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Mapping the Educational Backgrounds of French-Speaking Belgian Scale-Up Founders

A Cross-Demographic and Sectoral Profile of 196 Entrepreneurs

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Abstract:

This thesis explores the relationship between higher education and high-growth entrepreneurship in Belgium, focusing on scale-up founders in the Walloon and Brussels-Capital regions. Drawing on Human Capital Theory (Becker, 1975), it examines the educational backgrounds of 196 founders from 100 high-growth companies. The study uses descriptive statistics, chi-square tests, and Multiple Correspondence Analysis to identify patterns in education, field of study, institutional background, and additional training, while also considering demographic and professional variables such as age, gender, and prior work experience.

The findings indicate that the majority of scale-up founders possess advanced degrees, particularly in business, engineering, and information technology. Compared to the general Belgian population, these founders are significantly more educated. Furthermore, certain fields of study appear more strongly associated with entrepreneurial outcomes. While most founders earned their degrees at well-regarded Belgian institutions, some also studied abroad, reflecting a globalised educational path. Entrepreneurship-specific training remains relatively rare, especially among older founders, although more common among younger cohorts.

Additional analyses reveal that prior sector experience plays a key role in venture development, with over half of the founders having previously worked in the same industry. Gender disparities remain notable, with women representing only 6% of the sample, often linked to patterns of disciplinary segregation.

This research contributes to understanding how education, experience, and demographic factors interact to shape entrepreneurial trajectories. It offers implications for policymakers, universities, and innovation support organisations aiming to promote inclusive and effective entrepreneurial ecosystems. Future research is encouraged to explore causality and examine longitudinal performance outcomes across different founder profiles.

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Preface

This master thesis concludes our studies within the Master of Science in Management and Business Engineering at UCLouvain, conducted as part of the specialised CEMS programme at the Louvain School of Management. It was written during the academic year 2024 to 2025 and reflects our shared interest in the relationship between higher education and entrepreneurship, explored through a comparative and data-driven approach.

We would like to express our sincere gratitude to our supervisor, Professor Benoît Gailly, for his expert guidance, availability, and continuous encouragement throughout each phase of this project. His constructive feedback and strategic insights were crucial to the development and refinement of our work.

We also wish to thank the professors and peers from the CEMS community for their valuable insights, and we acknowledge the use of publicly available data from Belgian scale-up founders, which served as the basis for our empirical analysis.

Finally, we are deeply thankful to our families and close friends. Their support, patience, and unwavering belief in us sustained our efforts throughout this demanding process.

This thesis is the result of a joint and equal collaboration. All components were discussed and drafted together. The final version reflects the collective responsibility and engagement of both authors.

During the preparation of this master's thesis, the authors made limited and responsible use of AI tools to support the writing process. Specifically:

During the preparation of this master's thesis, the authors utilised ChatGPT (GPT-4o, GPT-3.5) and DeepL Write for the following purpose:

1. Language Refinement: These tools were employed to suggest alternative phrasings and improve the clarity and readability of selected passages within the thesis.
2. After using ChatGPT and DeepL Write, the authors diligently reviewed and edited all AI-generated suggestions. None of the outputs were adopted without modification. All content was revised and adapted to ensure it accurately reflected the authors' intentions, arguments, and personal writing style.

By signing this declaration, we affirm that the content of this master's thesis reflects our original work, augmented by the responsible use of AI.

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Introduction

Entrepreneurship has become a key focus in academic and policy circles, particularly for its ability to stimulate economic growth, encourage innovation and generate employment. In the European context, entrepreneurship is viewed as a critical mechanism for addressing structural economic challenges such as job market transformation, technological disruption, and regional inequality. Policy initiatives such as the European Commission's "Europe 2020" strategy have placed entrepreneurial activity at the heart of long-term competitiveness and economic resilience, with particular emphasis on the role of small and medium-sized enterprises (European Commission, 2010; 2023). As noted by Crudu (2019) and the Global Entrepreneurship Monitor (2024), countries with high levels of entrepreneurial dynamism tend to exhibit stronger innovation performance and more robust economic development. Within this broader policy framework, higher education institutions are increasingly expected to contribute to the development of entrepreneurial capabilities and mindsets.

According to the Human Capital Theory, education can create favourable entrepreneurial outcomes (Becker, 1975). In other words, the knowledge gained through education makes people productive by equipping them with certain skills and competencies, thereby enhancing their economic opportunities. From an entrepreneurial perspective, this means that education can empower individuals to recognise opportunities, deal with uncertainty and establish scalable enterprises or business ventures. As well as providing formal knowledge, universities offer social interaction networks, exposure to role models and structured environments that foster entrepreneurial orientation. Consequently, higher education is rapidly gaining credibility as a source of academic training, as well as a critical component of the entrepreneurial ecosystem (Feola et al., 2020; Guerrero et al., 2016).

Despite this growing attention, empirical evidence on the link between higher education and entrepreneurial outcomes remains inconclusive. While education is positively associated with improved business performance, its relationship with entrepreneurial entry is more complex and appears to depend on factors such as field of study, labour market conditions, and individual characteristics (Van der Sluis et al., 2008; Hunady et al., 2018). Furthermore, the influence of different forms of education can vary. Some academic disciplines appear to be more strongly connected to entrepreneurial activity than others, and institutional differences

may shape the kinds of support and legitimacy that students receive when pursuing venture creation.

