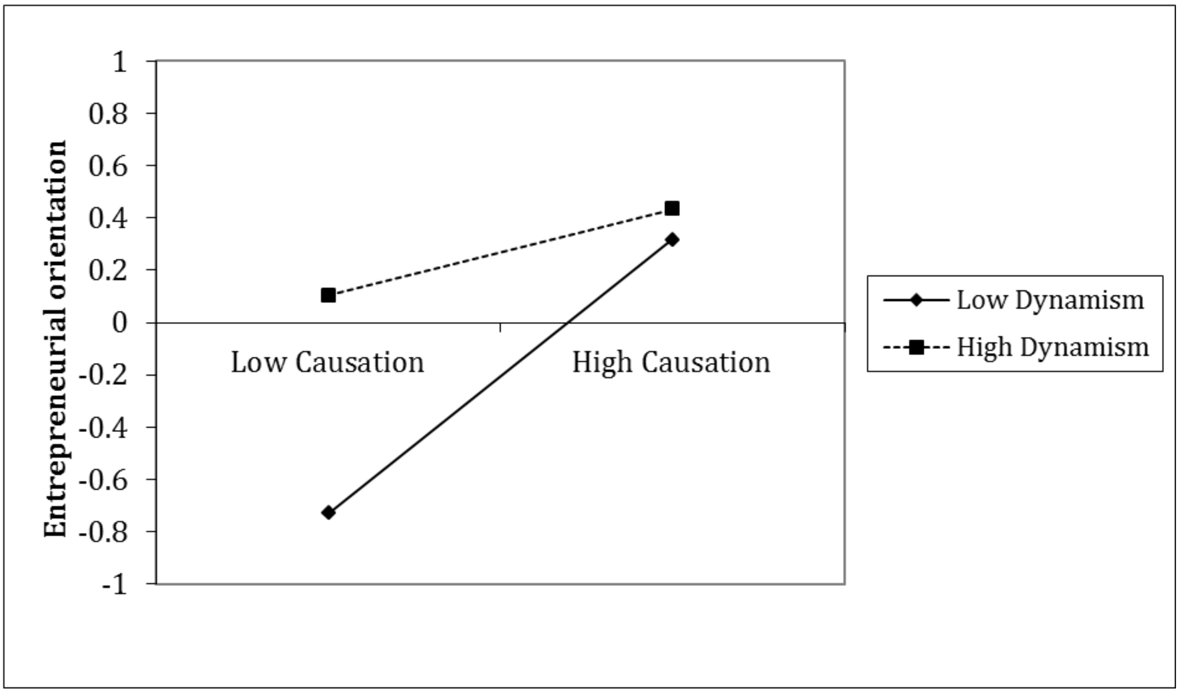
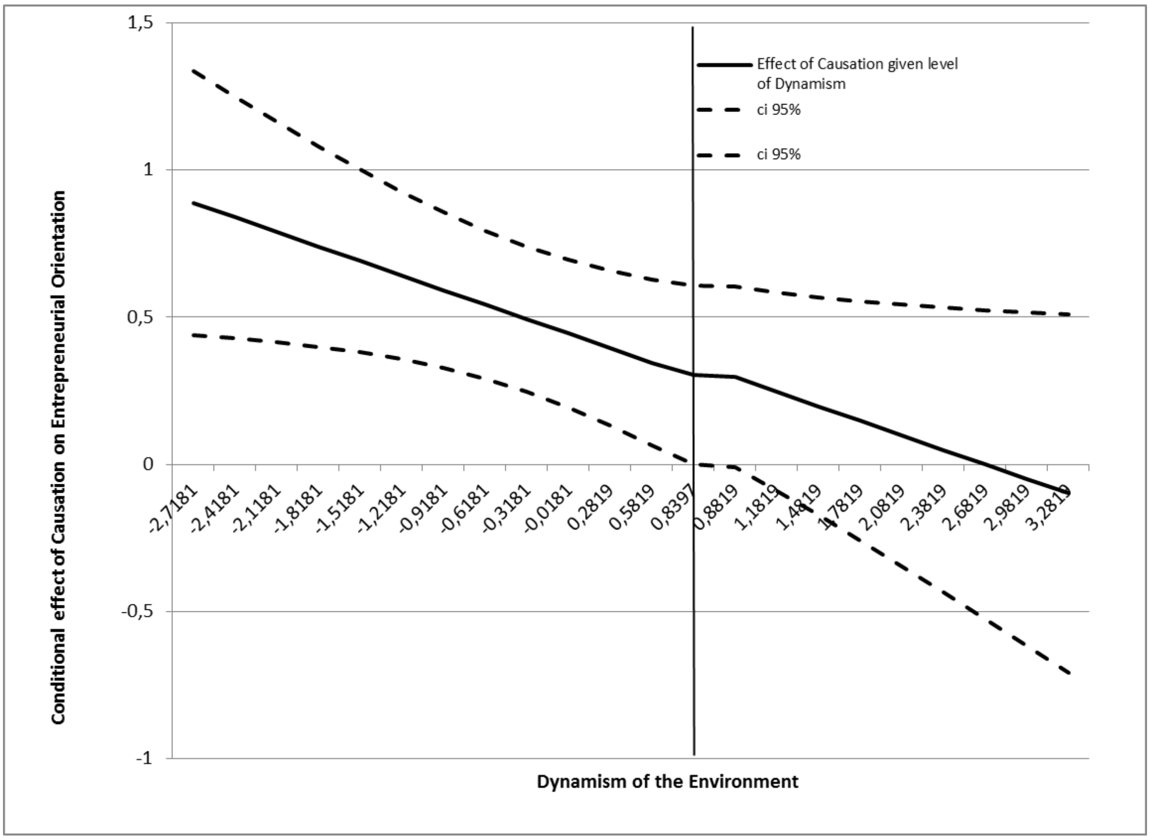


Figure 7.5 Johnson-Neyman region of significance for the conditional effect of causation given environmental dynamism



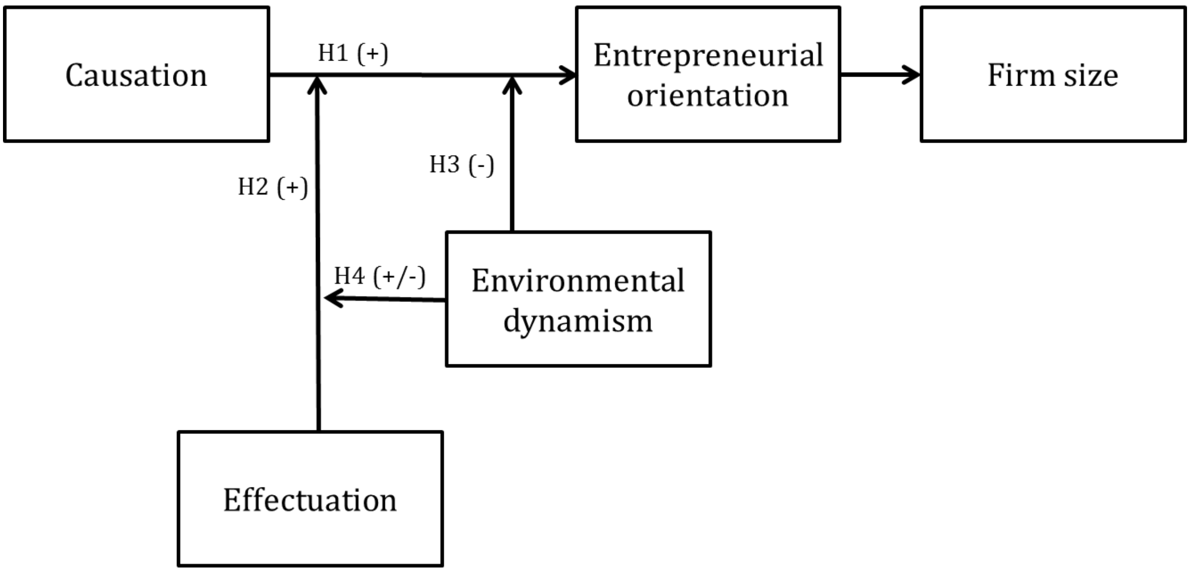
7.5 Discussion

Our empirical study provides the following results. We find that executives score higher on entrepreneurial orientation than manager-owners. This nuances previous research on entrepreneurial orientation, where a distinction between managers and owners often is not made (for example, Lumpkin & Dess, 2001; Lyon et al., 2000). In most studies, the sample consists of both manager/owners and top executives. We follow Gartner (1990), who argues that ownership makes a difference in the manager's motivations and interests, and who provides evidence that this also applies to the level of entrepreneurialism that the firm pursues. We also find that respondents with higher levels of business experience score higher on the entrepreneurial orientation dimensions. This is in line with studies showing that previous business experience equips decision-makers with a positive attitude towards entrepreneurship, such as risk-taking (Brockhaus, 1980). The firms that adopt a non-entrepreneurial stance are less risk-averse, more innovative and more proactive in developing new markets and business opportunities (Miller & Friesen, 1982).

We also find that following planned development strategies is positively related to the degree of entrepreneurial orientation, ceteris paribus. Companies analyzing long-run opportunities and selecting those target markets that are expected to yield the best return while having a clear, planned and consistent vision, score higher on entrepreneurial orientation. This corroborates previous research arguing that planning positively relates to innovation success (Salomo et al., 2007), proactiveness (Brews & Hunt, 1999) and risk-taking (Clausen et al., 2012). Our analysis also shows that planning is of particular influence when it is combined with effectual development processes. More specifically, we find that only when a company simultaneously follows causal and effectual development strategies, entrepreneurialism thrives (see Figure 7.3). This is in line with suggestions from He and Wong (2004), who argue that the *true* value of exploration (which can be attained through effectual development strategies) and exploitation (which can be attained through causal development strategies) is in their interaction effect, not in their individual direct influences on company outcomes. Moreover, Kraaijenbrink (2008) suggests that causation and effectuation are two dimensions that should not be treated as two extremes. We follow this reasoning, but also find that effectuation and causation do *not* independently relate to entrepreneurial orientation. More specifically, we find that simultaneously following causal and effectual development strategies positively relates to the degree of entrepreneurial orientation. This is in line with Andries et al. (2013), who show that different development strategies can occur simultaneously. Their case-based analysis reveals that simultaneous experimentation contains both elements from "causation" (or planning) and "effectuation" (or action).

To further explore the interaction effects between causation and effectuation, we performed two additional analyses: a conditional mediation analysis, which examines the subsequent impact of entrepreneurial orientation on firm size; and a post hoc analysis of the different effectual sub-dimensions. First, we examine the extent to which the entrepreneurial orientation of the firm subsequently affects its performance, in terms of firm size (in employment fte). It is a mediation model where strategic planning (causation) first impacts the entrepreneurial orientation of the firm and subsequently affects firm size (see Figure 7.6). In line with the previous model, we test for the moderation effects of effectuation and environmental dynamism.

Figure 7.6 Conditional process: A mediated moderation



We find that entrepreneurial orientation mediates causation, leading to larger SMEs. In other words, a causal, strategic entrepreneurial logic of action enhances firm-level entrepreneurial orientation, which in turn stimulates firm size. In line with a contingency approach, we also find some interesting conditional relationships of causal and effectual strategies with environmental dynamism. More specifically, the mediation effect holds in a very stable environment, but is threatened as the environment becomes more turbulent. In the latter case, effectuation appears to be a strategic logic of action that can elevate the negative moderating role of environmental dynamism.

This result is suggested by a bootstrap technique performed through the PROCESS macro (Hayes, 2012), which allows for examining moderations, mediations, and their combined effects. A bootstrap creates fictive samples based on the actual sample and, for each fictive sample, computes the impact of causation on firm size. It provides a "confidence interval" (henceforth CI), which includes all the values of the causation impact on firm size for each fictive sample. If the CI includes zero, it means that the mediation is not realized: the bootstrap provides instances where the impact of causation is null. If the CI includes coefficients that are all negative and different from zero, then the mediation is considered to be negative and significant. Finally, if the CI includes coefficients that are all positive and different from zero, then the mediation is viewed as positive and significant, which is what we find (see Table 7.3), at least for stable environments. In line with our contingency approach, results indicate that the mediation holds in stable environments, but is threatened when these becomes more turbulent. In this case, causation must be complemented by effectuation (see Table 7.3). We show that in highly changeable environments where continuous change and adaptability are required, there might be an increased need for entrepreneurs to develop ambidextrous logics (that is, following both effectual and causal logics of action).

Table 7.3 Indirect effects of causation on firm size through the entrepreneurial orientation of the firm

Direct effect					
Effect	Standard Deviation (SD)	t	p	Confidence Interval Lower Limit (LLCI)	Confidence Interval Upper Limit (ULCI)
1.926	22.648	0.085	0.932	-42.814	46.667

Conditional effect of Causation on firm size for different level of the moderators (environmental dynamism and effectuation); moderators value equaled to the mean, mean plus SD, mean minus SD

Mediator	Dynamism	Effectuation	Effect	Boot SD	Boot LLCI	Boot ULCI
EO	-1.399	-0.534	6.083	5.141	0.648	26.124
EO	-1.399	0.000	8.538	6.362	1.270	31.419
EO	-1.399	0.534	10.994	8.045	1.589	38.463
EO	0.000	-0.534	2.503	3.218	-0.381	15.204
EO	0.000	0.000	4.958	4.016	0.616	19.784
EO	0.000	0.534	7.414	5.664	0.962	27.378
EO	1.399	-0.534	-1.077	3.358	-13.017	2.830
EO	1.399	0.000	1.379	2.960	-1.801	12.019
EO	1.399	0.534	3.834	4.054	0.100	20.171

Second, to further explore the interaction effects between causation and effectuation, we performed post hoc hierarchical regression analyses with the effectual sub-dimensions. This is in line with conceptual arguments from researchers such as Kraaijenbrink (2008), who point out that we should examine the various sub-dimensions of effectuation instead of effectuation as a whole. Our reliability analysis also suggested that analyses on the separate sub-dimensions might be more appropriate; we found a Cronbach alpha of 0.519 for effectuation as a whole, and Cronbach alphas of 0.634 or higher for the separate sub-dimensions. The results show non-significant interaction effects for the sub-dimensions “experimentation”, “affordable loss”, and “flexibility” (see Appendix 7.2). Interestingly, we do find positive interaction effects for objective and goal pre-commitments (see Tables 7.4 and 7.5). More specifically, we find that the ambidexterity effect of simultaneously following causal and effectual development strategies particularly thrives when a company not only opts for planned development strategies, but also for many (that is, scoring high on objective pre-commitments) and advantageous (that is, scoring high on goal pre-commitments) networking relations. The interaction plots visualized in Figures 7.7 and 7.9 clearly show that the marginal effect of causation on entrepreneurial orientation is much stronger when high levels of these pre-commitment dimensions are reached. The Johnson-Neyman plots visualized in Figures 7.8 and 7.10 further unravel these interaction effects.

In Figure 7.8, we see that the interaction effect of causation with objective pre-commitments becomes significant when objective pre-commitments reach the value -0.52 (or 2.28 without mean centering). Because objective pre-commitments are measured on a five-point Likert scale ranging from +1 ("I totally disagree") to +5 ("I totally agree"), a value of 2.28 almost equates to an answer between "I disagree" and "neutral". In other words, the more frequent companies use many pre-commitments and agreements, in combination with pre-defined causal development strategies, the more entrepreneurial the company is. The significant interaction effect is true for 66.05 per cent of the observations in our sample. In a parallel fashion, Figure 7.10 visualizes that the positive interaction effect between causation and goal pre-commitments becomes significant when goal pre-commitments reach the value -1.04 (or 2.12 without mean centering). Likewise, this equates to an answer between "I disagree" and "neutral". The more respondents answered that network contacts provided advantages such as low-cost resources, capability expansion, alliances and product/service provision, the stronger the positive interaction effect becomes. The significant interaction effect is true for 83.9 per cent of the observations in our sample.

The reason that we only found positive interaction effects between causation and the goal pre-commitment effectual sub-dimension can be explained as follows. As already indicated by Kraaijenbrink (2008), Sarasvathy's (2001) argument of cooperation and competition does not seem to hold when examining strategy development in existing firms. According to Sarasvathy (2001), causal development strategies always imply competition, while companies engaging in effectual development strategies opt for cooperation instead. By doing so, she (2001, p. 5) "puts away the broad literature on alliances, interorganizational relationships, joint ventures and networks. While that literature focuses on end-driven logic of action [as is the case for causal development strategies], it makes clear that firms make use of cooperative partnerships all the time (e.g., Dyer & Singh, 1998; Ring & Van de Ven, 1994)". Kraaijenbrink (2008) rightfully concludes that "partnerships are essential for both the effectuation and the causation model". His arguments might explain why Chandler et al. (2011) found that the pre-commitment construct loaded on both causation and effectuation. Although we do not find such a cross-loadings in our study, our interaction effect does indicate that pre-commitments might be more closely related to causation, in comparison with the other effectual sub-dimensions.[23] Thus, although Sarasvathy (2001) theoretically juxtaposes both development strategies and argues that entrepreneurial firms choose for *either* deliberately planning *or* trial-and-error development strategies, we find that an interaction of deliberate planning and pre-commitments stimulates company outcomes.

To further examine the interaction effects between causation and effectuation, we followed researchers such as Andries et al. (2013) and Read et al. (2009), who argue that environmental dynamism has an impact on the level of causation or effectuation. First, we examine whether and how environmental dynamism moderates the relationship between causation and entrepreneurial orientation. In line with our expectations, we find that causal development processes only work in stable environments (see Figure 7.5). In addition, this supports the work of Chandler et al. (2011), who state that causal planning processes such as calculating expected returns is impossible in unstable environments. Also Sarasvathy (2001) posits that causation is inappropriate in uncertain circumstances. Figure 7.5 shows that the marginal effect of causation is significant until environmental dynamism reaches 0.88 (or 0.60 without mean centering). This means that as long as the company is located within a stable environment following a causal development strategy positively relates to higher degrees of entrepreneurial orientation.

Besides the two-way interaction effect of causation and environmental dynamism, we also examine the three-way interaction effect of causation, effectuation and environmental dynamism. As shown in Table 7.2, this results in a non-significant three-way interaction effect. Again, we re-ran the analyses with the effectual sub-dimensions.

[23] Important to note is that Chandler et al. (2011) only performed an analyses on our "objective pre-commitments" dimension, and not on "goal pre-commitments".