This issue is especially pertinent in Belgium. With only 0.91% of businesses categorised as high-growth, the nation shows a comparatively low percentage of scale-ups in comparison to its larger entrepreneurial base (Collewaert & European Scaleup Institute, 2023). Given the important role that scale-ups play in driving innovation and creating employment, it is essential to better understand the educational backgrounds that lead to such outcomes. This is especially relevant in the Walloon and Brussels-Capital regions, where economic development strategies increasingly rely on higher education as a lever for fostering entrepreneurial ecosystems.

This master's thesis aims to examine the relationship between education and entrepreneurship by analysing the educational backgrounds of 196 founders from 100 Belgian scale-up companies recognised between 2013 and 2025. The study's main objective is to identify patterns in terms of level and field of education, type of institution attended, and exposure to entrepreneurship-related training. Drawing on Human Capital Theory, the study explores how these educational characteristics may be linked to entrepreneurial outcomes in high-growth firms. It should be noted, however, that the study does not attempt to establish causality. To develop a more complete picture of founder profiles, the analysis also considers demographic and contextual factors, such as gender, region and prior work experience, alongside education.

The empirical analysis is guided by three main research questions. The first looks into the distribution and prevalence of attributes related to higher education among founders of scale-ups. The second investigates whether certain academic disciplines are overrepresented, implying a connection between disciplinary training and company expansion. The third examines whether scale-up founders have higher levels of education than the Belgian population as a whole, as predicted by the Human Capital Theory. Throughout the analysis, more exploratory questions are added to help further interpret trends in professional continuity, and gender representation.

The structure of the thesis is as follows. With an emphasis on skill development, institutional mechanisms, and entrepreneurial performance, the literature review summarises the body of research on the connection between entrepreneurship and higher education. The methodology section covers the research design, sample selection, data sources, and analytical strategy, which includes multiple correspondence analysis, chi-square association tests, and descriptive

statistics. Results are presented in the data analysis section, followed by a discussion of the key findings in relation to the literature in the interpretation chapter. The concluding sections present the main findings of the study, discuss its limitations and implications, and suggest areas for further research.

Context

In recent years, entrepreneurship has become a popular subject among researchers and policymakers. It is seen as a powerful way to boost economic growth, create jobs, and bring new ideas to market. Many European countries have introduced policies to support entrepreneurship, believing that it can help strengthen their economies (European Commission, 2023). The need to address contemporary issues like regional disparities, new technologies, and job market shifts is also connected to this growing interest. Experts often point out that entrepreneurship is essential to boost the economy, foster innovation, increase well-being, and advance inclusivity. Crudu (2019) argues that countries with higher levels of economic development characterised by increased innovation performance. Indeed, as the GEM 2023/2024 Global Report highlights, entrepreneurship is a means to solve problems and foster GDP growth. Numerous developing countries have leveraged entrepreneurship as a tool to strengthen their economies (European Union, 2006; *GEM Global Entrepreneurship Monitor*, 2024). In Europe, both policy and research emphasise this correlation. For example, the European Union's "Europe 2020" strategy highlights the vital role of innovative SMEs in enhancing competitiveness (European Commission, 2010). According to the European Commission, small and medium-sized enterprises (SMEs) account for 99% of all businesses in Europe and provide employment for around 85 million people. Furthermore, the creativity and efforts of 25 million entrepreneurs are considered an important driving force behind the development of a sustainable and digital economy (European Commission, 2023). This demonstrates the significant influence of entrepreneurship on Europe's economic growth, although its impact can vary depending on the country and the type of business.

In this context, higher education institutions are increasingly expected to contribute to the development of entrepreneurial mindsets and capabilities. Universities are no longer regarded only as centres of knowledge production, but also as actors in the entrepreneurial ecosystem, providing skills, support, and orientation to future entrepreneurs (Feola et al., 2020).

There are several main theories that explain why higher education is important for entrepreneurship development. The Human Capital Theory (Becker, 1975) states that education increases productivity and improves economic prospects by equipping individuals with useful knowledge and skills. In the context of entrepreneurship, this means that higher education can help people identify business opportunities and manage new businesses more effectively.

Together, these perspectives support the idea that higher education plays a role not only in equipping individuals with technical competencies, but also in shaping the psychological and social conditions under which entrepreneurial activity is likely to emerge. In the Belgian context, where educational level and labour market participation are linked, understanding this relationship is particularly relevant to policy and practice. This literature review draws on these ideas to examine how entrepreneurship is positioned within economic development debates and to explore how education contributes to entrepreneurial activity.

Nowadays, entrepreneurship is seen as a way to deal with economic and social problems. For this reason, higher education institutions are expected to support it. To understand this better, it is helpful to define the key concepts. Having clear definitions of higher education, entrepreneurship, and entrepreneurial intention will allow for a better understanding of the conclusions this thesis will draw.

Definition - Key concepts

Higher Education (HE)

Higher education generally refers to formal education at the post-secondary level, typically provided by universities and other authorised institutions (Unesco TVET, n.d.). It constitutes the tertiary tier of education systems, leading to academic degrees such as Bachelor's, Master's and Doctorates (European Commission, 2024). In Europe, and in Belgium specifically, these degree cycles have been harmonised through the Bologna Process, adopted by Belgium in 1999, to facilitate student mobility and comparability of qualifications (EHEA, n.d.; Slantcheva-Durst, 2010). In practice, HE systems differ markedly across Europe. For example, Belgium's system is highly decentralised, governed separately by its Flemish, French, and German-speaking communities, which shapes how universities and colleges operate (Wolfensberger, 2014).

In the context of today's knowledge-based economy, higher education plays a central role in developing human capital, fostering innovation, and contributing to sustainable economic and social progress (Hollenbach et al., 2022; Askari et al., 2018). According to UNESCO (2024), higher education is a "rich cultural and scientific asset" that facilitates personal development and supports technological, economic, and societal transformation. HE institutions "support enterprise creation through their three key missions of research, teaching, and interaction with the wider community" (LEED & OECD, 2008). Through teaching, research, and knowledge exchange, HE enhances students' advanced cognitive, technical, and interpersonal skills, competencies that are increasingly demanded in complex and dynamic labour markets (Teixeira & Klemenčič, 2021; Purcell et al., 2019). Moreover, it supports social mobility by expanding access to knowledge and qualifications, and it contributes to the public good by promoting critical thinking, civic engagement, and ethical reasoning (Teixeira & Klemenčič, 2021).

More recently, the role of higher education in promoting entrepreneurship has gained increasing attention. Entrepreneurial universities are emerging as key players in regional development by cultivating entrepreneurial mindsets and supporting the creation of start-ups and spin-offs (Urbano & Guerrero, 2013; Formica, 2002)

In the European context, frameworks such as the European Commission's Entrepreneurship Competence Framework (EntreComp) advocate for the development of entrepreneurial skills among students as a lifelong learning objective (Bacigalupo et al., 2016; European Union, 2006). Therefore, it is becoming more and more expected of higher education institutions to act as hubs for enterprise and innovation, creating environments that encourage innovation, problem-solving, and opportunity recognition (Audretsch, 2012; Guerrero et al., 2016).

For the purposes of this master's thesis, the term "higher education" encompasses both traditional research universities and professional colleges. The scope of the study will focus primarily on how these institutions foster entrepreneurial intention.

Entrepreneurship

As higher education changes to meet new economic and social needs, it is also expected to support entrepreneurship. This makes it important to explain what entrepreneurship means and how it connects to the role of universities and colleges today.

The word “entrepreneurship” originates from a thirteenth-century French verb, “*entreprendre*”, meaning “to do something” or “to undertake.” (*Entrepreneurship, N. Meanings, Etymology and More | Oxford English Dictionary*, n.d.) In the 20th century, Schumpeter refined the term academically, defining the entrepreneur as one who innovates. He also introduced the concept of “creative destruction,” whereby the introduction of a more efficient product by an entrepreneur leads to the elimination of less productive firms (Crudu, 2019). Knight further characterized the entrepreneur as someone who tolerates the endogenous uncertainties of the market (Kakouris et al., 2016).

More recently, the literature has struggled to reach a consensus on the definition of entrepreneurship, as it encompasses diverse components. On the one hand, it is defined as the simple act of starting or running a business (*GEM Global Entrepreneurship Monitor*, 2024). On the other hand, Volkmann describes entrepreneurship as “not only about creating business plans and starting new ventures. It is also about creativity, innovation, and growth, a way of thinking and acting relevant to all parts of the economy and society as well as the whole surrounding ecosystem” (Volkmann et al., 2017, p. 42).

Entrepreneurship can be understood as a process that involves not only launching new ventures, often referred to as startups, but also supporting their rapid expansion during the scale-up stage.

The startup phase is about launching and testing a business idea, while the scale-up phase focuses on expanding the company and preparing it for long-term success (Coad et al., 2024). Each phase requires different skills and types of support. As universities and other higher education institutions take a bigger role in promoting entrepreneurship, they not only encourage people to start new businesses but also help them develop the skills needed to grow and succeed (Urbano & Guerrero, 2013; Formica, 2002).

Entrepreneurship intentions (EI)

While entrepreneurship is often seen through the lens of business creation and innovation, it begins much earlier: with the intention to start a business. Understanding entrepreneurial intention allows us to explore the motivations and personal factors that influence whether someone decides to become an entrepreneur.

To examine the potential link between higher education and the development of scale-ups, the concept of entrepreneurial intention (EI) is further explored. Given the relatively low scale-up rate in Belgium, only 0.91% of high growth firms in proportion to overall companies in the country, there is a need to explore the underlying factors influencing entrepreneurship (Collewaert & European Scaleup Institute, 2023).

Analysing EI offers a framework for understanding how various elements, such as cultural norms, structural conditions, or motivational aspects, may influence individuals' likelihood of engaging in entrepreneurial activity. This approach offers a basis for evaluating the potential relationship between education and the development of entrepreneurial intentions, which may come before the establishment and expansion of a business.

Intentions are described as "a person's motivation in the sense of her or his conscious plan or decision to exert effort to enact the behaviour" (Conner & Armitage, 1998). Entrepreneurial intentions, specifically, are defined as "one's desire to own one's own business or to start a business" (Bae et al., 2014).

Research has shown that a gap often exists between entrepreneurial intentions and actual behaviour. Although multiple theoretical frameworks, such as the Theory of Planned Behaviour (Ajzen, 2002), self-efficacy (Bandura, 1977), and Human Capital Theory, aim to address this gap, intention is consistently identified as the strongest predictor of behaviour (Krueger et al., 2000; Sheeran, 2002). According to Sheeran's (2002) meta-analysis, the mean correlation between intention and behaviour is 0.53, with the model explaining 28% of the variance in behaviour.

Theoretical Frameworks

This study looks at how higher education influences entrepreneurship by using Human Capital Theory (Becker, 1975) as the main idea. The theory shows that education helps people gain important knowledge, skills, and abilities needed for entrepreneurship. It also explains how learning and experience make someone more ready to start and grow a business. Adopting this perspective, the study links education to long-term career and economic success.