Here, we find that the two-way significant interaction effect of causation and objective pre-commitments is unaffected by the level of environmental dynamism. We do find that the interaction effect of causation and goal pre-commitments is influenced by the degree of dynamism within the environment. More specifically, Figure 7.11 shows that, particularly within stable environments, high levels of pre-commitments that are strategically advantageous for the firm further amplify the positive effect of causation on entrepreneurial orientation. The Johnson-Neyman analysis shows that there is a significant interaction effect of causation and goal pre-commitments until environmental dynamism reaches the value 0.58 (or 3.74 without mean centering). Consequently, as long as the companies in our sample are located within a stable environment, goal pre-commitments can further amplify the positive effect of causation. This contradicts Andries et al. (2013), who argue that, under uncertainty, a simultaneous focus on action and planning might increase company performance. Our results suggest that a simultaneous focus might increase company outcomes, such as the level of entrepreneurial orientation, *only* within stable environments. Moreover, we unravel Read et al. (2009), who advocate a simultaneous use of causal and effectual development strategies, depending on the level of uncertainty. More specifically, we find that only when environmental uncertainty is low (in our case, measured through environmental dynamism), a simultaneous focus on effectuation and causation pays off.

Table 7.4 Hierarchical linear regression for effectual dimension objective pre-commitments

Outcome	Model 1	Model 5	Model 12	Model 13
Constant	-.462	-.197	-.117	.003
	(.467)	(.428)	(.424)	(.428)
Control variables				
Gender	-.225	-.273	-.391	-.490
	(.352)	(.328)	(.326)	(.330)
Manager-owner	.292*	.174	.225+	.227+
	(.128)	(.124)	(.122)	(.121)
Entrepreneurial experience	.020*	.017+	.016*	.016*
	(.010)	(.009)	(.009)	(.009)
Direct effects				
Causation		.523***	.416**	.435**
		(.140)	(.141)	(.140)
Experimentation		.133	.094	.094
		(.093)	(.093)	(.092)
Affordable loss		-.081	-.097	-.080
		(.103)	(.101)	(.101)
Flexibility		.186	.173	.218
		(.162)	(.158)	(.159)
Objective precommitments		.106	.137	.168+
		(.101)	(.100)	(.101)
Goal precommitments		-.082	-.055	-.069
		(.105)	(.104)	(.103)
Dynamism		.117+	.152*	.196**
		(.068)	(.068)	(.073)
Two-way interaction effects				
Causation*Dynamism			-.185*	-.206*
			(.081)	(.081)
Causation* Objective precommitments			.217*	.151
			(.087)	(.096)
Objective precommitments *Dynamism			-.017	.004
			(.067)	(.068)
Three-way interaction effect				
Causation*Dynamism* Obj precom				-.095
				(.058)
F-statistic	2.641+	5.173***	5.064***	4.947***
R^2	.048	.255	.308	.320
Adjusted R^2	.030	.206	.247	.255
R^2 change	.048+	.207***	.053*	.012

+ < .1; * < .05; ** p < .01; and *** p < .001. Dependent variable is Entrepreneurial Orientation (EO). Standard errors in parentheses. VIF for all models ≤ 1.737. For the ease of interpretation, causation, effectuation and dynamism are mean-centered. Listwise. Two-tailed. Unstandardized coefficients. Sample size = 162.

Figure 7.7 Two-way interaction between causation and objective pre-commitments

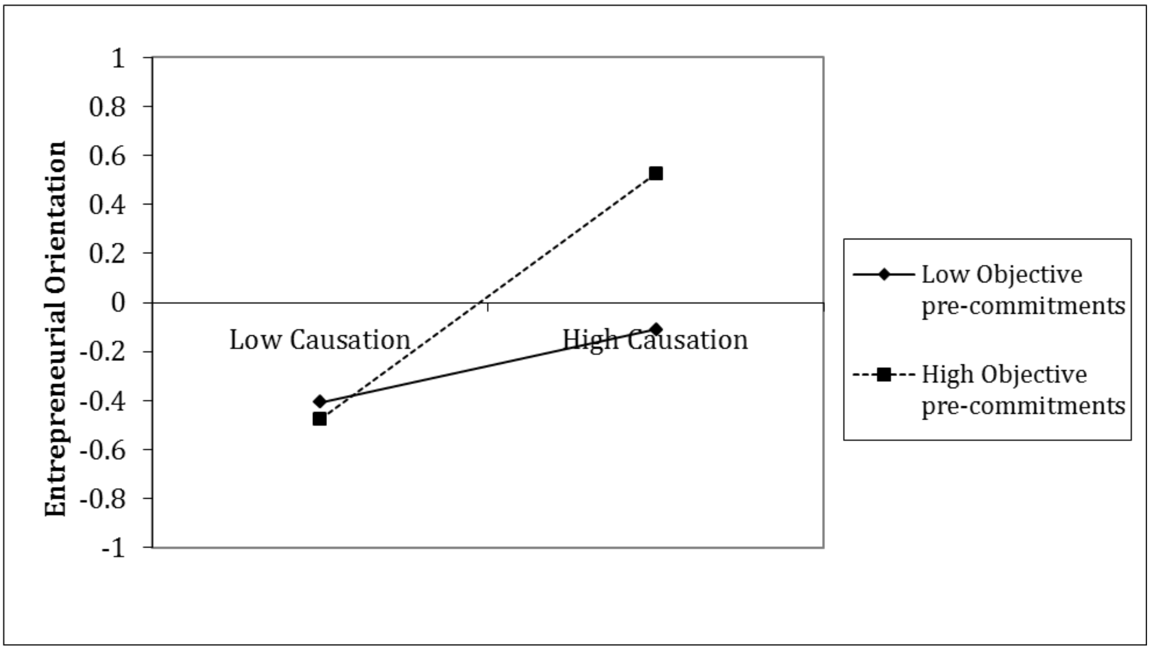


Figure 7.8 Johnson-Neyman region of significance for the conditional effect of causation given objective pre-commitments

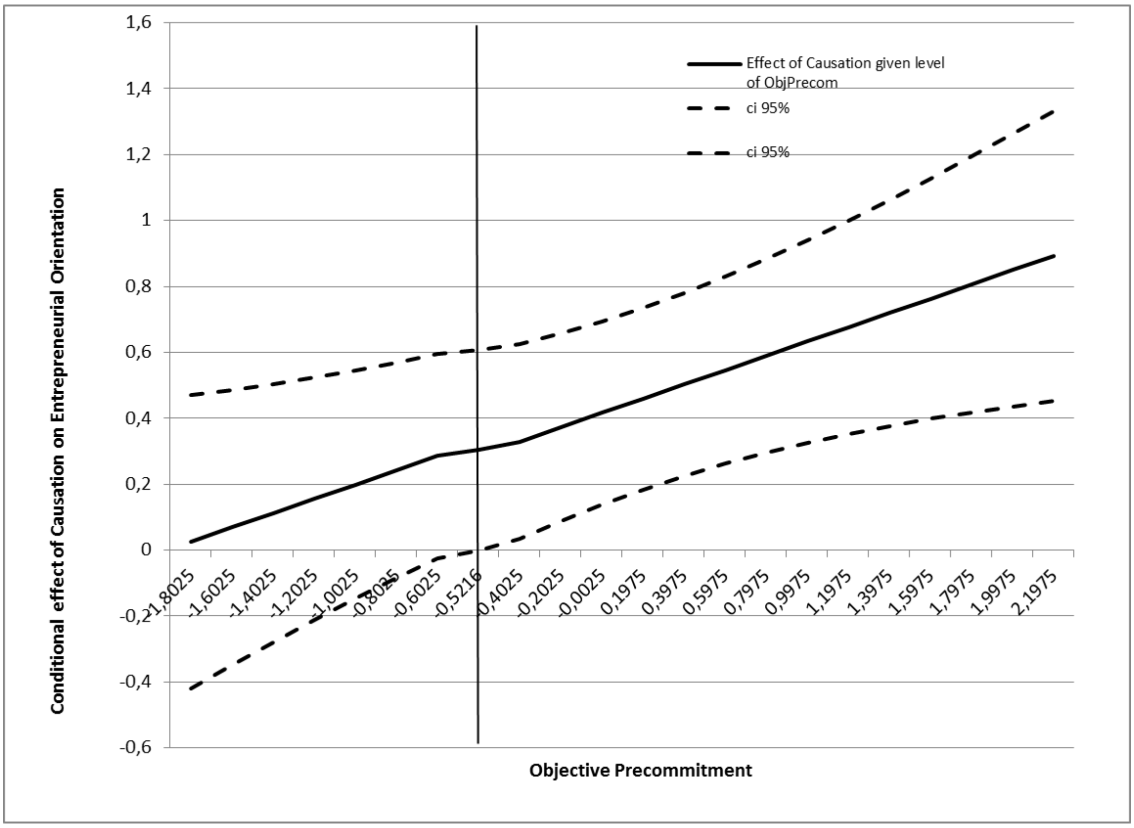


Table 7.5 Hierarchical linear regression for effectual dimension goal pre-commitments

Outcome	Model 1	Model 5	Model 14	Model 15
Constant	-.462	-.197	.002	.059
	(.467)	(.428)	(.418)	(.415)
Control variables				
Gender	-.225	-.273	-.448	-.526
	(.352)	(.328)	(.322)	(.321)
Manager-owner	.292*	.174	.170	.183
	(.128)	(.124)	(.121)	(.120)
Entrepreneurial experience	.020*	.017+	.015+	.017+
	(.010)	(.009)	(.009)	(.009)
Direct effects				
Causation		.523***	.603***	.589***
		(.140)	(.145)	(.144)
Experimentation		.133	.081	.095
		(.093)	(.092)	(.091)
Affordable loss		-.081	-.088	-.061
		(.103)	(.100)	(.100)
Flexibility		.186	.123	.137
		(.162)	(.157)	(.156)
Objective precommitments		.106	.129	.126
		(.101)	(.097)	(.096)
Goal precommitments		-.082	-.090	-.052
		(.105)	(.103)	(.103)
Dynamism		.117+	.138*	.190**
		(.068)	(.066)	(.071)
Two-way interaction effects				
Causation*Dynamism			-.138+	-.201*
			(.075)	(.081)
Causation* Goal precommitments			.296**	.258*
			(.105)	(.105)
Goal precommitments *Dynamism			-.109	-.098
			(.072)	(.072)
Three-way interaction effects				
Causation*Dynamism* Goal precom				-.124*
				(.072)
F-statistic	2.641+	5.173***	5.358***	5.352***
R^2	.048	.255	.320	.338
Adjusted R^2	.030	.206	.260	.275
R^2 change	.048+	.207***	.065**	.018*

+ < .1; * < .05; ** p < .01; and *** p < .001. Dependent variable is Entrepreneurial Orientation (EO). Standard errors in parentheses. VIF for all models ≤ 1.831. For the ease of interpretation, causation, effectuation and dynamism are mean-centered. Listwise. Two-tailed. Unstandardized coefficients. Sample size = 162

Figure 7.9 Two-way interaction between causation and goal pre-commitments

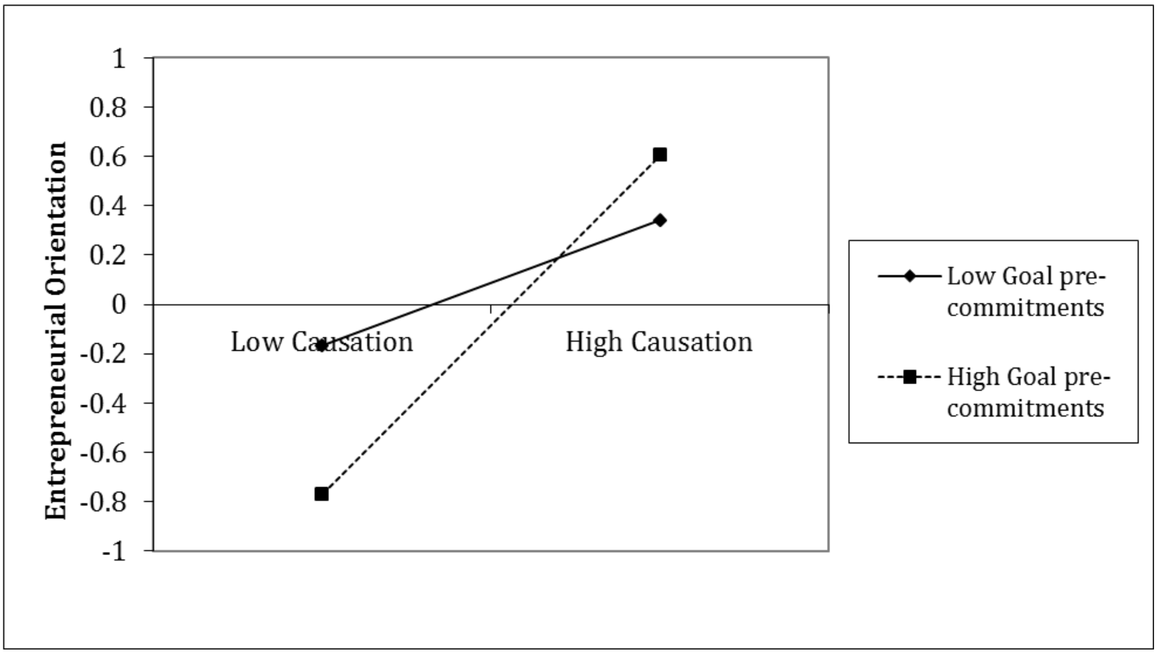


Figure 7.10 Johnson-Neyman region of significance for the conditional effect of causation given goal pre-commitments

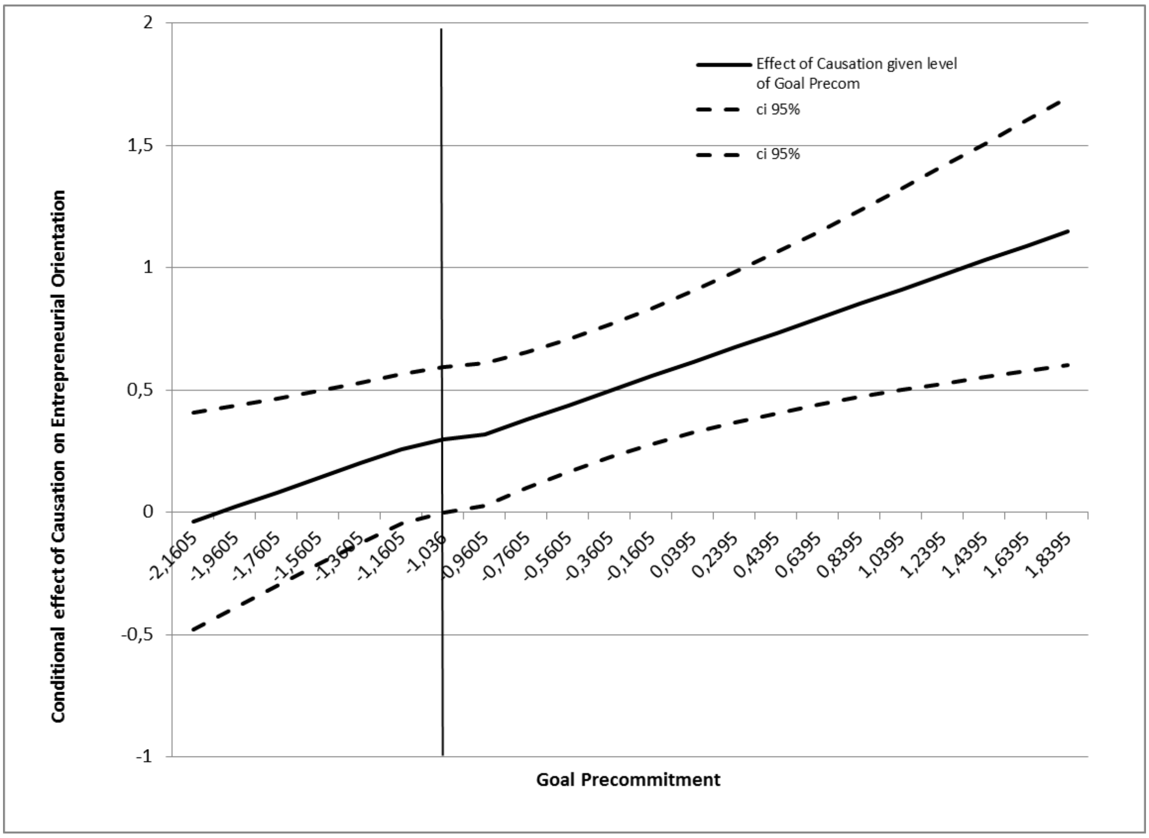
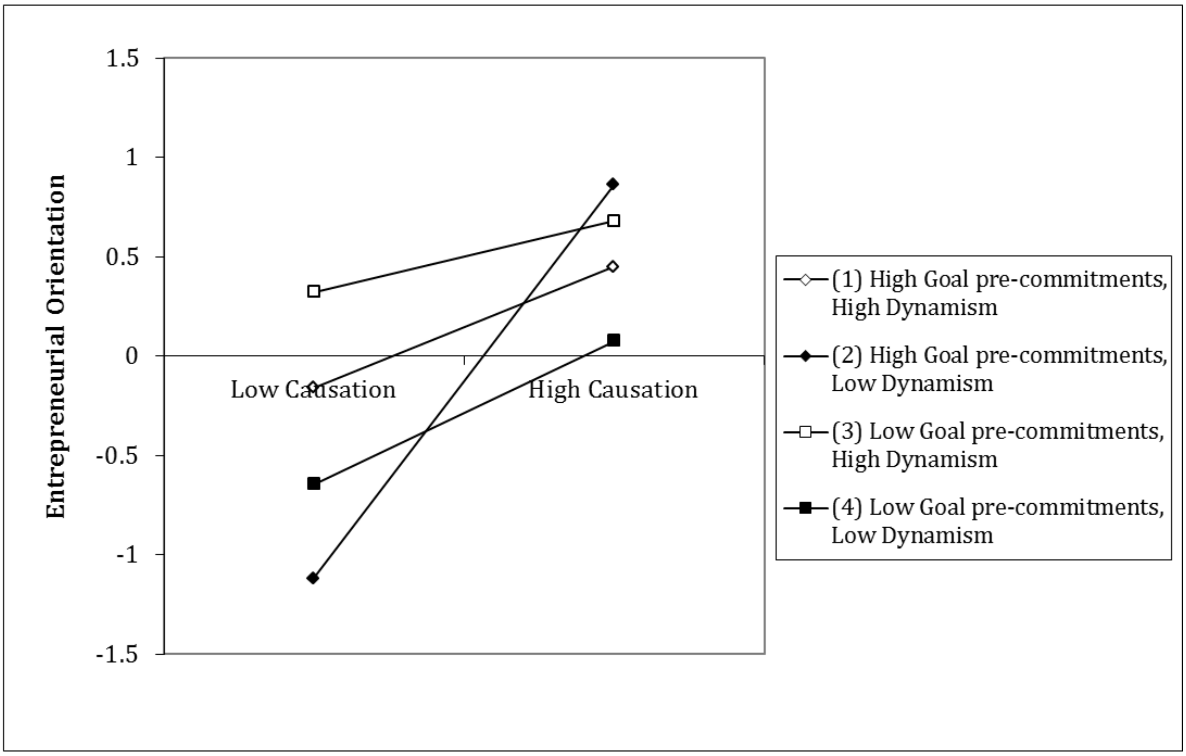


Figure 7.11 Three-way interaction between causation, goal pre-commitments and environmental dynamism



7.6 Conclusion

This chapter examines the relationships between (un)planned logic of action, environmental dynamism and firm-level entrepreneurial orientation. We find that prior planning results in a higher degree of entrepreneurialism in stable environments. Thus, in such environments, entrepreneurial firms benefit from following causal thinking processes during strategy development. The study also shows that, within stable environments, interaction effects between causal and effectual development processes take place. More specifically, simultaneously opting for planned thinking processes and high amounts or strategically advantageous pre-commitments further stimulates the degree of entrepreneurialism. In contrast, causal development processes are positively associated with entrepreneurial orientation within unstable environments. In an unstable environment, strategically advantageous pre-commitments are unable to further amplify the positive effect of planned logic of action on entrepreneurial orientation. Finally, this study also shows that the amount of pre-commitments and its interaction effect with causal thinking processes are unaffected by the degree of environmental dynamism.