This theory defines human capital as the "set of skills and knowledge that individuals acquire through investments in schooling, on the job training, and other types of experience" (Hahn et

al., 2017). It emphasises that human capital acquisition is a learning process in which life experiences are transformed into knowledge and skills (Marvel et al., 2014). Individual performance is highlighted as a key element in work and organisational psychology. Organisations need highly efficient employees, and performing well can lead to job satisfaction for employees (Sonnentag & Frese, 2002). Unger et al.'s (2009) meta-analysis showed a small correlation between human capital and success (rw = 0.098). The analysis also revealed that the relationship is stronger for outcomes of human capital investment, namely knowledge and skills, rather than for direct human capital investments such as education and experience. The main premise of the Human Capital Theory is that individuals seek compensation for their investments in human capital. Consequently, they strive to maximise their economic benefits based on the value of their acquired skills and knowledge (Unger et al., 2009).

The gap between entrepreneurial intentions and actual behaviour exists for several reasons, including the difficulty of observing behaviour and the limitations of explanations based solely on attitudes or exogenous factors (Krueger et al., 2000).

Scale-up

Understanding why people want to start a business is important because it shows their motivations. However, this thesis does not only focus on starting a business; it also looks at what happens next, especially how some businesses grow fast and become scale-ups. To understand this better, it is necessary to explain what scale-ups are and how they are different from early-stage startups, especially when it comes to growth and how the organisation develops.

Scale-ups play a key role in a country's entrepreneurial dynamism, as they experience rapid growth during their scaling phase, when they apply accumulated knowledge to expand their concept to a wider audience (Hellmann and Kavadias, 2016, cited in Coviello, 2019).

Coad et al. (2024) explain that scale-up concepts emerged from Silicon Valley's investment culture, which emphasises rapid expansion of proven ventures. This concept arose from the need to distinguish between early-stage start-ups and more mature companies that have validated their business models and are now focussing on expansion. However, the concept of scale-up is relatively new in the academic literature. The first definitions appear to be from Juntunen et al. (2018, as cited in Coviello et al. (2024)) and Kohler (2018, as cited in Coviello

et al. (2024)) in 2018. However, these enterprises that combine high growth and post-early-stage success have already gained attention. Birch (1979, as cited in Coad et al. (2024)) demonstrated that a small number of firms create a disproportionately large number of jobs. Birch referred to these firms as « Gazelles. » Today, this assumption holds true. The OECD showed that approximately 10-15% of firms contribute around 50% of new jobs (OECD, n.d.).

In Europe, people have started paying more attention to scale-ups because, even though many start-ups are created, only a small number actually grow successfully. Only 12% reach that stage (Collewaert and European Scaleup Institute, 2023). Consequently, new strategies have been developed to support companies during this critical growth phase.

Various definitions of scale-ups exist, reflecting different criteria and perspectives. A commonly cited binary definition by the Eurostat-OECD (2007) describes high-growth firms as those with an average annual growth in employees or turnover exceeding 20% over a three-year period, starting with at least 10 employees. This definition was recognised by multiple researchers. In 2019, Coad and Srhoj adapted the definition to also include micro firms, stating that any firm with employment growth of more than eight people over three years could be considered a scale-up.

However, some argue that the 20% threshold is too high and suggest including firms that reached the 10% threshold. Others believe the threshold should be around 40% (Reuber et al., 2021). Despite these criticisms, this definition has been critiqued for its limitations. Coviello et al. (2024) argue that scale-ups are a « *phase of organisational development* where a firm is actively engaged in the scaling process, » encompassing more than just qualitative aspects of scaling. Scaling involves not only growth in size but also the development of organisational structures, processes, and capabilities that support sustainable expansion. Jansen et al. (2023) further expand on Coviello's definition, emphasising that scaling is a dynamic set of capabilities and organisational and strategic routines that enable firms to grow exponentially through resource and practice replication and synchronisation over time.

For the purpose of this master's thesis, the Steve Blank's 4-stage model of firm growth will serve as the basis for the definition used to describe scale-ups (Coad et al. 2024). This model recognises four stages in the firm's life course: search comprising discovering customers and validating hypotheses, and the execution, which is creating customers and scaling and finally, building the company. Scaling is an episode in a company's life that can occur simultaneously and multiple times (Coad et al. 2024).

This model is supported by the EU, recognising the different lifecycle of a small and medium-sized enterprise (European Commission, 2023).

Scale-ups are, by nature, exceptional firms that find profitable markets by doing things differently. This uniqueness makes it difficult to generalise about scale-ups (Coad et al. 2024).

Literature review

Link Between Higher Education and Entrepreneurship

Higher Education and Entrepreneurial Skill Formation

Higher education helps shape entrepreneurial potential not only through formal teaching but also by developing broader thinking skills and personal growth that are valuable for starting and growing a business. While not all students pursue entrepreneurship, the environment of higher education institutions plays a critical role in shaping their capacity to engage in opportunity recognition, strategic thinking, and adaptability. These capabilities are essential for managing the complexity and uncertainty that characterise entrepreneurial activity.

Institutions provide both domain-specific knowledge and general competencies. According to the OECD (2022), universities and colleges help students develop a range of transferable skills, including critical thinking, communication, and analytical reasoning. These are increasingly seen as prerequisites for success in dynamic labour markets and in entrepreneurial contexts. According to the OECD's 2022 CLA+ International Assessment, students who study in environments that prioritise learning objectives and foster meaningful intellectual exchange typically experience significant improvements in their analytical thinking and problem-solving skills.