With this chapter, we envision three overarching contributions to the literature and practice. While discussing these contributions, we also suggest some recommendations for future research. First, Chandler et al. (2011) suggest at the end of their scale-development paper that pre-commitments should not only be measured by examining the amount and frequency of the company's pre-commitments, but also by a deeper understanding of the strategically relevance of these pre-commitments. More specifically, they suggest to add such items as "Network contacts provided low cost resources" and "By working closely with people/organizations external to our organization we have been able to greatly expand our capabilities". This goes against research from authors like Read et al. (2009), who do refer to the "number of links" and "the commercialization possibilities with partners", but do not make an explicit subdivision between both sub-dimensions and their influence on company outcomes. Interestingly, Clausen et al. (2012) do use Chandler et al.'s (2011) additional items in an empirical test, reporting two separate pre-commitment factors. Our factor analyses confirm this. Future researchers might continue working with these two separate sub-dimensions.

Second, although only sporadically used in research, Wiltbank et al. (2009) advocate that the idea of unplanned logic of action is also appropriate for strategy development in established companies (for example, product or service development). Unfortunately, research in this area is very limited (Johansson & McKelvie, 2012). An exception is the work by Brettel et al. (2012), which demonstrates that effectual principles are employed in corporate R&D projects. Our study shows that effectual and causal thinking processes do not only apply to new venture development, but also to subsequent company development, including product and service development. Given the very limited number of studies on causal and effectual development strategies during company development, we urge future research to examine this further.

Third, although there are some studies examining the antecedents and influencers of causation and effectuation, only few researchers have focused on their outcomes (Perry et al., 2012). Our study shows that the interplay between causation, effectuation and environmental dynamism has an impact on company outcome measures such as entrepreneurial orientation. Although it is widely acknowledged that there is a positive association between entrepreneurial orientation and objective company outcome measures, such as sales growth (Wiklund & Shepherd, 2005), this has not yet been examined in relationship to causal and effectual development strategies. Following Wiklund and Shepherd (2005), we suggest that future research adds internal company and respondent characteristics to the configurational model. The impact from entrepreneurial orientation on company performance may not only differ depending on external factors surrounding environmental dynamism, but also on internal company factors, such as access to capital (Wiklund & Shepherd, 2005). Closely linked with the study of psychological factors, one might also argue that effectuation and causation are not deliberate development *strategies*, but entrepreneurial *traits*. It has been established that psychological factors of preference to planning impact upon subsequent planning logic of action in the company (Stewart et al., 1998). Future research may also unravel the degree of this influence. In the next chapter, we take a first step toward a comprehensive multi-level configurational analysis of SME performance, including measures of entrepreneurial traits, firm-level strategies, and environmental characteristics.

Appendix 7.1: Measurement scales

Table 7.1.1 Measurement scales for dependent and independent variables

Variable	Items
Entrepreneurial orientation – Innovativeness	In general, my business favors a strong emphasis on R&D, technological leadership and innovations
	In the last three years, my business has marketed very many new lines of products or services
	In the last three years, changes in product or service lines have been usually quite dramatic
Entrepreneurial orientation – Proactiveness	In dealing with its competitor, my business typically initiates action to which competitors then respond
	In dealing with its competitor, my business is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.
Entrepreneurial orientation – Risk-taking	In general, my business has a strong proclivity for high risk projects (with chances of high returns)
	Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives
	When confronted with decision-making situations involving uncertainty, the firm typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities
Causation	We analyzed long run opportunities and selected what we thought would provide the best return
	We designed and planned business strategies
	We organized and implemented control processes to make sure we met objectives
	We researched and selected target markets and did meaningful competitive analysis
	We had a clear and consistent vision for where we wanted to end up
	We designed and planned production and marketing efforts
Experimentation	The product/service that we now provide is NOT essentially the same as originally conceptualized.
	The product/service that we now provide is substantially different than we first imagined
Affordable loss	We were careful not to commit more resources than we could afford to lose
	We were careful not to risk more money than we were willing to lose with our initial idea
	We were careful not to risk so much money that the company would be in real trouble financially if things didn't work out
Flexibility	We allowed the business to evolve as opportunities emerged
	We adapted what we were doing to the resources we had

	We were flexible and took advantage of opportunities as they arose
	We avoided courses of action that restricted our flexibility and adaptability
Objective pre-commitments	We have used a substantial number of pre-commitments and agreements with customers, suppliers and other organizations and people
	We used pre-commitments from customers or suppliers as often as possible
Goal pre-commitments	Network contacts provided low cost resources
	By working closely with people/organizations external to our organization we have been able to greatly expand our capabilities
	We have focused on developing alliances with other people and organizations
	Our partnerships with outside organizations and people play a key role in our ability to provide our product/service
Environmental dynamism	My company must change its marketing practices frequently (e.g., semi-annually)
	The rate at which products/services are getting obsolete in my industry is very high
	The modes of production/service development change often in a major way

Appendix 7.2: Post-hoc hierarchical linear regressions sub-dimensions effectuation

Table 7.2.1 Hierarchical linear regression for effectual dimension experimentation

Outcome	Model 1	Model 5	Model 6	Model 7
Constant	-.462	-.197	.026	.022
	(.467)	(.428)	(.436)	(.437)
Control variables				
Gender	-.225	-.273	-.506	-.516
	(.352)	(.328)	(.338)	(.339)
Manager-owner	.292*	.174	.214+	.221+
	(.128)	(.124)	(.123)	(.124)
Entrepreneurial experience	.020*	.017+	.019*	.019*
	(.010)	(.009)	(.009)	(.009)
Direct effects				
Causation		.523***	.436**	.438**
		(.140)	(.141)	(.141)
Experimentation		.133	.120	.127
		(.093)	(.093)	(.094)
Affordable loss		-.081	-.089	-.088
		(.103)	(.101)	(.102)
Flexibility		.186	.154	.134
		(.162)	(.160)	(.163)
Objective precommitments		.106	.127	.129
		(.101)	(.099)	(.100)
Goal precommitments		-.082	-.108	-.097
		(.105)	(.104)	(.106)
Dynamism		.117+	.150*	.157*
		(.068)	(.068)	(.069)
Two-way interaction effects				
Causation*Dynamism			-.173*	-.172*
			(.071)	(.071)
Causation*Experimentation			.160	.151
			(.100)	(.101)
Experimentation *Dynamism			-.014	-.006
			(.061)	(.063)
Three-way interaction effect				
Causation*Dynamism*Experimentation				-.042
				(.063)
F-statistic	2.641+	5.173***	4.676***	4.357***
R^2	.048	.255	.291	.293
Adjusted R^2	.030	.206	.229	.226
R^2 change	.048+	.207***	.036+	.002

+ < .1; * < .05; ** p < .01; and *** p < .001. Dependent variable is Entrepreneurial Orientation (EO). Standard errors in parentheses. VIF for all models ≤ 1.572. For the ease of interpretation, causation, effectuation and dynamism are mean-centered. Listwise. Two-tailed. Unstandardized coefficients. Sample size = 162.

Table 7.2.2 Hierarchical linear regression for effectual dimension affordable loss

Outcome	Model 1	Model 5	Model 8	Model 9
Constant	-.462	-.197	-.100	-.014
	(.467)	(.428)	(.424)	(.432)
Control variables				
Gender	-.225	-.273	-.376	-.423
	(.352)	(.328)	(.327)	(.330)
Manager-owner	.292*	.174	.194	.173
	(.128)	(.124)	(.123)	(.125)
Entrepreneurial experience	.020*	.017+	.020*	.019*
	(.010)	(.009)	(.009)	(.009)
Direct effects				
Causation		.523***	.496**	.514***
		(.140)	(.143)	(.144)
Experimentation		.133	.120	.118
		(.093)	(.092)	(.092)
Affordable loss		-.081	-.107	-.082
		(.103)	(.102)	(.105)
Flexibility		.186	.156	.207
		(.162)	(.161)	(.168)
Objective precommitments		.106	.110	.113
		(.101)	(.099)	(.099)
Goal precommitments		-.082	-.120	-.117
		(.105)	(.104)	(.104)
Dynamism		.117+	.125+	.129+
		(.068)	(.068)	(.068)
Two-way interaction effects				
Causation*Dynamism			-.127+	-.132+
			(.071)	(.071)
Causation*Affordable Loss			-.028	-.095
			(.118)	(.134)
Affordable Loss *Dynamism			-.111	-.097
			(.068)	(.069)
Three-way interaction effect				
Causation*Dynamism*Affordable loss				-.065
				(.062)
F-statistic	2.641+	5.173***	4.769***	4.509***
R^2	.048	.255	.295	.300
Adjusted R^2	.030	.206	.233	.234
R^2 change	.048+	.207***	.040*	.005

+ < .1; * < .05; ** p < .01; and *** p < .001. Dependent variable is Entrepreneurial Orientation (EO). Standard errors in parentheses. VIF for all models ≤ 1.747. For the ease of interpretation, causation, effectuation and dynamism are mean-centered. Listwise. Two-tailed. Unstandardized coefficients. Sample size = 162.

Table 7.2.3 Hierarchical linear regression for effectual dimension flexibility

Outcome	**Model 1**	**Model 5**	**Model 10**	**Model 11**
Constant	-.462	-.197	-.108	-.114
	(.467)	(.428)	(.430)	(.435)
Control variables				
Gender	-.225	-.273	-.381	-.380
	(.352)	(.328)	(.332)	(.333)
Manager-owner	.292*	.174	.210+	.212+
	(.128)	(.124)	(.124)	(.125)
Entrepreneurial experience	.020*	.017+	.019*	.019*
	(.010)	(.009)	(.009)	(.009)
Direct effects				
Causation		.523***	.462**	.459**
		(.140)	(.141)	(.145)
Experimentation		.133	.115	.117
		(.093)	(.093)	(.094)
Affordable loss		-.081	-.085	-.087
		(.103)	(.102)	(.105)
Flexibility		.186	.180	.175
		(.162)	(.167)	(.173)
Objective precommitments		.106	.123	.123
		(.101)	(.100)	(.101)
Goal precommitments		-.082	-.102	-.101
		(.105)	(.105)	(.106)
Dynamism		.117+	.137*	.136*
		(.068)	(.069)	(.069)
Two-way interaction effects				
Causation*Dynamism			-.157*	-.157*
			(.074)	(.074)
Causation* Flexibility			.122	.130
			(.159)	(.177)
Flexibility *Dynamism			-.083	-.080
			(.125)	(.128)
Three-way interaction effect				
Causation*Dynamism* Flexibility				.008
				(.079)
F-statistic	2.641+	5.173***	4.475***	4.128***
R^2	.048	.255	.282	.282
Adjusted R^2	.030	.206	.219	.214
R^2 change	.048+	.207***	.027	.000

+ < .1; * < .05; ** p < .01; and *** p < .001. Dependent variable is Entrepreneurial Orientation (EO). Standard errors in parentheses. VIF for all models ≤ 2.369. For the ease of interpretation, causation, effectuation and dynamism are mean-centered. Listwise. Two-tailed. Unstandardized coefficients. Sample size = 162.

Chapter 8

Fit

Environment, entrepreneur, strategy and performance[24]

8.1 Introduction

According to the emerging behavioral strategy perspective, strategic management theory should be grounded in realistic assumptions about human cognition, emotion and social interaction of managers in order to improve its empirical integrity and practical usefulness (Powell et al., 2011). This claim is motivated by the fact that strategy scholars pay insufficient attention to the human characteristics of managers as executors of firm strategy, and tend to focus on the study of strategic fit with the environment (Miles & Snow, 1978, 2003). Of course, the upper echelon tradition has extensively and repeatedly pointed out that the individual characteristics of top managers are key determinants of organizational strategic choices, and so of organizational outcomes (Hambrick & Mason, 1984; Hambrick, 1989). However, many prior studies in strategy research lack awareness in observing the fit of the human characteristics of managers, strategy and environment, and its impact on firm performance. Most studies are used to address a standard research question regarding which strategy and structure fits with which environment (e.g., Doty et al., 1993; Fiss, 2007, 2011; Ketchen et al., 1993; White, 1986).

In the current study, we explore a configurational approach to SME performance inspired by this behavioral strategy perspective. Specifically, the central research question of this Chapter 8 is: "Which managerial personality traits linked to a particular

[24] Some of the research material presented in this chapter refers to a working paper of the SMESESAP team: Ramdani, D., van Witteloostuijn, A., Dejardin, M., Hermans, J., & Vanderstraeten, J. (2014), Fit analysis between personality traits, strategy and environmental dynamism. Working paper.

strategy result in high organizational outcomes?" We examine which configurations (sets of different causal conditions) of personality traits, strategy profiles and environmental features lead to high organizational performance. White (1986) has underlined that each business strategy implies different organizational requirements, affecting the variety of jobs (tasks) executed by managers, which is different from one business strategy to another. In other words, each business strategy implies a different "job description" for managers. Moreover, we argue that each business strategy requires different personality characteristics of the key decision-makers in the firm's upper echelon in order to achieve high organizational performance.

Our study contributes to traditional thought in strategic management, which argues that a fit between a firm's strategy and its environment is essential in producing the best outcomes (Hrebiniak & Joyce, 1985). We argue that the personality characteristics of managers should be added into the strategy–environment fit model. Consequently, we should evaluate the fit between the manager's personality characteristics, the firm's strategy features and environmental dimensions simultaneously, to establish which configurations lead to high firm performance. We theorize that a firm implementing a cost leadership strategy within a stable environment requires a manager scoring high on consciousness. This translates into high firm performance. In contrast, a firm implementing a product differentiation strategy within dynamic environment needs a manager with a high openness to experience score to result in high firm performance. Our empirical evidence partly supports this theoretical viewpoint, in showing that openness to experience is an important personality trait not only for a firm implementing product differentiation strategy within a dynamic environment, but also for a venture implementing a cost leadership strategy within a stable environment. Furthermore, our evidence shows that conscientiousness is an important personality trait for the firm implementing either a cost leadership or product differentiation strategy within a stable environment.

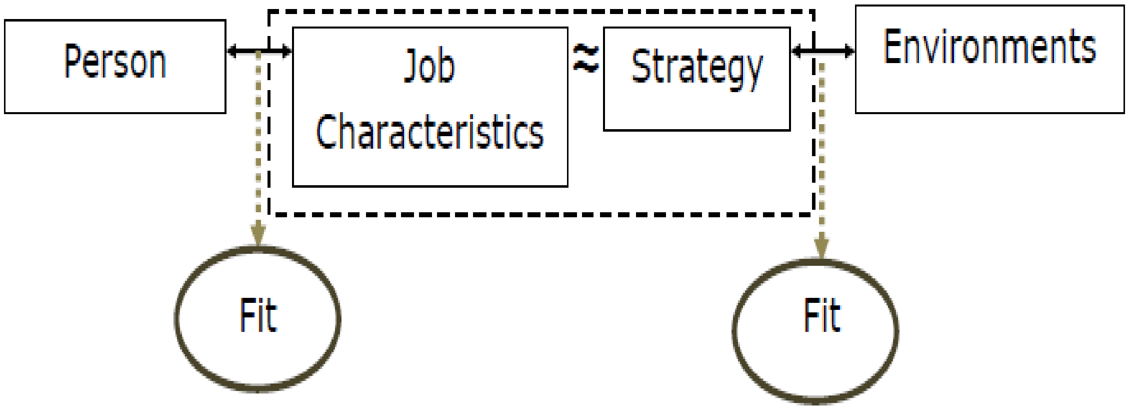
We focus on SMEs, as the entrepreneurial personality is directly linked to all aspects of the venture's operation in such smaller organizations – much more so than in larger enterprises. Moreover, in so doing, we offer a further contribution by bringing the behavioural configurational approach to the entrepreneurship literature. Empirically, ewe combine data from the first and second wave of the Belgian SMESAP survey, and link these with performance data from secondary sources. Hence, the analyses presented in the current chapter is comprehensive theoretically, by developing a multi-level configurational perspective, *and* empirically, by merging data from different SMESESAP sources. Methodologically, we introduce a novel method to the entrepreneurship literature: Qualitative Comparative Analysis (QCA). As we will argue below in greater detail, QCA is highly appropriate for the examination of configurations with data from smaller samples.

8.2 Theory

Personality and social psychologists have a long tradition of examining the effects of person-situation fit on individual employee outcomes such as job satisfaction, work attitudes, job stress, intention to quit and work performance (Bretz & Judge, 1994; Bright, 2007; Caldwell & O'Reilly, 1990; Kristof, 1996; O'Reilly, 1977; Tziner, 1987; Vancouver & Schmitt 1991). Prior studies in the person-situation fit research field usually investigate the fit between personality traits and job characteristics, or between personality traits and organizational characteristics. Those two types of fit have been widely investigated, with the main focus being dedicated to seeking how personality dimensions can fit with a particular job and organizational characteristic(s). A typical study in this domain involves an individual employee's goals, values, needs, interests and personality traits, compared with specific job characteristics, as well as variables regarding the organization's culture, pay system, size, structure, and value system.