Guerra-Carrillo and al. (2017) add further evidence to this claim. Their examination of 190,000 individuals demonstrated that enhanced reasoning abilities and executive functions occurred with increased levels of educational achievement. Students who pursued higher education demonstrated better learning performance which demonstrates formal education leads to enhanced cognitive adaptability as well as knowledge acquisition. The research findings mirror the entrepreneurial competences connected to feedback adaptation and mistake-based learning as well as decision-making under uncertain conditions.

However, the impact of higher education is not universally positive or consistent. There is increased evidence of a gap between qualifications and demonstrable skill levels. According to the OECD (2022), many graduates do not meet the expected standards of competence, raising concerns about how higher education curricula are designed and implemented. Additionally, Birch et al. (2017) have noted that academic settings may discourage entrepreneurial ambition. Their research suggests that students interested in independent or unconventional career paths

may be marginalised by strict institutional cultures, limited performance metrics and a strong emphasis on traditional employment outcomes.

Davidsson and Honig (2003) introduced the entrepreneurial capital model that integrates human, social and cultural dimensions to determine entrepreneurial effectiveness. The development of this capital begins with higher education by presenting students various perspectives while strengthening problem-solving abilities and providing access to valuable social networks. The abilities to handle risk and solve problems become essential during the initial business stages because this period combines high uncertainty with scarce resources.

The research by Hunady et al. (2018) demonstrates that higher education enhances entrepreneurial resilience based on statistical evidence. According to their analysis people who complete tertiary education tend to keep their businesses operational for longer periods of time. The ability to create strategic plans and recognise market developments and control operational hazards contributes to their success. Such people demonstrate superior change management abilities and demonstrate the capability to change their business strategies when business issues arise. Education allows students to develop a lasting foundation of practical knowledge and essential cognitive abilities required for entrepreneurship.

In summary, formal academic qualifications are not the only benefit of higher education. It develops the social skills, critical thinking and institutional awareness that are necessary for successful entrepreneurship. Higher education is crucial in helping people realise their entrepreneurial potential, whether through specialised programmes or exposure to challenging academic environments.

Mechanisms Linking Higher Education and Entrepreneurship

Higher education has an impact on entrepreneurship through a number of interrelated mechanisms. These mechanisms provide insight into how education can either encourage or discourage entrepreneurial engagement, and they are both theoretical and empirical in nature. Interpreting the diverse effects of education across various populations and contexts requires an understanding of these channels.

One of the most commonly cited mechanisms is the development of Human Capital. According to Van der Sluis et al. (2008), the Human Capital model assumes that education improves

cognitive ability, planning, and decision-making. These improvements enhance entrepreneurial performance by equipping individuals with skills that allow them to identify and exploit business opportunities, allocate resources efficiently, and adapt to market changes. Entrepreneurs who possess such competencies are more likely to sustain their businesses over time and to grow them into more complex operations.

Yet education also creates opportunity costs. The same individuals who acquire advanced skills through education often become eligible for stable and high-paying employment. This is captured in what Van der Sluis et al. (2008) describe as the outside option hypothesis. People who have access to attractive job opportunities might think that starting their own business carries too many risks, particularly in settings with stable labour markets. This explains why, despite increasing the likelihood of success once a business is launched, education does not always translate into a higher likelihood of becoming an entrepreneur.

A second important mechanism is signalling. Backes-Gellner and Werner (2007) argue that education plays a critical signalling function in entrepreneurial ecosystems. In markets characterised by uncertainty and asymmetry of information, stakeholders often lack reliable indicators of a new founder's ability or trustworthiness. Academic credentials act as clear and reliable indicators of competence, discipline, and long-term potential. This is especially important in the early stages of a start-up, when financial statements and track records are not yet available. In their analysis of German start-ups, the authors discovered that when founders had solid academic credentials and had finished their studies within a set timeframe, banks and staff were more likely to support the venture (Backes-Gellner and Werner, 2007).

Education also contributes to the accumulation of entrepreneurial capital, which is a multidimensional construct as defined by Davidsson and Honig (2003). This form of capital includes not only human ability but also access to social networks and culturally embedded resources such as legitimacy and identity. Higher education supports this process by giving students opportunities to develop communication skills, learn from diverse peers, and engage in collaborative projects. These experiences build interpersonal competence and increase access to information, partners, and funding opportunities, all of which are necessary for launching and developing a business.

By examining the relationship between education and cultural and financial capital, Kim et al. (2006) provide an alternative viewpoint. Their results demonstrate that education alone may

not be enough to lead to success as an entrepreneur. Rather, its effect relies on whether or not people have access to institutional knowledge, trusted networks, and credit. In particular, ethnic minority entrepreneurs or first-generation immigrants may face structural disadvantages that prevent them from transforming education into successful business ventures (Kim et al., 2006). This highlights the need to see education not as an isolated factor but as part of a larger configuration of enabling resources.

Birch et al. (2017) emphasise the cultural background of entrepreneurship in higher education institutions. In some academic contexts, entrepreneurship is promoted as an innovative and honourable career path. Others may view it as irrelevant or risky in relation to the organization's primary goal. Their findings indicate that students' intention to launch their own company is influenced by their educational experiences as well as how their university views and supports their aspirations. Lack of institutional support, narrow definitions of success, and limited exposure to entrepreneurial role models can discourage students from launching their own business, even if they possess the necessary skills.