By and large, our theoretical framework is grounded in behavioral strategy theory (Powell et al., 2011), emphasizing the importance of human cognition, emotion, and social interaction in strategy research. We bring the logic of person-job fit typically used by human resource scholars to the table, and merge this with behavioral strategy theory in order to examine person-job fit at a managerial level in the context of SME performance. Moreover, our study also takes into account the strategy-environment fit notion from traditional contingency theory. Thus, the current study examines a manager's personality traits, and assesses whether they fit with the strategy implemented by the firm in a particular environment. The key idea is that in order to attain higher performance, there must not only be a person-job fit, but also a strategy-environment fit. Each strategy implemented in a specific environment thus requires different personality characteristics at the managerial level. Our overall model is visualized in Figure 8.1.

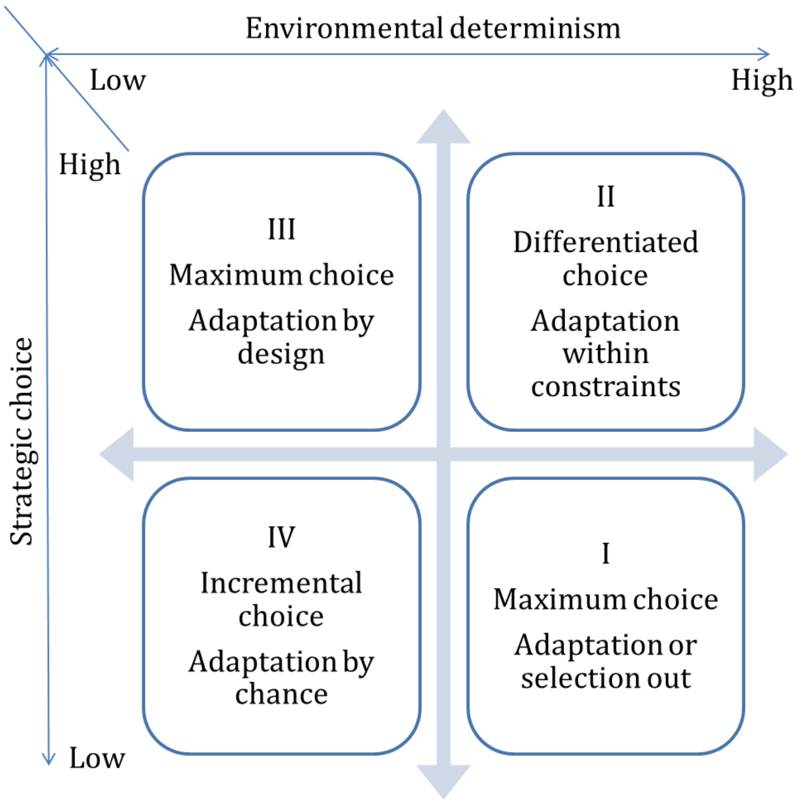
Figure 8.1 Empirical model



8.2.1 Strategy-environment fit

Hrebiniak and Joyce (1985) provide a theory to predict which strategy results in optimal organizational performance in the context of a particular environment. Their theory contends that the fit between the firm's strategy and the environment is key to achieving optimal performance. There are two contrasting perspectives with regard to environmental determinism, and two contrasting conditions with regard to the strategic choices the firm has. This results in a two-by-two matrix with four quadrants (see Figure 8.2). Quadrant I reflects the case where environmental determinism is high and the strategic choices available for firms are very limited. Firms cannot control exogenous factors. Under this condition, firms should adapt to the environment, or they are selected out, as studied extensively in the population ecology tradition (Hannan & Freeman, 1977). The market structure forces firms to be price-takers, and does not leave much (or any) room for differentiation. Consequently, firms cannot but follow cost leadership strategies. In Quadrant II, environmental determinism is still high, but strategic choices available for firms are high in number as well. This is typical in turbulent environments with high regulation. Firms have to deal with a number of restrictions, but likewise have the freedom to follow their own strategic choices in other areas. In this type of environment, firms can decide to follow differentiation or cost leadership strategies, trying to control those areas that are malleable. An example of this are large multiproduct/multidivisional enterprises in highly regulated industries. Market concentration in this type of environment is high, with a few large firms operating within broad market niches, and a larg(er) number of small(er) fringe firms serving tight market niches. The large firms usually adopt a differentiation strategy, whereas small(er) firms use a focus strategy approach.

Figure 8.2 Strategy-environment fit



Source: adapted from Hrebiniak, L. G., & Joyce, W. F. (1985). Organizational adaptation: Strategic choice and environmental determinism. *Administrative Science Quarterly, 30*(3), p. 339.

Furthermore, Hrebiniak and Joyce (1985) add two other quadrants with low environmental determinism. In Quadrant III, strategic choice discretion is high and determinism is low. In such environments, strategy-makers can freely choose how to differentiate themselves from others. Resources are abundantly available, which allows companies to be proactive and opportunistic. In this type of environment, organizational innovation and other proactive behaviors are essential for enterprises to adapt in a pluralistic environment in which movement within and between market niches are not highly constrained by entry and exit barriers. Finally, Quadrant IV features both low environmental determinism and low strategic choice. Here, ventures tend to lack strategic choice despite a paucity of external constraints. Accordingly, adaptation is achieved by chance, because firms do not have much room to invoke a strategy that is able to take advantage of the opportunity afforded by these favorable environmental conditions.

8.2.2 Person-strategy-environment fit

Strategy-environment fit scholars ignore the central role that managers play in formulating and implementing strategy, which affects the likelihood of a particular strategy achieving high firm performance. Taking a person fit perspective, individual characteristics of managers should fit with a strategy that the firm has committed to in order to increase the likelihood of effective implementation. The reason is that because each business strategy implies a variety of organizational types (White, 1986) and job characteristics for the managers, each strategy can be expected to require different types of managerial personality traits. Consequently, the fit of managers and strategies is one extra dimension of a multi-dimensional fit that should be examined, together with and on top of the fit of strategy and environment.

White (1986) developed a typology of generic business strategies and organizational requirements, arguing that each strategy implies a different type of work. Accordingly, the different types of work may require different personality characteristics of the managers in line with the strategy to be implemented by the firm in order to achieve optimal performance (see Table 8.1).

Table 8.1 Organizational and managers' job characteristics and strategies

Strategy profiles	Cost leadership	Product differentiation
Environmental features	Stable	Dynamic
Organizational characteristics		
• Organization structure	Centralized-functional	Shared-matrix
• Coordination system	Hierarchical	Crossed-functional
• Control system	Tight	Easy
• Reporting	Frequent	Rare
• Employee autonomy	Low	High
• Production orientation	Quantity	Quality
HEXACO personality traits		
• Conscientiousness	High	
• Openness to Experience		High

The human resource management literature focuses on person-organization fit and person-job fit (Chatman, 1989; Kristof, 1996). This approach mainly concerns the study of antecedents and consequences of compatibility between people and their respective organization. The main argument is that each organization/job has its own characteristics requiring particular individual traits to realize the best individual outcome performance. We use the person-organization/job fit argument to examine the fit between individual managers' characteristics and firm strategy, assuming that each strategy implies different organizational and managerial job characteristics. To achieve high firm performance, we argue that different personality characteristics of the managers should match with the firm's strategy, which creates different managers' job characteristics for each strategy employed.

Table 8.1 summarizes six different attributes of organizational characteristics for each strategy: organization structure, coordination system, control system, reporting, employee autonomy, and production orientation. A cost leadership strategy focusing on achieving and maintaining a low cost per unit in a stable environment requires a careful and detailed production plan, with implementation not deviating from this plan as this would imply an increase of cost per unit. Products, modes of production, technologies and other aspects linked to strategy implementation have been standardized, which allows employees to follow them in detail. In these circumstances, an organizational structure that fits with this strategy is referred to as a functional-centralized form. A coordination system within a typical firm is hierarchical in nature, where higher-level units coordinate and govern lower-level ones. Lower-level units should frequently report progress to the higher levels. The autonomy of employees in this system is very low because there is little room for improvisation. The whole production process in the firm is intended to achieve the quantity of products in time, as stipulated in the detailed production plan. In addition, managers working for a firm that implements a cost leadership strategy should pay significant attention to operational details; controlling the cash flow mechanisms to ensure that costs remain within the agreed budget parameters and production plans, keeping overhead costs to a minimum. Consequently, these managers are expected to rigorously implement the plans as agreed upon, in order to reach targets such as those related to cost and production.

Given those different organizational and managerial job characteristics, a cost leadership strategy requires managers who have a high conscientiousness score. Costa and McCrae (1992) argue that conscientious people are ambitious, practical and persistent, as well as scrupulous, careful, persistent and neat. Goldberg (1990) adds that conscientious individuals tend to be controlled, rule-bound, cautious, meticulous, orderly and risk-averse. Correspondingly, Judge and Cable (1997) argue that people with a high conscientiousness score tend to be detail- and outcome-oriented, but less attracted to innovative activities. We therefore conclude that the HEXACO personality trait of the managers best suited to a cost leadership strategy is conscientiousness.

> ***Hypothesis 1 (H1):*** *A firm operating in a stable environment should employ a cost leadership strategy, which subsequently requires managers with a high consciousness score to result in high firm performance.*

Furthermore, a product differentiation strategy aimed at constantly interacting with a dynamic environment requires managerial abilities suited to design products/services that meet unique consumer needs and to anticipate any environmental changes through engaging in continuous adaptation activities. Subsequently, production modes, technologies and other technical features have to be continuously reviewed to be able to create consumer values able to anticipate and react to environmental dynamism. The key here is adaptation, which requires the ability to predict, feel and respond to the environmental change. To do this, in comparison to a cost leadership strategy, the appropriate form of organizational structure is a shared-matrix organization in which the division of labor is distributed across a complex structure. Coordination within this complex structure is cross-functional, requiring well-developed skills to coordinate and control lower-level units and employees. Reporting mechanisms from the lower to upper levels in a firm implementing product differentiation strategies are less frequent vis-à-vis those within firms adopting a cost leadership strategy. Employee autonomy in a firm adopting a product differentiation strategy is very high in comparison to a firm with a cost leadership strategy. The product orientation of product differentiation ventures is quality. Consequently, all production efforts focus on ensuring that quality standards maintain the level needed to maximize customer loyalty.

Because of such a wide variety of organizational and managerial characteristics within a product differentiation firm, managers should score high on openness to experience. Managers working for a firm that implements a product differentiation strategy should be able to organize employees and lower-level units in a flexible manner, meaning that they should be able to provide a balance between leadership and autonomy for employees / lower-level units. As such, both creativity and a supervision are necessary to ensure that this creativity does not deviate far from firm policy (Barney & Hesterly, 2006, p. 104). Managers should be open-minded to have a serious look at any useful ideas that allow the firm to adapt to the constant challenges, and to change within a dynamic environment. In dynamic environments, product designs, distribution and delivery systems, and modes of production should anticipate to the dynamic nature of customer needs, technological progress and market competition. Costa and McCrae (1992) describe that open individuals are imaginative, original, unconventional and independent. McCrae (1987) argues that individuals with a high openness to experience score are positively associated with divergent thinking and creativity, which are basic prerequisites for a manager's personality in firms implementing a product differentiation strategy. Damanpour (1991) adds that openness is closely related to willingness to change, which highly correlates to organizational innovation. Another important individual attribute embedded in open people is autonomy, which is an important attribute for creativeness, especially of importance in an innovative organizational culture. Empirically, e.g., O'Reilly et al. (1991) find that autonomous people are positively associated with a preference for innovative cultures.

> ***Hypothesis 2 (H2):*** *A firm operating in a dynamic environment should employ a product differentiation strategy, which requires managers with a high openness to experience score to result in high firm performance.*

Our solutions, as defined in QCA (see below), are derived from the assumptions that the presence of cost leadership and product differentiation strategies' causal conditions lead to a positive employment growth outcome. The assumptions are backed by the generic business strategy literature, arguing that a firm should take a clear strategy position with either a low cost or innovative product approach; otherwise, it will be stuck in the middle (Porter, 1985). The other assumptions we apply to our fs/QCA analysis (see below) are that firm size and environmental dynamism can be either present or absent to lead to the positive employment growth outcome.

8.3 Data and measures

8.3.1 Sample

Our data include 142 top executives and owner–managers of companies in Belgium. For the sample used in this chapter, we use data from micro (that is, 9 or fewer employees), small (that is, 10–49 employees), medium (that is, 50–249 employees) and large (that is, 250 employees or more) firms. All data have been collected through the two survey waves and the workshop, as described in Chapter 3 (methodological toolkit). During the first questionnaire wave (November-December 2012), we collected information about the companies' strategy and environmental dynamism. During the workshops (summer 2013), we collected data regarding the HEXACO personality traits. Finally, during the second questionnaire wave (November-December 2013), we collected information concerning firm performance. We used a unique link sent to each respondent, enabling us to track each of them. As a consequence, we can link their personal information (name and e-mail address) with firm characteristics (Belgian value added tax; VAT number).

8.3.2 Variables

Outcome variable

Our outcome variable is firm performance taken from our second questionnaire wave in November-December 2013. Firm performance is derived from the questionnaire item: "Compared to 2012, the current number of employees (fulltime equivalent)….". The possible answers for this question are "increased", "stayed about the same" and "decreased", for which we use the codes −1, 0 and 1, respectively. We calibrate the outcome variable using a threshold for full-membership if it is −1 (increased), and non-membership if it 1 (decreased). The cross-over point for firm performance is 0 (stayed about the same).

Causal condition

The causal conditions in the current study are generic business strategy (i.e., cost leadership and product differentiation strategies), environmental dynamism, and two HEXACO personality traits (i.e., conscientiousness and openness to experience). Our generic business strategy scales include two relevant and adapted items for cost leadership and four for product differentiation from Homburg et al. (1999). Our survey asked the following: "Please indicate how often your company implements the following business strategies". The questions to measure leadership cost strategy are: "We produce our services/products at lower costs"; and "We set the prices below our competitors". The questions to capture product differentiation strategy are: "We build up a premium product/service and brand images"; "We create superior customer value through (additional) services that complement the existing products/services"; "We obtain high prices from the market through superior products/services"; and "We pay a lot of attention to the development of new products/services". The answers for all scales are measured using a five-point Likert scale, ranging from never (1) via sometimes (3) to always (5). The Cronbach's alpha for the cost leadership scale is 0.62, and for product differentiation scale is 0.72 (see Table 8.2). We calibrate our strategy measures using a threshold 5 (always) for full membership, 3 (sometimes) for a cross-over point, and 1 (never) for full non-membership.

The environmental dynamism scale involves three items (on a seven-point Likert scale) from Miller and Friesen's (1982) scale. Our survey asked the following: "Please indicate whether the following statements apply to your company". The three items are: "My company must change its marketing practices frequently (e.g., semi-annually)"; "The rate at which products/services are getting obsolete in my industry is very high"; and "The modes of production/service development change often in a major way". Answers are measured using a seven-point Likert scale, going from totally agree (3) via neutral (0) to totally disagree (-3). The Cronbach's alpha for environmental dynamism is 0.78 (see Table 8.3). We calibrate environmental dynamism using a threshold 3 (totally agree) for full membership, 0 (neutral) for a cross-over point, and -3 (totally disagree) for full non-membership.

We use two dimensions of the six HEXACO personality traits: conscientiousness and openness to experience. Conscientiousness is a personality trait reflecting how far a person is able to organize her or his time and physical surroundings, is able to work in a disciplined way toward goals, strives for accuracy and perfection in tasks, and is careful in making decisions. Conscientiousness is measured using ten items, such as "I plan ahead and organizes things, to avoid scrambling at the last minute" and "When working, he/she sometimes has difficulties due to being disorganized". Openness to experience is a personality trait reflecting how far a person takes an interest in unusual ideas or people, uses her or his imagination freely in everyday life, is inquisitive about various domains of knowledge, and becomes absorbed in the beauty of art and nature. Openness to experience is also measured using ten items, such as "I think that paying attention to radical ideas is a waste of time" and "I like people who have unconventional views". We calibrate both conscientiousness and openness to experience using a threshold 3 (totally agree) for full membership, 0 (neutral) for a cross-over point, and -3 (totally disagree) for full non-membership.

In addition, we also include firm size measured by the number of employees as an additional causal condition. Following the established European Union classification of firm size classes (that is, as indicated before, micro (9 or fewer employees), small (10–49 employees), medium (50–249 employees), and large (more than 250 employees)), we set a threshold for full membership of 50, a cross-over point of 10, and full non-membership of 0. Note that our study focuses on firms that have fewer than 250 employees, excluding large–sized firms.

Table 8.2 Factor analysis for generic business strategy

	Cost Leadership	Product Differentiation
We produce our services/products at lower costs	**0.63**	0.17
We set the prices below our competitors	**0.72**	-0.06
We build up a premium product/service and brand images	0.08	**0.61**
We create superior customer value through (additional) services that complement the existing products/services	0.04	**0.72**
We obtain high prices from the market through superior products/services	-0.24	**0.69**
We pay a lot of attention to the development of new products/services	0.18	**0.54**
Variance explained (%) (Total = 63.08%)	25.54	37.54
Cronbach's alpha	0.62	0.72

Extraction Method: Maximum Likelihood; Rotation Method: Varimax with Kaiser Normalization.

Table 8.3 Factor analysis for environmental dynamism

	Environmental dynamism
My company must change its marketing practices frequently (e.g., semi-annually)	0.52
The rate at which products/services are getting obsolete in my industry is very high	0.78
The modes of production/service development change often in a major way	0.93
Variance explained (%)	69.98
Cronbach's alpha	0.78

Extraction Method: Maximum Likelihood; Rotation Method: Varimax with Kaiser Normalization.

8.4 Results

We provide our fuzzy set Qualitative Comparative Analysis (fs/QCA) result in Table 8.5, employing an intermediate solution. An intermediate solution is derived on the basis of easy counterfactual analysis for which only the most plausible combinations are included in the resultant solutions. We use the symbols for configuration solutions that have been widely used in the QCA business management literature: black circles ("●") to indicate the presence of causal condition, and circles with a cross-out ("⊗") to indicate its absence (Fiss, 2011). To distinguish core conditions from peripheral ones, we have large circles to indicate the core, and small circles to indicate the peripheral conditions. Note that core conditions are derived from parsimonious solutions, and that peripheral conditions are from intermediate solutions. Also note that intermediate solutions constitute subsets of the most parsimonious (or simplest) solution. In addition, we use a symbol "-" to indicate a "do not care" solution in which the causal condition can be either present or absent sufficiently leading to a particular outcome (see for further details on QCA, Schneider & Wagemann, 2012; Ragin, 2008; Rihoux & Ragin, 2009).