Taken together, these findings suggest that the relationship between higher education and entrepreneurship is not unidirectional. Education enhances entrepreneurial skills, legitimacy, and access to networks, but its effects are contingent upon institutional structures, labour market conditions, and individual social positioning. The outcome depends on whether education is delivered in an environment that supports entrepreneurial thinking, facilitates the use of acquired skills, and offers meaningful pathways to action.

Entrepreneurial Entry and Selection

The effect of higher education on the decision to become an entrepreneur is one of the most contested areas in the literature. While education is widely acknowledged as beneficial for entrepreneurial performance, its role in stimulating entrepreneurial entry is far less conclusive. Numerous studies have shown that the relationship between higher education and entrepreneurial entry is shaped by individual characteristics, institutional environments, labour market conditions, and social expectations.

Van der Sluis et al. (2008) found that, on average, higher education does not significantly increase the probability of becoming an entrepreneur. This finding reflects the dual role of education. On the one hand, it improves skills that are important for entrepreneurship, such as

planning, leadership, and opportunity recognition. On the other hand, education also increases access to stable and often well-paid employment, thereby raising the opportunity cost of starting a business. This creates a tension between the incentives and disincentives associated with education, resulting in a neutral average effect on entrepreneurial entry.

However, there are some noteworthy exceptions. Postgraduate degrees raise the likelihood that people will start their own business in some professions, especially those where working for oneself is a common career path, such as law, consulting, and medicine (Van der Sluis et al., 2008). Nonetheless, college dropouts frequently have greater rates of entrepreneurial entry. People who feel restricted by corporate hierarchies or structured environments are more likely to pursue independent businesses, which could be the result of self-selection.

Hunady et al. (2018) offer a broader international perspective. Using data from 40 countries, they observed that individuals with higher education are more likely to enter entrepreneurship in countries with weaker employment protections or high levels of youth unemployment. In these cases, education acts not as an opportunity cost but as a buffer against economic instability. On the contrary, in regions with strong labour markets, education can delay entrepreneurship by anchoring individuals in formal employment. These results underscore the importance of labour market context in shaping the relationship between education and new venture creation.

Entrepreneurial entry is also influenced by the field of study. Hunady et al. (2018) found that degrees in subjects such as IT, engineering and business are positively associated with entrepreneurial activity. Students in these subjects often engage with innovation, project-based learning and strategic thinking as part of their studies. Conversely, entrepreneurship is less prevalent among humanities and social science graduates, potentially due to the theoretical nature of their studies and the limited direct connection to market-driven applications.

Birch et al. (2017) support this view, showing that many students perceive their education as preparing them for employment rather than for starting their own ventures. In their mixed-methods study, students from various disciplines expressed frustration regarding the limited institutional support available for entrepreneurship. Starting a business was sometimes met with scepticism, and career services were generally more focused on helping students secure traditional employment than encouraging entrepreneurial paths. These perceptions contribute

to a cultural divide between academic achievement and entrepreneurial aspiration, even among students who possess relevant skills and interests.

Additional variation is introduced by demographic characteristics. One important factor is age. Entrepreneurship is more likely to be considered as a second career path by older graduates who have gained work experience and industry knowledge (Hunady et al., 2018). Another important factor is gender. According to Van der Sluis et al. (2008), education tends to benefit women entrepreneurs more than it does men, particularly when it comes to business legitimacy and strategic capacity. When choosing self-employment, women may still experience social discouragement and higher perceived risks.

According to Boden and Nucci (2000), education greatly improves women's chances of surviving in the business world. Their findings indicate that formal education is more frequently used by female entrepreneurs as a source of authority and competence, particularly in industries where they have less access to external resources like funding or professional networks.

The findings of Kim et al. (2006), who show that different immigrant or ethnic groups do not equally benefit from attained educational levels, further support this. Entrepreneurs from underrepresented backgrounds face systemic barriers that limit their access to capital, mentorship, and market opportunities, even though they have educational backgrounds that are on par with or even better than those of their peers. In these situations, entrepreneurial entry cannot be triggered by education alone unless it is combined with inclusive institutional support.

In summary, while higher education provides individuals with the tools and knowledge necessary for entrepreneurship, it does not uniformly encourage business creation. The impact of education on entrepreneurial entry depends on a combination of contextual factors, including employment conditions, cultural framing, academic discipline, and social identity. Policymakers and educational institutions must take these dynamics into account if they wish to enhance entrepreneurship through educational policy.

Entrepreneurial Performance and Business Outcomes

Higher education is strongly linked to better business performance once people start their own businesses, even though it may not always influence the decision to become an entrepreneur. Numerous empirical studies confirm to the fact that entrepreneurs with higher levels of education typically attain better business outcomes in a number of areas, such as revenue growth, firm survival, innovation capacity, and market change adaptability.

One of the most thorough examinations of this relationship is provided by Van der Sluis et al. (2008). According to their meta-analysis, entrepreneurial income in the US rises by 6.1% for every extra year of education. According to the authors, this return is a reflection of the improved strategic insight, problem-solving skills, and cognitive flexibility that education cultivates. These skills enable business owners to spot opportunities in competitive markets, make better decisions, and react quickly to outside shocks.

Hunady et al. (2018) provide evidence from a multi-country study to support these findings. They show that people with higher education are more likely to start a business and are also better able to keep it going over time. These business owners are more skilled at long-term development planning, have better managerial abilities, and are better informed of regulatory frameworks. In highly dynamic or uncertain environments, these competencies can make the difference between business failure and success.