Table 8.5 shows that our fs/QCA results have seven configurations that sufficiently lead to positive employment growth performance, exhibiting an acceptable solution consistency, which should be larger than 0.80 (Rihoux & Ragin, 2009). Note that our solutions are derived by using a frequency cut-off of 2, and a consistency cut-off of 86.55 per cent.

Solution 1 indicates that a combination of a cost leadership strategy and a “do not care” product differentiation strategy (that is, indifference with regard to presence or absence of product differentiation) in low environmental dynamism for large firms combined with conscientiousness and openness to experience is sufficient to achieve a positive employment growth performance. Solution 1 thus advocates a generic business strategy and suggests that large firms in a stable environment can adopt a low cost strategy to take advantage of economies of scale. Interestingly, the solution suggests that the required personality trait for managers to successfully implement this strategy is not only conscientiousness (as argued above in our theoretical development section), but also openness to experience. This may indicate that managers of large companies should be open to a large variety of ideas in order to be able to find, for example, an up-to-date production mode to keep production costs low, even though the environment is relatively stable.

Table 8.4 Truth table

No	Openness to Experience	Conscientiousness	Environmental Dynamism	Product differentiation	Cost leadership	Firm size	Number of cases	Consistency
1	0	0	1	0	1	1	1	0.92
2	1	1	0	0	1	1	2	0.91
3	0	1	1	1	1	1	1	0.91
4	0	0	0	1	1	0	1	0.91
5	0	1	0	0	1	0	1	0.90
6	1	1	0	1	1	1	1	0.90
7	1	0	1	1	0	1	2	0.90
8	0	0	0	0	0	1	1	0.90
9	1	1	0	0	1	0	1	0.89
10	1	1	1	1	1	1	3	0.89
11	1	0	0	1	1	0	1	0.89
12	0	1	1	1	0	1	1	0.89
13	0	1	0	1	0	1	7	0.89
14	1	1	1	0	0	0	1	0.88
15	0	1	1	0	0	0	2	0.88
16	1	0	1	1	0	0	2	0.88
17	1	1	0	1	0	1	5	0.88
18	1	0	0	0	0	0	1	0.88
19	0	1	1	1	0	0	2	0.87
20	1	1	1	1	0	1	7	0.87
21	0	1	0	0	0	0	1	0.87
22	1	1	0	1	1	0	9	0.87
23	0	1	0	1	0	0	7	0.86
24	1	1	1	1	1	0	5	0.86
25	1	0	0	1	0	0	2	0.85
26	1	1	0	0	0	0	3	0.85
27	1	1	1	1	0	0	8	0.83
28	1	1	0	1	0	0	11	0.83

Table 8.5 Configurations for achieving positive growth performance

	1	2	3	4	5	6	7
Strategy							
Cost leadership	●	-	-	-	-	●	-
Product differentiation	-	•	●	•	•	●	-
Environmental Dynamism	⨂	●	●	⊗	-	⨂	•
Firm size	•	●	-	●	●	-	⊗
HEXACO personality traits							
Conscientiousness	•	-	⨂	•	•	•	•
Openness to Experience	•	•	•	-	•	•	⨂
Raw Coverage	0.29	0.40	0.34	0.34	0.40	0.43	0.32
Unique Coverage	0.01	0.06	0.01	0.02	0.02	0.01	0.03
Consistency	0.90	0.87	0.85	0.88	0.85	0.84	0.87
Solution coverage	0.65						
Solution consistency	0.81						

Solutions 2 and 3 show that the strategy that fits with a dynamic environment is product differentiation. Further, solution 2 indicates that a combination of a product differentiation strategy and high environmental dynamism for large firms requires a combination with the presence of openness to experience. Moreover, either a presence or absence of conscientiousness leads to positive growth performance. Solution 3 shows that a combination of a product differentiation strategy and high environmental dynamism for small firms requires a combination of the presence of openness to experience and the absence of conscientiousness. Such combinations will lead to positive growth performance.

Solution 4 displays that a product differentiation strategy can be implemented by large firms in a stable environment. This solution highlights that a combination of a product differentiation strategy and low environmental dynamism for large firms together with the presence of conscientiousness leads to positive growth performance. Positive growth performance will not be influenced by the presence or absence of a cost leadership strategy and the managerial trait openness to experience. Solution 5 reveals that a combination of a product differentiation strategy for large firms together with the presence of conscientiousness and openness to experience is associated with to positive growth performance. Similar to solution 4, the presence or absence of a cost leadership strategy is irrelevant. Important to note is that, according to solution 5, also the level of environmental dynamism does not influence growth performance. Thus, large firms operating in either low or high environmental dynamisms following a product differentiation strategy and having managers scoring high on consciousness and openness to experience will have positive employment growth outcomes.

Furthermore, solution 6 indicates that a combination of the presence of cost leadership and product differentiation strategies in combination with low environmental dynamism for small firms together with the presence of conscientiousness and openness to experience is linked with positive growth performance. Solution 7 shows that, irrelevant of following a cost leadership or product differentiation strategy, small firms operating in an environment featuring high environmental dynamism headed by managers with high conscientiousness and low openness to experience leads will attain positive growth performance.

8.5 Discussion and conclusion

Using a novel empirical method, fuzzy set Qualitative Comparative Analysis (fs/QCA), our study partly finds evidence that supports our hypotheses. We find that firms operating in a low dynamic environment adopting a cost leadership strategy need managers that have high conscientiousness and high openness to experience scores. We also find that firms operating in a dynamic environment adopting a product differentiation strategy need managers that have high openness to experience scores. Our empirical evidence indicates that openness to experience is not only important for the firm implementing a product differentiation strategy, but also for those with a cost leadership strategy. The main reason may be that the managers should be able to listen to any idea that may be usefully applied by the firm to adapt its strategy according to its environment. This is particularly important for firms in highly dynamic environments. In addition, consciousness is particularly essential for the managers who implement a cost leadership strategy.

To date, strategy scholars hypothesize that the strategy implemented by firms can succeed in achieving high firm performance if it fits with the environmental circumstances (e.g., Hrebiniak & Joyce, 1985). The main conclusion of strategy research focusing on strategy–environment fit is (a) that a cost leadership strategy is effective in achieving high firm performance within stable environments and (b) that a product differentiation strategy is effective within dynamic environments. Recently, Powell et al. (2011) have emphasized that strategy scholars should pay more attention to cognitive and social psychology aspects of managers in the strategic management literature in order to strengthen its empirical evidence and practical usefulness.

Our study contributes to the strategy literature by answering a fundamental research question: What types of managers' personality traits fit with the strategy that firms implement? To date, person–job fit has frequently been examined at the employee level in the human resource management field, but, to the best our knowledge, it is not widely investigated in the strategy literature. We show that the strategy–environment fit argument should include personality traits of the managers in its attempt to supply configurations that result in high firm growth performance. The main reason is that each strategy implies different types of job roles for managers (e.g., White, 1986). We add to classical strategy theory by demonstrating that a manager's personality characteristics should not only fit with the firm's strategy, but that also a fit between strategy and environment is indispensable. In more detail, we show that openness to experience is an important personality trait for firms implementing a product differentiation strategy in a dynamic environment, but also for ventures pursuing a cost leadership strategy in a stable environment. Furthermore, we reveal that conscientiousness is an important personality trait for firms implementing either a cost leadership or product differentiation strategy in a stable environment.

Our study provides implications for management practitioners. First, we propose that entrepreneurs/managers should have particular personality traits depending on the type of firm strategy and its respective environment. We emphasize that implementation of a particular strategy implies not only organizational requirements (White, 1986), but also different personnel requirements at the managerial level producing a "fit" leading to high growth firm performance. On a practical level, this study suggests that managers should consider whether they have personality traits that fit with the firm's strategy and its environment. Consequently, we also suggest that in recruiting new managers, a firm should specify certain types of personality traits that best fit with their strategy and operating environment.

This chapter's multi-level and multi-dimensional configurational approach to SME (employee growth) performance illustrates what can be done with the kind of data collected in the context of SMESESAP. Of course, being a first step, this study cannot but illustrate the comprehensive framework suggested in Chapter 2. As we will explain in Part III, we hope to do more in future work, particularly by the time that we can link objective firm performance data to the rich information gathered through the first and second-wave survey, as well as the workshops.

Part III

Lessons learned and to be learned

Chapter 9

Policy implications

9.1 Introductive milestones

Defining an entrepreneurial policy – i.e., a policy for entrepreneurship and businesses to flourish as a whole – is a matter of debate that could lead to either a complete shelf of books, or to some one-page list of basic principles. In what follows, we propose some policy insights or implications that are directly derived from the results presented in the eight first chapters. We do not define in detail, nor propose operationalization, of what adopted policy actions would be. This must be emphasized up-front; in no way, do we pretend to define and design an exhaustive policy. Not only do we not believe in such over-stretching of academic research findings, but also is more work needed to find out to what extent our results stand the test of further scrutiny.

That said, before formulating the policy insights and implications derived from our results, some introductive milestones might be useful. These milestones are based on two basic observations, on which we now elaborate:

- Entrepreneurial experience is highly marked by heterogeneity. This observation has been regularly made elsewhere (see, for example, Nooteboom, 1994; Audretsch, 2008), and is also supported by empirical results presented in this report. Heterogeneity in entrepreneurial experience is derived from, amongst other factors, a mixture of motivations and aspirations, and projects and contexts.
- Entrepreneurial success is oftentimes reported as idiosyncratic and even random. Here, reference can be made to the recent contributions of Storey (2011) and Coad et al. (2013).

These two arguments (heterogeneity and the importance of idiosyncrasies) do not facilitate formulating policy implications, rather they are meant to address the situation commonly shared by all or some targeted groups.

First, the heterogeneity of entrepreneurial experience leads us to favor policy implications referring to the general framework or the context in which SMEs and the self-employed operate and evolve. Indeed, at the macro level, this heterogeneity contributes to a healthy business ecosystem (Sternberg, 2007; Wong et al., 2005) that evolves in part according to the variation between firms. In such a context, the risk is high for a specifically targeted policy to miss its goals or to be of limited use. Furthermore, specifically targeted policy comes at a price, such as higher uncertainty and higher search cost for the entrepreneurs who might feel trapped in a web of highly specific regulations. Interestingly, in Chapter 4, we find that the self-employed and SME owners significantly differ in terms of experienced regulatory burden, as well as in their assessment of the regulation adequacy in view of their specific needs. In other words, the self-employed are seemingly less affected by red tape than entrepreneurs, but at the same time they also consider that existing regulations are less adequate for their self-employed business. By contrast, entrepreneurs acknowledge the adequacy of regulations, but still suffer from their amplitude. Addressing the heterogeneity of the self-employed and SMEs seems to be a trade-off between adequacy and burden. Instead, addressing the question "How best can the general framework improve in a direction that will allow entrepreneurship and businesses to flourish?" requires that we should aim at offering a greater guarantee of overall efficacy rather than the highly targeted recommendations that policymakers oftentimes love to see.

Second, entrepreneurial success is indeed an idiosyncratic process. Yet, based on the collected evidence, the SMESESAP data and analyses, so far, seem to lead to the conclusion that its randomness is only superficial. What would explain entrepreneurial success is the fit between entrepreneurs' personal drivers, the strategy they deploy at the firm level, and their business environment (Parker et al., 2010). Thus, "How can the degree of fit (between drivers, strategy and environment) be enhanced for more entrepreneurial success?" In this context, subtle and often implicit features of the entrepreneurs, such as their motives and personalities, have to be taken on board.

9.2 Policy insights and implications

Our policy insights and implications are twofold. First, we refer to the above question: How best can the general policy framework improve in a direction that will allow entrepreneurship and businesses to flourish? We suggest avenues for policymakers regarding the effects of regulation: i.e., standardization, and administrative burden; and gender issues; access to resources (high-skilled workforce and finance). Second, as our results point to the importance of fitting personal drivers, strategy and environment for entrepreneurial success, we call for a systematic approach. More specifically, we ask officials in charge of current education and learning programs, as well as supporting agencies, to consider these factors in order to increase and support entrepreneurial success. Likewise, we propose the assessment of a communication strategy by public authorities and NGOs whenever they seek to encourage shared-value creation in connection with implicit motives.

How best can the general policy framework improve in a direction that will allow entrepreneurship and businesses to flourish?

First, regarding EU standardization and its expected effects, our findings show that the perceived benefit of standardization is not equally distributed across firms, industries and countries. This is of interest for the stakeholders in the EU's standardization processes, such as national governments, business associations and the European Commission. Key would be, in order to accelerate the standardization program and its integration objective, that SMEs (particularly those from Eastern European and Mediterranean countries) develop the capabilities needed to reap the benefits from EU standardization. More specifically, we would recommend that countries support standardization compliance through stimulating and facilitating the capabilities identified in our study (i.e., SMEs' innovation, export, and foreign HR). We expect this to have more effect than subsidizing SMEs with no alignment to regulations or subsequent follow-up protocols.

Second, rules are considered as a burden rather than as a source of opportunity. This is especially true for entrepreneur-owners, who are significantly different from the self-employed in this respect. In turn, this burden is associated with reduced profit growth for SMEs, as well as a reduced expectation for revenue growth for the self-employed. This observation is classically translated in terms of administrative task simplification. Although high on the agenda of one government after the other, this challenge is still unresolved. Note that the difference in perception of the administrative burden between self-employed and SMEs is not surprising. Indeed, the self-employed practicing without legal firm entity are subject to different rules – less binding and less burdensome than the ones for legally established companies. For instance, no filing of annual accounts or payroll in the absence of employees are needed.

Third, we have collected evidence that women do not differ from men regarding ambitions in terms of job creation or passion for entrepreneurial (ad)venture(s), but do differ in terms of the size of their ventures. This leads to the conclusion that women might meet specific contingencies, notably the desire to find more flexibility through an entrepreneurial career, but experience difficulties in accessing finance. Along the same lines, results from a survey by UCM (Lesceux, 2014) attribute the difference in size (and even more, regarding legal form) to the difficulties for women in reconciling private and professional life. Furthermore, we show that women significantly differ from men in terms of self-efficacy and the use of a causal logic of action (strategic planning). As strategic planning might be a key driver for entrepreneurial orientation, firm size (see Chapter 7) and even revenue growth for self-employed (Chapter 4), women may benefit from targeted educational programs aimed at consolidating self-efficacy and strategic planning. Further investigations should be made, controlling for sector and education, but a comprehensive policy would ensure that women can fully deploy their entrepreneurial resources, in terms of access to finance and flexibility (e.g., flexible childcare). Note that such contingencies are not limited to women, but could also benefit all entrepreneurs, man and women alike, driven by a need for flexibility.

Fourth, we find that being self-employed remains a challenging status with less satisfaction with life than their reported by their SME counterparts, which is closely related to career satisfaction, as well as loosely connected to satisfaction levels regarding traditional economic goals. We also find that innovation, in terms of entrepreneurial orientation and new product development, accompany an increase in expected revenue. However, most innovation policies are targeted toward SMEs. We argue that the self-employed might also benefit from more stimulation on innovation, both in terms of satisfaction and in terms of effective revenue growth. This would provide the self-employed with better tools to face dynamic environments. In turn, more international, innovative Belgian self-employed entrepreneurs should contribute to a healthy Belgian business eco-system. Note that innovation does not necessarily go along with an investment in R & D, especially when referring to the self-employed. Support for incremental and non-technological innovation seems interesting consider, too.

Fifth, access to a high-skilled workforce and, to a lesser extent, access to finance (but more for women) are both considered to be constraints for the development of Belgian businesses. Interestingly, only access to finance is correlated with reduced performance. This calls for attention in terms of policy regarding the education system, training throughout life, and access to finance. Ernst &Young (2014) recently showed that Walloon SMEs are experiencing a growing deficit compared to Flanders in terms of investment volume. Two explanations are suggested: (1) poor access to finance in Wallonia; and (2) more risk-taking investment in Flanders. In the same vein, the last CeFIP barometer reports a rejection rate of financing by banks of 33 per cent at the Belgian level, but 40 per cent in Wallonia and around 60 per cent in Brussels. However, we do not find any difference in (perceived) access to finance between Flanders, Wallonia and Brussels, which would indicate that Walloon entrepreneurs do not face or do not perceive poor access to finance. As such, effort should not be directed towards enhanced access to finance in Wallonia, but should rather focus on improving entrepreneurs' financial literacy (Seghers et al., 2012). Seghers et al. (2012) suggest that access to finance does not exclusively depend on factors linked to the supply side of financing. They show that some factors linked to the demand side are crucial to gain financing access, particularly entrepreneurs' prior knowledge regarding financing alternatives. A better understanding of financial tools should help entrepreneurs to make the most appropriate choices when creating and developing their projects, and thus to convince stakeholders to contribute to their venture, too. This includes the basic financial management as well as the awareness of the pros and cons of different financing sources, such as venture capital funds, crowdfunding or subordinated loans.

How can the fit between entrepreneurs' personal drivers, the strategy they deploy at the firm level, and their business environment be enhanced for more entrepreneurial success?

First, we consider the fit between conscious motives, unconscious motives, and goal-setting. We reveal that implicit motives can influence entrepreneurial behavior, and we provide evidence as to the importance of the explicit – implicit motives congruence. We claim that a better understanding of the interplay between implicit and explicit motives should bring to light why entrepreneurs sometimes struggle to reach the goals they voluntarily set (Kehr, 2004b). With such an understanding, entrepreneurs can reach a better fit between their business project and their inner motives to facilitate reaching their goals (especially in terms of shared value creation). We show that the implicit need for power is of the utmost importance for the creation of shared value. As suggested by Muhammad Yunus, changing the world is fun, especially for people who are implicitly driven by power. However, we also suggest that society might not provide power–oriented entrepreneurs with the social incentives to engage in shared value creation. In other words, society might not promote shared value creation as a prestigious, powerful goal. Conflicting social norms could neutralize the enjoyment behind changing the world – for instance through the diffusion of negative stereotypes associated with activism. For a better commitment to shared value creation and its effective translation into social impact, public authorities might reflect on exploring different ways to avoid such conflicting norms.

Second, fit between entrepreneurial orientation, strategic (un)planning and the dynamism of the environment. We have collected evidence of entrepreneurial orientation (Miller, 1983) being positively correlated with expected revenue growth for the self-employed and subjective measurements such as overall career satisfaction for all respondents. Entrepreneurial orientation describes the extent to which some firms actually bring innovation to the market, are pioneers in their industry, and adopt a bold, risk-taking strategy. This suggests (or confirms adequacy of) incentives to support entrepreneurial orientation (and innovation). In Chapter 7, we went a step further and sought to understand how entrepreneurial orientation comes to be linked with growth. We found that entrepreneurial orientation is the way that strategic planning turns smaller SMEs into larger companies. In other words, causal, strategic behavior of entrepreneurs first enhances the entrepreneurial orientation of the firm and then impacts on firm size. In line with our contingency approach, we also find that this mediation effect holds in very stable environments but is threatened as the environment becomes more turbulent. In the latter case, causal behavior has to be complemented by an effectual logic. To explain this, we observe that, in the context of a highly changing environment where continuous change and adaptability are required, there will be an increased need for entrepreneurs to develop ambidextrous logic, drawing on both aspects: i.e., on effectuation and causation. It calls for a renewal in entrepreneurship education, with action-oriented programs that simultaneously develop causal logic of action and an effectual logic of action, explaining how they might be combined according to specific contingencies. As suggested in Chapter 4, female entrepreneurs as well as the self-employed might benefit the most from such an approach.

Third, we relate to the fit between personality traits, product strategy (differentiation vs. cost strategy) and the dynamism of the environment. According to the classical school of thought within strategic management, it is argued that the fit between a firm's strategy and its operational environment is key to achieving optimal outcomes (Hrebiniak & Joyce 1985), namely product differentiation in changing environments and a cost-leadership strategy in more stable ones. In Chapter 8, we show that the personality of entrepreneurs or managers should be added into the strategy–environment fit model. We theorize that firms operating in a stable environment should employ a cost leadership strategy, which subsequently requires diligent managers with a high conscientiousness score in order to produce high firm performance. In contrast, firms operating in a dynamic environment should employ a product differentiation strategy, which consequently requires managers with high openness to experience to provide high firm performance. Empirical results also show that a product differentiation strategy may succeed in a stable environment, if the manager is highly diligent. In other words, we should evaluate the fit of manager's personality, strategy and environment in order to find configurations (sets of causal conditions) that lead to high firm growth. A critical review of current education, learning programs and contribution of supporting agencies for entrepreneurs is required to align the personality-environment-strategy nexus with these insights. Assessing the competences and skills of the entrepreneur, the project, the context or the strategy separately is insufficient. An alignment is expected to be highly beneficial to attain better performance. One can also conclude that entrepreneurial support has to be personalized.

In conclusion, we provide new insights as to: (1) what are the determinants of the identified strategies, including innovation, by SMEs and the self-employed?; and (2) how does this link to their performance, particularly in terms of (growth in) employment. In this chapter, we translate these insight into a potential contribution to practice by showing how best the general policy framework can improve for a flourishing entrepreneurial society, and how a contingency approach can feed the reflection activities of policymakers and of those who contribute daily to entrepreneurial ventures (as an entrepreneur, a coach, a business angel, et cetera). In so doing, we provide advise at both the macro level of an entrepreneurial eco-system, as well as the micro level of the individual self-employed or SME.

In this book, we identify some important entrepreneurial traits and strategies that are linked to growth, such as the quest for challenge, self-efficacy and the passion for the entrepreneurial process. In other words, we provide answer to « what » is linked with growth. However, the empirical chapters of this book only focus on a short selection of those traits to explain « how » personal characteristics and strategies connect to each other to provide growth. We will continue to work on this task in the years to come, seeking to identify the process by which self-efficacy, perception of opportunities and a passion for entrepreneurship interact, as well as the leverage that can promote or damage such processes. In this context, i the next chapter, we reflect on what we have done, and what remains to be explored future work.

Chapter 10

The way forward

Through this book, we sought to develop and conduct research into ambitious entrepreneurship that evolves into a truly multi-level, multi-disciplinary and multi-method perspective. Indeed, we believe that we have progressed nicely, collecting unique data, introducing a methodological novelty and presenting a series of intriguing empirical studies. We introduced a new methodology to measure entrepreneurial implicit motives (Chapter 3), we collected unique entrepreneur and venture-level data (Chapter 4), we explored the impact of EU-level standardization on perceived competitiveness across European countries and enterprise types (Chapter 5), we examined the effect of an entrepreneur's explicit and implicit motive profile on social value creation (Chapter 6), we investigated the relationship between a venture's causation-effectuation strategies and entrepreneurial orientation (Chapter 7), and we conducted a Qualitative Comparative Analysis (QCA) to trace entrepreneurial fits and misfits from a configurational contingency perspective (Chapter 8). In all, in this way, we produce a large number of pieces of the puzzle of a comprehensive framework regarding entrepreneurial attributes, behaviors and outcomes.

However, although the above is already the result of a rather ambitious research project, there are even more opportunities and options to develop a really programmatic approach to the study of entrepreneurship. Here, we briefly list four examples of other opportunities or options, in no particular order.

- We can still do more to explore our unique data to reveal their full potential. Collecting such unique data is a very time-consuming endeavor. Hence, we simply did not have the time to produce the plethora of analyses that can be achieved with these data. In future work, we hope to further investigate the data collected. For instance, we could conduct analyses regarding the interaction of motives and traits, or red tape and entrepreneurial performance.

- In the near future, recent information obtained from the National Bank of Belgium can be linked to our database. Then, we can explore in much greater detail how our list of potential drivers of entrepreneurial performance actually relates to the objective metrics of this very performance.
- Related to the above, we can do a forward-looking study even without engaging in additional primary data collection, by simply following our sampled entrepreneurs over years to come. Such a study can do more than only trying to *explain* performance, by also attempting to *forecast* performance, while providing evidence about the entrepreneurial process leading to this performance. That is, the benchmark measures (such as the entrepreneurs' motivational and personality profiles) in the first wave can be used to predict performance in years to come (e.g., which SMEs are likely to be innovative, survive and/or grow?). For instance, a forecasting exercise implies a particularly powerful test of our theoretical predictions, and will substantially increase the explanatory power of the overall model.
- Second, we could engage in extra primary data collection regarding our sampled entrepreneurs so that the impact of *change* can be examined. Change is a controversial and multi-dimensional concept, often studied retrospectively. We can measure a wide variety of changes, across all variables of the model by adding further survey waves, and explore how these changes impact upon different aspects of performance. Perhaps, with a design like this, we will be able to increase the explanatory power of our models beyond the disappointingly low levels found in the literature (where an R^2 of 15 per cent is already exceptional; see Parker et al., 2010).

This report and the opportunities lying ahead reveal, once more, that entrepreneurship is very lively and promising domain of research, which may produce insights that are highly relevant for the practice of starting and running an entrepreneurial venture, offering a source of inspiration for policymakers.

References

Aiken, L. S., West, S. G., & Reno, R. R. (1996). *Multiple regression: Testing and interpreting interactions*. Newbury Park (Calif.): Sage.

Ajayi-Obe, O., & Parker S. C. (2005). The changing nature of work among the self-employed in the 1990s: Evidence from Britain. *Journal of Labour Research, 26*(3), 501-517.

Aldrich, H., & Wiedenmeyer, G. (1993). From traits to rates: An ecological perspective on organizational foundings. *Advances in Entrepreneurship, Firm Emergence, and Growth and Change, 1*, 145-195.

Allinson, C., Chell, E., & Hayes, J. (2000). Intuition and entrepreneurial behavior. *European Journal of Work and Organizational Psychology, 9*(1), 31–43.

Andries, P., & Debackere, K. (2007). Adaptation and performance in new businesses: Understanding the moderating effects of independence and industry. *Small Business Economics, 29*, 81-99.

Andries, P., Debackere, K., & Van Looy, B. (2013). Simultaneous experimentation as a learning strategy: Business model development under uncertainty. *Strategic Entrepreneurship Journal, 7*, 288-310.

Antonelli, C. (1994). Localized technological change and the evolution of standards as economic institutions. *Information Economics and Policy, 6*, 195–216.

Anyadike-Danes, M., Athayde, R., Blackburn, R., Hart, M., Kitching, J., Smallbone, D., & Wilson, N. (2008). *The impact of regulation on small business performance.* Report for the Enterprise Directorate of BERR. (Project Report) London, U.K.: Department of Business, Enterprise and Regulatory Reform.

Archibugi, D., & Coco, A. (2005). Is europe becoming the most dynamic knowledge economy in the world? *Journal of Common Market Studies, 43*, 433–59.

Atkinson, J. W., & Litwin, G. H. (1960). Achievement motive and test anxiety conceived as motive to approach success and motive to avoid failure. *The Journal of Abnormal and Social Psychology, 60*(1), 52-63.

Atkinson, J., & McClelland, D. C. (1948). The projective expression of needs. Ii. The effect of different intensities of the hunger drive on thematic apperception. *Journal of Experimental Psychology, 33*, 361-366.

Audretsch, D. B. (2008, April). Creating the Entrepreneurial Society. Conferencia Magistral, Symposium conducted by the Fundación Rafael del Pino.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008), Entrepreneurship capital and its impact on knowledge diffusion and economic performance, *Journal of Business Venturing, 23*, 687-698.

Austin, J., Stevenson, H., & Wei-Skillern, J. (2006). Social and commercial entrepreneurship: same, different, or both? *Entrepreneurship theory and practice, 30*(1), 1-22.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.

Bar-Anan, Y., & Nosek, B. A. (2014). A comparative investigation of seven indirect attitude measures. *Behavior Research Methods, 46*, 668-688.

Barney J. B., & Hesterly, W. S. (2006). *Strategic management and competitive advantage*. Upper Saddle River, NJ: Prentice Hall.

Barringer, B. R., & Bluedorn, A. C. (1999). The relationship between corporate entrepreneurship and strategic management. *Strategic Management Journal, 20*, 421-444.

Bashir, N. Y., Lockwood, P., Chasteen, A. L., Nadolny, D., & Noyes, I. (2013). The ironic impact of activists: Negative stereotypes reduce social change influence. *European Journal of Social Psychology, 43*(7), 614-626.

Bátiz–Lazo, B., & Wood, D. (2002). An historical appraisal of information technology in commercial banking. *Electronic Markets, 12*, 192–205.

Batra, G., Kaufmann, D., & Stone, A. H. (2003). *Investment climate around the world: Voices of the firms from the World Business Environment Survey*. World Bank Publications.

Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of applied psychology, 89*(4), 587.

Baumann, N., Kaschel, R., & Kuhl, J. (2005). Striving for unwanted goals: Stress-dependent discrepancies between explicit and implicit achievement motives reduce subjective well-being and increase psychosomatic symptoms. *Journal of Personality and Social Psychology, 89*, 781-799.

Beise, M. (2004). Lead markets: Country–specific drivers of the global diffusion of innovations. *Research Policy, 33*, 997–1018.

Bernard, A., & Wagner, J. (1997). Exports and success in German manufacturing. *Review of World Economics, 133*, 134–157.

Berry, W. D., Golder, M., & Milton, D. (2012). Improving tests of theories positing interaction. *The Journal of Politics, 74*(3), pp. 653-671.

Bhave, M. (1994). A process model of entrepreneurial venture creation. *Journal of Business Venturing, 9*, 223–242.

Bhide, A. (2000). *The origin and evolution of new businesses*. New York: Oxford University Press.

Biernat, M. (1989). Motives and values to achieve: Different constructs with different effects. *Journal of Personality, 57*, 69-95.

Binswanger, H. (1991). Volition as cognitive self-regulation. *Organizational behavior and human decision processes, 50*(2), 154-178.

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. Academy of Management Review, 13(3), pp. 442–453.

Blind, K. (2001). The impacts of innovations and standards on trade of measurement and testing products: Empirical results of Switzerland's bilateral trade flows with Germany, France and the UK. *Information Economics and Policy, 13*, 439–460.

Blind, K., Jungmittag, A., & Mangelsdorf, A. (2011). *The Economic Benefits of Standardization*. Berlin, German: DIN German Institute for Standardization.

Bonaccorsi, A. (1992). On the relationship between firm size and export intensity. *Journal of International Business Studies, 23*, 605–635.

Boone C., de Brabander, A., & van Witteloostuijn, A. (1996). CEO locus of control and small firm performance: an integrative framework and empirical test. *Journal of Management Studies, 33*, 667–699.

Boone, C., van Olffen, W., van Witteloostuijn, A., & de Brabander, A. (2004). The genesis of top management team diversity: selective turnover among management teams in the Dutch newspaper publisher industry (1970–1994). *Academy of Management Journal, 47*, 633–656.

Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences, 51*(3), 222-230.

Brannick, M. T., Chan, D., Conway, J. M., lance, C. E., & Spector, P. E. (2010). What is method variance and how can we cope with it? A panel discussion. *Organizational Research Methods, 13*, 407-420.

Brettel, M., Mauer, R., Engelen, A., & Küpper, D. (2012). Corporate effectuation: Entrepreneurial action and its impact on R&D project performance. *Journal of Business Venturing, 27*, 167-184.

Bretz, R. D., & Judge, T. A. (1994). Person–organization fit and the theory of work adjustment: Implications for satisfaction, tenure, and career success. *Journal of Vocational Behavior, 44*, 32–54.

Brews, P. J., & Hunt, M. R. (1999). Learning to plan and planning to learn: Resolving the planning school/learning school debate. *Strategic Management Journal, 20*(10), 889-913.

Bright, L. (2007). Does person–organization fit mediate the relationship between public service motivation and the job performance of public employees? *Review of Public Personnel Administration, 27*, 361–379.

Brockhaus, R. H. (1980). Psychological and environmental factors which distinguish successful and unsuccessful entrepreneurs: A longitudinal study. *Proceedings of the Academy of Management*, 368-72.

Brody, N. & Ehrlichman, H. (1997). *Personality psychology: The science of individuality*, Upper Saddle River, NJ: Prentice Hall.

Brunstein, J. C., & Maier, G. W. (2005). Implicit and self-attributed motives to achieve: Two separate but interacting needs. *Journal of personality and social psychology, 89*(2), 205-222.

Brunstein, J. C., & Schmitt, C. H. (2004). Assessing individual differences in achievement motivation with the implicit association test. *Journal of Research in Personality, 38*, 536-555.

Brunstein, J. C., Schultheiss, O. C., & Grässman, R. (1998). Personal goals and emotional well-being: The moderating role of motive dispositions. *Journal of Personality and Social Psychology, 75*(2), 494-508.

Burpitt, W. J., & Rondinelli, D. A. (1998). Export decision–making in small firms: The role of organizational learning. *Journal of World Business, 33*, 51–68.

Busenitz, L. W., Gomez, C., & Spencer, J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. *Academy of Management Journal, 43*(5), 994-1003.

Caldwell, D. F., & O'Reilly, C. A. (1990). Measuring person–job fit with a profile–comparison process. *Journal of Applied Psychology, 75*, 648–657.

Carsrud, A., & Brännback, M. (2009). *Understanding the entrepreneurial mind: Opening the black box*. Dordrecht: Springer Verlag.

Carsrud, A., & Brännback, M. (2011). Entrepreneurial motivations: What do we still need to know? *Journal of Small Business Management, 49*(1), 9-26.

Carter, N., Gartner, W., & Reynolds, P. (1996). Exploring startup event sequences. *Journal of Business Venturing, 11*, 151–166.

Cassar, G. (2007). Money, money, money? A longitudinal investigation of entrepreneur career reasons, growth preferences and achieved growth. *Entrepreneurship & Regional Development, 19*(1), 89-107.

Chandler, G. N., DeTienne, D. R., McKelvie, A., & Mumford, T. V. (2011). Causation and effectuation processes: A validation study. *Journal of Business Venturing, 26*, 375-390.

Chang, S. J., van Witteloostuijn, A., & Eden, L. (2010). Common-method variance in International Business Research, Letter from the editors, *Journal of International Business Studies, 41*, 178-184.

Chatman, J. A. (1989). Improving interactional organizational research: A model of person–organization fit. *Academy of Management Review, 14*, 333–349.

Clausen, T., Vinogradov, E., & Madsen E. L. (2012). Effectuation and causation as a predictor of entrepreneurial orientation in small businesses. Paper presented at the RENT XXVI conference, Lyon, France.

Coad, A., Frankish, J., Roberts, R. G., & Storey, D. J. (2013), Growth paths and survival chances: An application of Gambler's Ruin theory. *Journal of Business Venturing, 28*(5), 615-632.

Coad, A., & Rao, R. (2008). Innovation and firm growth in high–tech sectors: A quantile regression approach. *Research Policy, 37*, 633–648.

Code, S., & Langan-Fox, J. (2001). Motivation, cognitions and traits: Predicting occupational health, well-being and performance. *Stress and Health, 17*(3), 159-174.

Cohen, B., Smith, B., & Mitchell, R. (2008). Toward a sustainable conceptualization of dependent variables in entrepreneurship research. *Business Strategy and the Environment, 17*(2), 107-119.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences (3rd Ed.)*. New Jersey: Lawrence Erlbaum Associates.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35*, 128–52.

Collins, C. J., Hanges, P. J. & Locke, E. A. (2004). The relationship of achievement motivation to entrepreneurial behavior: A meta-analysis. *Human Performance, 17*(1), 95-117.

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing, 9*(5), 371-395.

Costa P. T. Jr., & McCrae, R. R. (1992). *Revised NEOpersonality inventory (NEO–PI–R) and NEO five–factor (NEO–FFI) inventory professional manual*. Odessa: FL PAR.

Covin, J.G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75–87.

Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*(4), 281-302.

Cuba, R., DeCenzo, D., & Anish, A. (1983). Management practices of successful female business owners. *American Journal of Small Business, 8*(2), 40-45.

Damanpour F. (1991). Organizational innovation: A meta–analysis of determinants and moderators. *Academy of Management Journal, 34*, 555–590.

David, P. A. (1987). Some new standards for the economics of standardization in the information age. In Dasgupta, P., & Stoneman, P .L. (Eds.), *The economic theory of technology policy.* (pp 206-239). London: Cambridge University Press.

Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing, 18*(3), 301-331.

Dawes, J. (1999). The relationship between subjective and objective company performance measures in market orientation research: Further empirical evidence. *Marketing Bulletin, 10*, 65–75.

De Clercq, D., Danis, W. M., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review, 19*(1), 85-101.