Davidsson and Honig (2003) investigate how education affects the pre-start-up phase. They identify that entrepreneurs with higher levels of education are much more likely to finish important preparatory tasks like creating business plans, obtaining funding, and putting together founding teams. Success in the future is strongly predicted by these early behaviours. By strengthening their cognitive approach and their access to institutional and social resources, education seems to help entrepreneurs better navigate these challenging start-up processes.

Building on this, Millan et al. (2014) shift the focus from individual entrepreneurs to the broader regional context. Their findings indicate that entrepreneurs operating in areas where the general population is more highly educated tend to perform better. These regions offer an environment rich in human capital, which supports entrepreneurial success by providing access to qualified workers, sophisticated consumers, and specialised services. In this way, education

generates spillover effects as the advantages of an educated society extend beyond individuals and help create conditions where entrepreneurship is more likely to thrive.

The importance of regional traits for business survival is also emphasised by Brüderl et al. (1992). Their work on German firms shows that organisations founded in regions with high levels of education and social cohesion tend to be more resilient. These areas offer dense networks of trust, better access to advice and partnerships, and an overall institutional climate that supports business formation and longevity. In such contexts, education acts as a reinforcing factor within a favourable entrepreneurial environment (Brüderl et al., 1992).

Boden and Nucci (2000) focus on how education affects entrepreneurial performance according to gender. They discover that the success of companies started by women is especially influenced by formal education. Particularly in industries where gender biases still exist, women-owned businesses depend more on education as a source of legitimacy and competence. Education can help overcome informational disadvantages and represent professionalism to partners, investors, and customers. For female entrepreneurs navigating systemic injustices, education is often a crucial tool.

However, regional variation remains important. Van der Sluis et al. (2008) find that the return to education for entrepreneurs is higher in the United States than in many European countries. This may be due to differences in labour market structures, regulatory burdens, and the availability of support for entrepreneurship. In Europe, formal employment tends to provide greater stability and predictability, which can reduce the relative attractiveness of entrepreneurship despite educational gains. In contrast, the more flexible and opportunity-driven environment of the United States rewards the strategic and cognitive assets developed through higher education more directly.

The primary finding is that higher education improves entrepreneurs' capacity to manage profitable and competitive enterprises. It is achieved through strengthening analytical abilities, expanding resource accessibility, establishing credibility, and facilitating market complexity adaptation. These benefits are noticable in the larger institutional and regional contexts in which businesses function in addition to at the individual level.

Institutional and Regional Environments for Entrepreneurship

The wider institutional and regional context in which higher education occurs influences the extent to which educational experiences translate into entrepreneurial activity. While individual motivation and skills are clearly important, turning educational achievement into successful business creation often depends on the support structures, cultural norms, and resources available both within the university and in the surrounding economic environment.

Bergmann et al. (2018) offer empirical evidence on the importance of institutional climate in shaping students' entrepreneurial intentions. Drawing on data of 8,009 students across 22 German universities, their study shows that how students perceive their university environment has a notable influence on their interest in entrepreneurship. This perception is shaped not only by tangible support structures, such as incubators and entrepreneurship centres, but also by more informal factors like peer attitudes, the involvement of faculty, and the presence of successful entrepreneurial alumni. The findings suggest that even students not enrolled in formal entrepreneurship programmes can be encouraged to consider entrepreneurship if the broader institutional culture is supportive.

Birch et al. (2017) support this view. According to their findings, entrepreneurship is still overlooked or undervalued as a possible career path in many academic settings. Traditional academic values, which place an emphasis on paid employment and straight career advancement, continue to dominate in some institutions. Students frequently think that entrepreneurship is incompatible with the university's mission or principles in these kinds of situations. As a result, the institutional frameworks intended to develop students' entrepreneurial potential may not align with it.

Informal learning opportunities within universities are meaningful and should not be ignored. Bergmann et al. (2018) emphasise that peer interactions, extracurricular activities and interdisciplinary collaboration contribute to students' development beyond the formal classroom setting. Such environments foster creativity and experimentation, offering early leadership and teamwork experience. As they mirror the challenges and dynamics of real-world venture creation, such settings are particularly effective in fostering an entrepreneurial mindset.

Regional context also has an influence on how education translates into entrepreneurial activity. Millan et al. (2014) suggest that entrepreneurs are better positioned for success when

they are based in areas with a generally high level of education. These regions often offer stronger infrastructure, greater demand for innovative products and services, and more effective institutional support. As a result, entrepreneurs operating in such environments are better able to scale their businesses and tap into specialised resources, including skilled workers, advanced suppliers, and knowledgeable customers.

Brüderl et al. (1992) offer similar insights from their work on business survival in Germany. They show that firms founded in socially cohesive and well-educated regions enjoy higher survival rates than those in less developed environments. Social trust, frequent exchange of knowledge, and informal advice networks are more prevalent in such regions, reducing the transaction costs and uncertainty typically faced by new ventures. Education, in this sense, becomes a shared asset that reinforces the entire regional entrepreneurial ecosystem.

Kim et al. (2006) provide valuable insight by showing how regional differences can limit the educational benefits for certain groups. In their study of minority entrepreneurs in the United States, they found that even those with strong educational backgrounds often struggled to access funding, mentorship and strategic guidance because they were excluded from local business networks. This highlights the fact that education alone is not always enough to create equal opportunities, particularly when deeper structural barriers remain in place. In order to effectively encourage entrepreneurship, educational institutions must do more than just develop course content. They must also establish connections between students and wider support networks, providing access to mentorship, funding opportunities and professional communities.