Dean, C. C., & Thibodeaux, M. S. (1994). Corporate entrepreneurship: U.S. firms operating in the middle east and the Arab world. In *Advances in international comparative management* (Vol. 9, pp. 193–222). Greenwich, CT: JAI Press.

Delmar, F., Davidsson, P. & Gartner, W. (2003). Arriving at the high growth firm. *Journal of Business Venturing, 18*(2), 189-216.

Delmar, F., & Shane, S. (2003). Does business planning facilitate the development of new ventures? *Strategic Management Journal, 24*, 1165-1185.

den Butter, F. A. & Hudson, J. (2009). Standardization and compliance costs: Relevant developments at EU level. In Nijsen, A. (Ed.), *Business regulation and public policy* (pp. 1–15). New York: Springer.

Dess, G. D., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly, 29*(1), 52-73.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment, 49*(1), 71-75.

Dobrev, S., & Carroll, G. R. (2003). Size (and competition) among organizations: Modelling scale–based selection among automobile producers in four major countries, 1885–1981. *Strategic Management Journal, 24*, 541–558.

Doty, D. H., Glick, W. H., & Huber, G. P. (1993). Fit, equifinality and organizational effectiveness: A test of two configurational theories. *Academy of Management Journal, 36*, 1196–1250.

Drucker, P. F. (1998). The discipline of innovation. *Harvard Business Review, 76*(6), 149-157.

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of personality and social psychology, 92*(6), 1087-1101.

Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review, 23*, 660-679.

Edelman, L. F., Brush, C. G., Manolova, T. S., & Greene, P. G. (2010). Start-up motivations and growth intentions of minority nascent entrepreneurs. *Journal of Small Business Management, 48*(2), 174-196.

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review, 22*, 1155-1179.

Egyedi, T. M., & Sherif, M. H. (2008, May). Standards' dynamics through an innovation lens: Next generation ethernet networks. In the first ITU–T Kaleidoscope Academic Conference, "Innovations in NGN", Symposium conducted in Geneva, Switzerland.

Enderle, G. (2009). A rich concept of wealth creation beyond profit maximization and adding value. *Journal of Business Ethics, 84*(3), 281-295.

Ernst & Young (2014). *Analyse des performances et évolution du tissu PME wallon, une publication E&Y.* Retrieved from http://www.uwe.be/uwe/publications/etudes-rapports-guides-pratiques/rapports-annuels-etudes/ey-analyse-des-performances-et-evolution-du-tissu-pme-wallon/

European Commission (2010). *Annual report of European commission for standardization.* Brussels, Belgium: CEN, Comité Européen de Normalisation.

European Commission (2011). *Proposal for a regulation of the European parliament and of the council on European standardization.* Brussels, Belgium: European Commission.

European Commission (2012). *Using standards to support growth, competitiveness and innovation: Guidebook series how to support SME policy from structural funds.* Brussels, Belgium: Directorate General for Enterprise and Industry, European Commission.

European Telecommunications Standards Institute/ESTI (2013). *Annual report, April 2013*. Sophia–Antipolis Cedex, French: ESTI.

Evans, D. S., & Jovanovic, B. (1989). An estimated model of entrepreneurial choice under liquidity constraints. *The Journal of Political Economy, 97*, 808–827.

Farrell, J., & Saloner, G. (1985) *Economic issues in standardization*. Working Paper #393, Department of Economics, Massachusetts Institute of Technology.

Farrell, J., & Saloner, G. (1986). Standardization and variety. *Economics Letters, 20*, 71–74.

Fischer, E., Reuber, A., & Dyke, L. (1993). A theoretical overview and extension of research on sex, gender, and entrepreneurship. *Jounal of Business Venturing, 8*(2), 151-168.

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

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

Frakes, M. (2013). The impact of medical liability standards on regional variations in physician behaviour: evidence from the adoption of national–standard rules. *American Economic Review, 103*, 257–276.

Frese, M., & Zapf, D. (1994). Action as the core of work psychology: A German approach. In Triandis, H. C., Dunnette, M. D., & Hough, J. M. (Eds.), *Handbook of industrial and organizational psychology* (Vol. 4, 2nd Ed., pp. 271–340). Palo Alto, CA: Consulting Psychology Press.

Frischer, J. (1993). Empowering management in new product development units. *Journal of Product Innovation Management, 10*(5), 393-401.

Gandal, N., & Shy, O. (2001). Standardization policy and international trade. *Journal of International Economics, 53*,363–383.

Gartner, W. B. (1988). Who is an entrepreneur? Is the wrong question. *American journal of small business, 12*(4), 11-32.

Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing, 5*, 15-28.

Gawronski, B., & De Houwer, J. (2013). *Implicit measures in social and personality psychology (2nd Ed., Vol. 1)*. New York: Cambridge University Press.

Gehring, T., & Kerler, M. (2008). Institutional stimulation of deliberative decision-making: Division of labour, deliberative legitimacy and technical regulation in the European single market. *Journal of Common Market Studies, 46*, 1001–1023.

Germak, A. J., & Robinson, J. A. (2013). Exploring the motivation of nascent social entrepreneurs. *Journal of Social Entrepreneurship, 5*(1), 5-21.

Goldberg, L. R. (1990). An alternative “description of personality”: The big–five factor structure. *Journal of Personality and Social Psychology, 59*, 1216–1229.

Govindarajan, V. (1989). Implementing competitive strategies at the business unit level: Implications of matching managers to strategies. *Strategic Management Journal, 10*, 251-270.

Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review, 102*, 4-27.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology, 74*, 1464-1480.

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*, 197-216.

Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the implicit association test: Iii. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology, 97*(1), 17-41.

Grübler, A., Nakićenović, N. & Victor, D. G. (1999). Dynamics of energy technologies and global change. *Energy Policy, 27*, 247–280.

Hägglund, S. & Samuelsson, I. P. (2009). Early childhood education and learning for sustainable development and citizenship. *International Journal of Early Childhood, 41*(2), 49-63.

Hair, J., Black, B., Babin, B., Anderson, R., & Tatham, R. (2005). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson, Prentice Hall Inc.

Hambrick, D. C., (1989). Guest editor's introduction: Putting top managers back in the strategy picture. *Strategic Management Journal, 10*, 5–15.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review, 9*(2), 193-206.

Hannan, M. T., & Freeman, J. (1977) The population ecology of organizations. *American Journal of Sociology, 8*2, 929–964.

Hansemark, O. C. (2003). Need for achievement, locus of control and the prediction of business startups: A longitudinal study. *Journal of Economic Psychology, 24*, 301-319.

Harmeling, S. S., Oberman, S., Venkataraman, S., & Stevenson, H. H. (2004). That my neighbor's cow might live: Effectuation, entrepreneurial education, and regional development in Croatia. In Shaker, A., Zahra, S. A., Brush, C. G., Davidsson, P., Fiet, J., Greene, P. G., Harrison, R. T., Lerner, M., Mason, C., Meyer, G. D., Sohl, J., & Zacharakis, A. (Eds.), *Frontiers of entrepreneurship research*, 24 (pp. 1-14). Wellesley, MA: Babson College.

Harms, R., & Schiele, H. (2012). Antecedents and consequences of effectuation and causation in the international new venture creation process. *Journal of International Entrepreneurship, 10*, 95-116.

Harting, T. (2004). Entrepreneurial effectuation in a corporate setting: The case of Circuit City's Carmax unit. Paper presented at the Babson Kauffman Entrepreneurship Research Conference, Glasgow, Scotland.

Hay, D. A., & Morris, D. J. (1979). *Industrial economics: Theory and evidence*. Oxford: Oxford University Press.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. Manuscript submitted for publication.

Hayton, J. C., George, G., & Zahra, S. A. (2002). National culture and entrepreneurship: A review of behavioral research. *Entrepreneurship Theory and Practice, 26*(4), 33-52.

He, Z.-L., & Wong, P.-K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis, *Organization Science, 15*(4), 481–494.

Hermans, J., Slabbinck, H., Brassey, J., Dejardin, M., Vanderstraeten, J., Ramdani, D., & van Witteloostuijn, A. (2014), Changing the world: entrepreneur's motives and commitment in shared value creation. Working paper.

Hermans, J., Vanderstraeten, J., Dejardin, M., Ramdani, D., & van Witteloostuijn, A. (2013). Entrepreneur ambitieux: état des lieux et perspectives. *Revue de l'Entrepreneuriat, 13* (1-2): 43-70.

Hermans, J., Vanderstraeten, J., van Witteloostuijn, A., Dejardin, M., Ramdani, D., & Stam, E. (2015 - forthcoming), Ambitious entrepreneurship: A review of growth aspirations, intentions, and expectations. In Corbett, A. C., Katz, J., & McKelvie, A. (Eds.), *Entrepreneurial growth: Individual, firm & region*. Bingley: Emerald Group Publishing Ltd. (Advances in Entrepreneurship, Firm Emergence and Growth, Volume 17).

Hisrich, R., & Brush, C. (1987). Women entrepreneurs: A longitudinal study. In Churchill, N. C., Hornaday, J. A., Kirchhoff, B. S., Krasner, O. J., & Vesper, K. H. (Eds.), *Frontiers of Entrepreneurial Research* (pp. 187-189), Wellesley, Mass.: Babson College.

Hofer, J., Busch, H., Bond, M. H., Kärtner, J., Kiessling, F., & Law, R. (2010). Is self-determined functioning a universal prerequisite for motive–goal congruence? Examining the domain of achievement in three cultures. *Journal of Personality, 78*(2), 747-780.

Hofer, J., Chasiotis, A., & Campos, D. (2006). Congruence between social values and implicit motives: Effects on life satisfaction across three cultures. *European Journal of Personality, 20*(4), 305-324.

Homburg, C., Workman, J. P., & Krohmer, H. (1999). Marketing's influence within the firm. *Journal of Marketing, 63,* 1–17.

Hood, N., & Young, S. (1987). Inward investment and the EC: UK evidence on corporate integration strategies. *Journal of Common Market Studies, 26*, 193–206.

Hrebiniak, L. G., & Joyce, W. F. (1985). Organizational adaptation: Strategic choice and environmental determinism. *Administrative science quarterly, 30*, 336-349.

Jachtenfuchs, M. (2001). The governance approach to European integration. *Journal of Common Market Studies, 39*, 245–264.

Jackson, D. N. (1984). *Personality Research Form*. Port Huron, MI: Sigma Assessment Systems.

Jamet, J. F. (2011). The optimal assignment of prerogatives to different levels of government in the EU. *Journal of Common Market Studies, 49*, 563–584.

Johansson, A., & McKelvie, A. (2012). Unpacking the antecedents of effectuation and causation in a corporate context. *Frontiers of Entrepreneurship Research, 32*(17), 1-15.

Johnson, B. R. (1990). Toward a multidimensional model of entrepreneurship: The case of achievement motivation and the entrepreneur. *Entrepreneurship: Theory & Practice, 14*(3), 39-54.

Johnson, J., & Powell, P. (1994). Decision making, risk, and gender: Are managers different? *British Journal of Management, 5*, 123-138.

Jones, P. & Hudson, J. (1996) Standardization and the costs of assessing quality. *European Journal of Political Economy, 12,* 355–361.

Judge, T. A., & Cable, D. M. (1997). Applicant personality, organizational culture and organizational attraction. *Personnel Psychology, 50*, 359–394.

Kasemir, B., Toth, F., & Masing, V. (2000). Climate policy, venture capital and European integration. *Journal of Common Market Studies, 38*, 891–903.

Katz, M. L,. & Shapiro, C. (1985). Network externalities, competition and compatibility. *American Economic Review, 75*, 424–440.

Kehr, H. M. (2004a). Implicit/explicit motive discrepancies and volitional depletion among managers. *Personality & social psychology bulletin, 30*, 315-327.

Kehr, H. M. (2004b). Integrating implicit motives, explicit motives, and perceived abilities: The compensatory model of work motivation and volition. *The Academy of Management Review, 29*(3), 479-499.

Kemelgor, B. H. (2002). A comparative analysis of corporate entrepreneurial orientation between selected firms in the Netherlands and the USA. *Entrepreneurship & Regional Development, 14*, 67-87.

Keogh, P. D., & Polonsky, M. J. (1998). Environmental commitment: a basis for environmental entrepreneurship? *Journal of Organizational Change Management, 11*(1), 38-49.

Ketchen, D. J. J., Thomas, J. B., & Snow, C. C. (1993). Organizational configurations and performance: A comparison of theoretical approaches. *Academy of Management Journal, 36*, 1278–1313.

Knill, C., & Lehmkuhl, D. (2002). The national impact of European Union regulatory policy: Three Europeanization mechanisms. *European Journal of Political Research, 41*(2), 255-280.

Koestner, R., Bernieri, F., & Zuckerman, M. (1992). Self-regulation and consistency between attitudes, traits, and behaviors. *Personality and Social Psychology Bulletin, 18*(1), 52-59.

Kotler, P. (1991). *Marketing management*, Englewood Cliffs, NJ: Prentice Hall.

Kraaijenbrink, J. (2008). The nature of the entrepreneurial process: Causation, effectuation, and pragmatism. Working paper Dutch Institute for Knowledge Intensive Entrepreneurship (NIKOS), Enschede, the Netherlands.

Kristof, A. (1996). Person–organization fit: An integrative review of its organizations, measurements and implications. *Personnel Psychology, 49*, 1–49.

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5-6), 411-432.

Langan-Fox, J., & Grant, S. (2006). The thematic apperception test : Toward a standard measure of the big three motives. *Journal of Personality Assessment, 87*, 277-291.

Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO Personality Inventory. *Multivariate Behavioral Research, 39*(2), 329-358.

Leitch, C. M., Hill, F. M., & Harrison, R. T. (2010). The philosophy and practice of interpretivist research in entrepreneurship: Quality, validation, and trust. *Organizational Research Methods, 13*(1), 67-84.

Lesceux (2014), *Grandir pour survivre, le défi de la croissance des PME et des indépendants, enquête sur la croissance des entrepreneurs francophones.* UCM Report. Retrieved from http://www.ucm.be/Defense-et-representation/Espace-presse2/Espace-Presse/2014/Croissance-des-PME-obstacles-et-incitants

Leukel, J. (2004, July). Automating product classification: The impact of standardization. In the IADIS International Conference e–Society, Symposium conducted in Avila, Spain.

Levie, J., & Autio, E. (2011). Regulatory burden, rule of law, and entry of strategic entrepreneurs: An international panel study. *Journal of Management Studies, 48*(6), 1392-1419.

Lewellyn, W., & Huntsman, B. (1970). Managerial pay and corporate performance. *American Economic Review, 60*, 710-720.

Ling, Y., Zhao, H., & Baron, R. A. (2007). Influence of founder—CEOs' personal values on firm performance: Moderating effects of firm age and size. *Journal of Management, 33*(5), 673-696.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation. A 35-year odyssey. *American Psychologist, 57*(9), 705-717.

Lumpkin, G. T., & Dess, G.G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing, 16*, 429-451.

Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of Management, 26*(5), 1055-1085.

Majone, G. (2000). The credibility crisis of community regulation. *Journal of Common Market Studies, 38*, 273–302.

March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science, 2*, 71-87.

Matutes, C. & Regibeau, P. (1996). A selective review of the economics of standardization. Entry deterrence, technological progress and international Competition. *European Journal of Political Economy, 12*, 183–209.

McClelland, D. C. (1961). *The achieving society*. Princeton, N.J: D. Van Nostrand.

McClelland, D. C. (1987). *Human motivation*, CUP Archive.

McClelland, D. C., Atkinson, J., Clark, R. A., & Lowell, E. L. (1953). *The achievement motive*. New York: Appleton-Century-Crofts.

McClelland, D. C., & Boyatzis, R. E. (1982). Leadership motive pattern and long-term success in management. *Journal of Applied Psychology, 67*, 737-743.

McClelland, D. C., & Burnham, D. H. (2003). Power is the great motivator. *Harvard business review, 81*(1), 117-126.

McClelland, D. C., & Franz, C. E. (1992). Motivational and other sources of work accomplishments in mid-life : A longitudinal study. *Journal of Personality, 60*, 679-707.

McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ. *Psychological Review, 96*(4), 690-702.

McClelland, D. C., & Pilon, D. A. (1983). Sources of adult motives in patterns of parent behavior in early childhood. *Journal of Personality and Social Psychology, 44*, 564-574.

McClelland, D. C., & Watson, R. I. (1973). Power motivation and risk-taking behavior. *Journal of personality, 41*(1), 121-139.

McCrae, R. R. (1987). Creativity, divergent thinking, and openness to experience. *Journal of Personality and Social Psychology, 52*, 1258–1265.

McCrae, R. R., & Costa, P. T. (2003). Personality in adulthood : A five factor theory perspective (2nd Ed.). New York (N.Y.): Guilford press.

McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: Refining the measure. *Entrepreneurship Theory and Practice, 33*(4), 965-988.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science, 29*, 770–791.

Miller, D. (1988). Relating Porter's business strategies to environment and structure: Analysis and performance implications. *Academy of management Journal, 31*(2), 280-308.

Miller, D., & Droge, C. (1986). Psychological and traditional determinants of structure. *Administrative Science Quality, 31*, 539-560.

Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal, 3*(1), 1– 25.

Miles, R. E., & Snow, C. C. (1978). *Organizational strategy, structure, and process*. New York, NY.: McGraw Hill.

Miles, R. E., & Snow, C. C. (2003). *Organizational strategy, structure, and process*. Stanford, CA.: Stanford Business Classics.

Minniti, M. (2009). *Gender Issues in Entrepreneurship*. USA: Now Publishers Inc.

Mintzberg, H. (1973). Strategy making in three modes. *Management Review, 16*, 44-53.

Miotti, H. (2009) *The Economic Impact of Standardization*. Retrieved from http://www.sis.se/pdf/Economic_impact_of_standardization_France.pdf.

Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P. P., Morse, E. A., & Smith, J. B. (2002). Toward a theory of entrepreneurial cognition rethinking the people side of entrepreneurship research, entrepreneurship theory and practice. *Entrepreneurship Theory and Practice, 27*(2), 93-104.

Mueller, S. L., & Thomas, A. S. (2001), Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing, 16*, 51-75.

Murray, H. A. (1943). *Thematic apperception test*. Cambridge, CA: Harvard University Press.

Nelson, R. R. (1991). Why do firms differ, and how does it matter? *Strategic Management Journal, 12*, 61–74.

Nieto, M., Lopéz, F. & Cruz, F. (1998). Performance analysis of technology using the S curve model: The case of Digital Signal Processing (DSP) technologies. *Technovation, 18*, 439–457.

Nooteboom, B. (1994), Innovation and diffusion in small firms: Theory and evidence. *Small Business Economics, 6,* 327-347.

Nooteboom, B., Van Haverbeke, W., Duysters, G., Gilsing, V. & van den Oord, A. (2007). Optimal cognitive distance and absorptive capacity. *Research Policy, 36*, 1016–1034.

Nosek, B. A. (2005). Moderators of the relationship between implicit and explicit evaluation. *Journal of experimental psychology: General, 134*(4), 565-584.

Nosek, B. A., Bar-Anan, Y., & Greenwald, A. G. (2014). Understanding and using the brief implicit association test: I. Recommended scoring procedures.

Notaro, G. (2011). European integration and productivity: Exploring the early effects of completing the internal market. *Journal of Common Market Studies, 49*, 845–869.

Oliver, C., & Holzinger, I. (2008). The effectiveness of strategic political management: A dynamic capabilities framework. *Academy of Management Review, 33*, 496–520.

O'Reilly, C. A. (1977). Personality–job fit: Implications for individual attitudes and performance. *Organizational Behavior and Human Performance, 18*, 36–46.

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person–organization fit. *Academy of Management Journal, 34*, 487–516.

Pang, J. S. (2010). Content coding methods in implicit motive assessment: Standards of measurement and best practices for the picture story exercise. In Schultheiss O.C., & Brunstein, J. C. (Eds.), *Implicit motives* (pp. 119-150). New York: Oxford University Press.

Parker, S. C., Storey D., & van Witteloostuijn, A. (2010). What happens with gazelles?: The role of dynamic management strategies, *Small Business Economics , 35*, 203-226.

Parker, S. C., & van Witteloostuijn, A. (2010), A general framework for multidimensional contingency fit, *Organization Science, 21*, 540-553.

Pelkmans, J. (1987). The new approach to technical harmonization and standardization. *Journal of Common Market Studies, 25*, 249–269.

Perry, J. T., Chandler, G. N., & Markova, G. (2012). Entrepreneurial effectuation: A review and suggestions for future research. *Entrepreneurship: Theory & Practice, 36*(4), 837-861.

Perugini, M., Richetin, J., & Zogmaister, C. (2010). Prediction of behavior. In Gawronski, B. & Payne, B. K. (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications* (Vol. 10, pp. 255-278). New York: Guilford Press.

Perwin, L. (2003). *The Science of Personality*. Oxford: Oxford University Press.

Porter, M. E. (1985). *The competitive advantage: Creating and sustaining superior performance*. New York, NY: Free Press.

Porter, M. E., & Kramer, M. R. (2011). The big idea: Creating shared value. *Harvard Business Review, 89*(1), 62-77.

Powell, T. C., Lovallo, D., & Fox, C. R. (2011). Behavioral strategy. *Strategic Management Journal, 32*(13), 1369-1386.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*(1), 185-227.

Pruzan, P. (2001). The question of organizational consciousness: Can organizations have values, virtues and visions? *Journal of Business Ethics, 29*(3), 271-284.

Radosevic, S. (2004). A two-tier or multi-tier Europe? Assessing the innovation capacities of central and East European countries in the enlarged EU. *Journal of Common Market Studies, 42*, 641–666.

Ragin, C. C. (2008). User's Guide to Fuzzy–Set/Qualitative Comparative Analysis 2.0. Tucson, AZ: Department of Sociology, University of Arizona.

Ramdani, D., van Witteloostuijn, A., Dejardin, M., Hermans, J., & Vanderstraeten, J. (2014), Fit analysis between personality traits, strategy and environmental dynamism. Working paper.

Ramdani, D., van Witteloostuijn, A., Vanderstraeten, J., Hermans J., & Dejardin, M. (2014), The EU standardization: An exploration according to firm size and firm capabilities. Working paper.

Read, S., & Sarasvathy, S. D. (2005). Knowing what to do and doing what you know: Effectuation as a form of entrepreneurial expertise. *Journal of private Equity, 9*(1), 45-62.

Read, S., Song, M., & Smit, W. (2009). A meta-analytic review of effectuation and venture performance. *Journal of Business Venturing, 24*, 573-587.

Rihoux, B., & Ragin, C. C. (2009). *Configurational comparative methods, Qualitative comparative analysis (QCA) and related techniques.* London, UK: Sage Pub. Inc.

Ring, P. S., & Van de Ven (1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Review, 19*(1), 90-118.

Robinson R. (1984). Forecasting and small business: a study of the strategic planning process. *Journal of Small Business Management, 22*(2), 19–27.

Rondinelli, D. A., & Berry, M. A. (2000). Environmental citizenship in multinational corporations: Social responsibility and sustainable development. *European Management Journal, 18*(1), 70-84.

Salomo, S., Weise, J., & Gemünden, H. G. (2007). NPD planning activities and innovation performance: The mediating role of process management and the moderating effect of product innovativeness. *Journal of product Innovation Management, 24*, 285-302.

Salop, S. C., & Scheffmanm D. T. (1983). Raising rivals' costs. *American Economic Review, 73*, 267–271.

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review, 26*(2), 243-263.

Scheffer, D., Eichstaedt, J., Chasiotis, A., & Kuhl, J. (2010). Towards an integrated measure of need affiliation and agreeableness derived from the operant motive test. *Psychology Science, 49*, 308-324.

Scheffer, D., & Heckhausen, H. (2008). Trait theories of motivation. In Heckhausen, J. & Heckhausen, H. (Eds.), *Motivation and action* (pp. 42-68). New York, NY: Cambridge University Press.

Schneider, C. Q., & Wagemann, C. (2012). *Set-theoretic methods for the social sciences: A guide to qualitative comparative analysis*. Cambridge, UK: Cambridge University Press.

Schuh, S. C., Bark, A. S. H., Van Quaquebeke, N., Hossiep, R., Frieg, P., & Van Dick, R. (2014). Gender differences in leadership role occupancy: The mediating role of power motivation. *Journal of Business Ethics, 120*(3), 363-379.

Schüler, J., & Brandstätter, V. (2013). How basic need satisfaction and dispositional motives interact in predicting flow experience in sport. *Journal of Applied Social Psychology. 43*(4), 687-705

Schultheiss, O. C. (2008). Implicit motives. In John, O., Robins, R., & Pervin, L. (Eds.), *Handbook of personality: Theory and research* (pp. 603-633). New York, NY: Guilford Press.

Schultheiss, O. C., & Brunstein, J. C. (2010). *Implicit Motives*. New York: Oxford University Press.

Schultheiss, O. C., & Hale, J. A. (2006). Implicit motives modulate attentional orienting to facial expressions of emotion. *Motivation and Emotion, 31*, 13-24.

Schultheiss, O. C., & Pang, J. S. (2007). Measuring implicit motives. *In Handbook of research methods in personality psychology* (pp. 322-344). New York, NY: Guilford Press.

Schultheiss, O. C., Patalakh, M., Rawolle, M., Liening, S., & MacInnes, J. J. (2011). Referential competence is associated with motivational congruence. *Journal of Research in Personalit y, 45*, 59-70.

Schultheiss, O. C., Rösch, A. G., Rawolle, M., Kordik, A., & Graham, S. (2010). Implicit motives: Current topics and future directions. In Urdan, T. C., & Karabenick, S. A. (Eds.), *Advances in motivation and achievement* (Vol. 16, pp. 199-233). Bingley: Emerald.

Schultheiss, O. C., Yankova, D., Dirlikov, B., & Schad, D. J. (2009). Are implicit and explicit motive measures statistically independent? A fair and balanced test using the picture story exercise and a cue- and response-matched questionnaire measure. *Journal of Personality Assessment, 91*(1), 72-81.

Schumpeter, J. A. (1934). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Transaction Publishers.

Seghers, A., Manigart, S., & Vanacker, T. (2012). The impact of human and social capital on entrepreneurs' knowledge of finance alternatives. *Journal of Small Business Management, 50*(1), 63-86.

Shaffer, B., & Hillman, A. J. (2000). The development of business–government strategies by diversified firms. *Strategic Management Journal, 21*, 175–190.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review, 25*(1), 217-226.

Shuman, J., Shaw, J., & Sussman, G. (1985). Strategic planning in smaller rapid growth companies. *Long Range Planning, 18*(6), 48–53.

Shy, O. (2011). A short survey of network economics. *Review of Industrial Organization, 38*, 119–149.

Slabbinck, H., De Houwer, J., & Van Kenhove, P. (2011). A pictorial attitude IAT as a measure of implicit motives. *European Journal of Personality, 25*, 76-86.

Slabbinck, H., De Houwer, J., & Van Kenhove, P. (2012). The pictorial attitude implicit association test for need for affiliation. *Personality and Individual Differences, 53*, 838-842.

Slabbinck, H., De Houwer, J., & Van Kenhove, P. (2013). Convergent , discriminant , and incremental validity of the pictorial attitude implicit association test and the picture story exercise as measures of the implicit power motive. *European Journal of Personality, 27*, 30-38.

Slabbinck, H., van Witteloostuijn, A., Hermans, J., Brassey, J., Ramdani, D., Vanderstraeten, J., & Dejardin, M. (2014). The added value of implicit motives for organizational research. Working Paper.

Smith, C. P. (1992). *Motivation and Personality: Handbook of Thematic Content Analysis*. New York: Cambridge University Press.

Sokolowski, K., & Heckhausen, H. (2008). Social bonding: Affiliation motivation and intimacy motivation. In Heckhausen, J., & Heckhausen, H. (Eds.), *Motivation and action* (pp. 184-201). New York: Cambridge University Press.

Sonfield, M., Lussier, R., Corman, J., & McKinney, M. (2001). Gender comparisons in strategic decision-making: An empirical analysis of the entrepreneurial strategy matrix. *Journal of Small Business Management, 39*(2), 165-173.

Sriram, N., & Greenwald, A. G. (2009). The brief implicit association test. *Experimental Psychology, 56*, 283-294.

Stam, E., Bogaert, S., Bosma, N., Edwards, N., Jaspers, F., de Jong, J., & van Witteloostuijn, A. (2012). *Ambitious Entrepreneurship: A Review of the State of the Art*. Report for the Advisory Council for Science and Technology Policy (AWT) and the Flemish Council for Science and Innovation (VRWI).

Stanton, S. J., Hall, J., & Schultheiss, O. C. (2010). Properties of motive-specific incentives. In Schultheiss, O. C., & Brunstein, J. C. (Eds.), *Implicit motives* (pp. 245-278). New York, NY: Oxford University Press.

Sternberg, R. (2007). Entrepreneurship, proximity and regional innovation systems. *Tijdschrift voor economische en sociale geografie, 98*(5), 652-666.

Stevenson, H. H., & Gumpert, D. E. (1985). The heart of entrepreneurship. *Harvard Business Review, 63*(2), 85-94.

Stewart, W. H., Watson, W. E., Carland, J. C., & Carland, J. W. (1998). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business Venturing, 14*, 189–214.

Storey, D. (2011), Optimism and chance: the elephants in the entrepreneurship room. *International Small Business Journal, 29*(4). 303-321.

Surie, G., & Ashley, A. (2008). Integrating pragmatism and ethics in entrepreneurial leadership for sustainable value creation. *Journal of Business Ethics, 81*(1), 235-246.

Szmigin, I., & Rutherford, R. (2013). Shared value and the impartial spectator test. *Journal of business ethics, 114*(1), 171-182.

Thompson, J.D. (1966). *Organizations in action: Social science administration theory*. New York: McGraw-Hill.

Thorpe, R., Holt, R., Macpherson, A., & Pittaway, L. (2005). Using knowledge within small and medium-sized firms a systematic review of the evidence. *International Journal of Management Reviews, 7*(4), 257-281.

Thrash, T. M., & Elliot, A. J. (2002). Implicit and self-attributed achievement motives: Concordance and predictive validity. *Journal of Personality, 70*(5), 729-756.

Thrash, T. M., Elliot, A. J., & Schultheiss, O. C. (2007). Methodological and dispositional predictors of congruence between implicit and explicit need for achievement. *Personality and Social Psychology Bulletin, 33*(7), 961-974.

Thurik, R., & Dejardin, M. (2012), Entrepreneurship and culture. In van Gelderen, M., Masurel, E. (Eds), *Entrepreneurship in context* (pp. 175-186), London: Routledge.

Tziner, A. (1987). Congruency issue retested using Fineman's achievement climate notion. *Journal of Social Behavior and Personality, 2*, 63–78.

Ucbasaran, D., Westhead, P., Wright, M., & Flores, M. (2010). The nature of entrepreneurial experience, business failure and comparative optimism. *Journal of Business Venturing, 25*(6), 541-555.

Uhlmann, E. L., Leavitt, K., Menges, J. I., Koopman, J., Howe, M., & Johnson, R. E. (2012). Getting explicit about the implicit: A taxonomy of implicit measures and guide for their use in organizational research. *Organizational Research Methods, 15*, 553-601.

van Witteloostuijn, A. (2012). Motivations of ambitious entrepreneurs. In Stam, E., Bogaert, S., Bosma, N., et al., Ambitious entrepreneurship: A review of the state of the art. Report for the Advisory Council for Science and Technology Policy (AWT) and the Flemish Council for Science and Innovation (VRWI).

van Witteloostuijn, A., & de Jong, G. (2011). *The impact of administrative red tape on private firm performance: Green or red tape in the Northern Netherlands*. Working paper, University of Antwerp / University of Groningen.

van den Born, A., & van Witteloostuijn, A. (2013). Drivers of freelance career success, *Journal of Organizational Behavior, 34*, 24-46.

Vancouver, J. B., & Schmitt, N. W. (1991). An exploratory examination of person–organization fit: Organizational goal congruence. *Personnel Psychology, 44*, 333–352.

Vanderstraeten, J., Hermans, J., Ramdani, D., van Witteloostuijn, A., & Dejardin, M. Causation and Effectuation in turbulent times: conditional impact on entrepreneurial orientation. Working paper.

Vargas, P. T., von Hippel, W., & Petty, R. E. (2004). Using partially structured attitude measures to enhance the attitude-behavior relationship. *Personality and Social Psychology Bulletin, 30*(2), 197–211.

Venkataraman, S., Sarasvathy, S. D., Dew, N., & Forster, W. R. (2012). Reflections on the 2010 AMR decade award: Whither the promise? Moving forward with entrepreneurship as a science of the artificial. *Academy of Management Review*, *37*(1), 21-33.

Wales, W. J., Patel, P. C., & Lumpkin, G. T. (2013). In pursuit of greatness: CEO narcissism, entrepreneurial orientation, and firm performance variance. *Journal of Management Studies, 50*(6), 1041-1069.

Warburton, D. (1998). *Community and sustainable development: Participation in the future*, Earthscan Publications Ltd.

Weber, C., Johnson, M., & Arceneaux, K. (2011). Genetics, personality, and group identity. *Social Science Quarterly, 92*, 1314-1337.

Weiner, B. (1992). *Human motivation: Metaphors, theories, and research*, Newbury Park, Ca: Sage.

White, R. E. (1986), Generic business strategies, organizational context and performance: An empirical investigation. *Strategic Management Journal, 7*, 217–231.

Wiersema, M. F., & Bantel, K. A. (1992). Top management team demography and corporate strategic change. *Academy of Management Journal, 35*, 91–121.

Wigger, A., & Nölke, A. (2007). Enhanced roles of private actors in EU business regulation and the erosion of Rhenish capitalism: The case of antitrust enforcement. Jo*urnal of Common Market Studies, 45*, 487–513.

Wijbenga, F. H., & van Witteloostuijn, A. (2007). Entrepreneurial locus of control and competitive strategies–The moderating effect of environmental dynamism. *Journal of Economic Psychology, 28*(5), 566-589.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing, 20*, 71-91.

Williams, E. (1977). Experimental comparisons of face-to-face and mediated communication: A review. *Psychological Bulletin, 84*(5), 963-976.

Wiltbank, R., Read, S., Dew, N., & Sarasvathy, S. D. (2009). Prediction and control under uncertainty: Outcomes in angel investing. *Journal of Business Venturing, 24*, 116-133.

Winter, D. G. (1973). *The power motive.* New York: The Free Press.

Winter, D. G. (1991). Measuring personality at a distance: Development of an integrated system for scoring motives in running text. In Stewart, A. J., Healy, J. M. Jr., & Ozer D. (Eds.), *Perspectives in personality: Approaches to understanding lives*. London: Jessica Kingsley Publishers.

Winter, D. G. (1994*). Manual for Scoring Motive Imagery in Running Text (4th ed.)*. Ann Arbor: University of Michigan.

Winter, D. G. (2010). Power in the person: Exploring the motivational underground of power. In Guinote, A., & Vescio, T. K. (Eds.), *The social psychology of power* (pp. 113-140). New York, NY: Guilford Press.

Winter, D. G., John, O. P., Stewart, A. J., Klohnen, E. C., & Duncan, L. E. (1998). Traits and motives: Toward an integration of two traditions in personality research. *Psychological Review, 105*(2), 230-250.

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*, 335-350.

Wu, L.-Y. (2010). Applicability of the resource-based and dynamic-capability views under environmental volatility. *Journal of Business Research, 63*(1), 27-31.

Zahra, S. A., Gedajlovic, E., Neubaum, D. O., & Shulman, J. M. (2009). A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of business venturing, 24*(5), 519-532.

Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review, 27*, 185–203.

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*(6), 1265-1272.

Abstract

The role of SMEs is increasingly prominent in terms of employment creation and value added, also in Belgium. This book reports the outcomes of a BELSPO (the Belgian Federal Science Policy Office) research project. The authors develop and estimate (parts of) a comprehensive model in which the micro-performance of SMEs is determined by a complex web of factors. These are situated at the level of the entrepreneur, organization and environment. In this modeling, a fit between individual, strategy, structure and environment is key to attain better performance in terms of, for example, efficiency or profitability. Strategy is assumed to be the linking pin between the entrepreneur's (or his or her venture's) strengths and weaknesses, and the opportunities and threats in the environment. In line with this contingency approach, the authors utilize a multi-disciplinary theoretical lens in combination with analysis techniques that allow for the identification of fits (and misfits), such as the analysis of conditional processes or dynamic multi-level QCA fit analysis.

Key words

SMEs, Entrepreneurship, Contingency, Standardization, Entrepreneurial motives, Effectuation, Causation, Environmental Dynamism, Performance, Belgium

Depotnummer: D/2014/12.293/32
ISBN-NUMMER: 9789057284700
EAN : 9789057284700