It is also important to integrate universities into local innovation ecosystems. Students are more likely to encounter entrepreneurial role models and tangible business opportunities in regions where universities actively engage with business, government, and non-profit organisations. These connections are important for linking academic knowledge with real-world experience. When universities establish strong links with the entrepreneurial ecosystem, they create opportunities for students to apply their learning in meaningful ways. However, institutions that remain disconnected from external networks may struggle to generate genuine entrepreneurial outcomes, even if their internal programmes are well designed.

In conclusion, the institutional and regional settings in which higher education is delivered have a profound influence on whether and how students transform educational capital into

entrepreneurial activity. Supportive environments, both within universities and in the wider region, create the conditions necessary for entrepreneurship to emerge, while structural barriers or cultural disconnects may hinder even the most competent and motivated individuals from pursuing entrepreneurial careers.

Conclusion

This literature review has examined how higher education influences entrepreneurship, both in terms of developing entrepreneurial skills and supporting successful venture outcomes. Higher education contributes to the development of critical thinking, problem-solving, and communication skills that are essential for navigating uncertainty and pursuing business opportunities. These competencies are positively associated with entrepreneurial performance, particularly in terms of business survival, strategic planning, and adaptability (Van der Sluis et al., 2008; Hunady et al., 2018).

However, education does not uniformly lead to entrepreneurial entry. Factors such as opportunity costs, field of study, and institutional culture affect whether individuals pursue entrepreneurship. In many cases, higher education environments favour traditional career trajectories, which may discourage venture creation despite students' capabilities (Birch et al., 2017).

Education also acts as an indicator of competence and reliability in uncertain situations, particularly for entrepreneurs in the early stages of their careers (Backes-Gellner & Werner, 2007). The institutional and regional environments in which students and graduates function further influence the effects of education. While systemic barriers may limit education's potential for underrepresented groups, universities with a strong entrepreneurial climate and areas with high levels of human capital can increase the value of education (Millan et al., 2014; Kim et al., 2006).

In summary, higher education is essential for promoting entrepreneurship, though it depends on the circumstances. Both the skills it develops and the broader contexts in which they are learned and applied determine how effective it is.

Research question and Objectives

This thesis aims to contribute to research on the relationship between higher education and the growth of scale-ups by examining the educational backgrounds of French-speaking Belgian scale-up founders. Rather than proving cause and effect, the focus is on identifying patterns relating to fields of study, level of education, type of institution and experience of entrepreneurship during studies. Using Human Capital Theory (Becker, 1975), this research looks at how education links to success in entrepreneurship, especially when it comes to growing a business.

In addition to education, the study also considers factors such as gender, region and previous work experience, which may influence the path to entrepreneurship. Examining these elements provides insight into how educational backgrounds intersect with personal and contextual characteristics. The findings aim to provide educational institutions and policymakers in Belgium, particularly in the Walloon and Brussels-Capital regions, with practical findings to help them better support the next generation of high-growth entrepreneurs.

RQ1 - Prevalence of Higher Education attributes

To understand how higher education shapes entrepreneurial outcomes, a clear picture of which attributes are most common among successful founders is needed.

Question: *Which higher education attributes, including degree level, field of study, type of institution, and exposure to entrepreneurship education, are most commonly observed among the 196 Belgian scale-up founders, and how do these attributes vary across demographic and contextual characteristics such as gender, sector, province, and age at founding?*

RQ2 – Field of study Patterns

Understanding the relationship between a person's field of study and entrepreneurship can help to see how different types of knowledge and education are linked to business growth. For example, students from business or engineering programmes might receive skills that are more directly useful for starting and growing a company, while other fields may be less focused on this. Previous studies have shown that technical and commercial education can be connected

to higher levels of entrepreneurial activity and success (Hunady et al., 2018; Van der Sluis et al., 2008).

Question: *Are some fields of study, like STEM, business, or applied sciences, more common among French-speaking Belgian scale-up founders? And how might these patterns show the connection between what people learn in school and how their businesses grow?*

RQ3 – Education level and Comparison with the General Population

Beyond field of study, the level of formal education may also influence entrepreneurial trajectories. Higher levels of education are often associated with improved strategic thinking, planning ability, and long-term vision, all of which are valuable in the scaling process. However, the link is not always linear. This question explores whether scale-up founders are, on average, more highly educated than the general Belgian population, in line with the Human Capital Theory's prediction that education enhances productivity and economic outcomes (Becker, 1975; Davidsson & Honig, 2003).

Question: *Do scale-up founders in the French-speaking part of Belgium have higher levels of education, such as a Master's or PhD, compared to the general population?*

Methodology

Research Design

A quantitative, archival, exploratory design is employed. The sample consists of 196 founders from 100 Belgian scale-up firms honoured between 2013 and 2025. Human Capital Theory serves as interpretive frameworks, but no probability model of becoming a founder is estimated.

Population Description

The study targets individuals who are founders or co-founders of Belgian scale-ups in the French community (Wallonia and Brussels), that have achieved public recognition for rapid growth within the last decade. The identified population includes all companies that were selected as finalists in the *EY Belgique – Scale-up de l'année* programme between 2013 and 2024, as well as laureates of the *Trends Tendances Gazelles* awards over the same period. To ensure alignment with international criteria, only firms founded after the year 2000 were included, in accordance with the OECD-Eurostat definition of scale-ups, which requires high-growth firms to demonstrate annualised growth of at least 20% over a three-year period and to employ ten or more individuals at the beginning of the observation period (Eurostat & OECD, 2007).

Online research and official EY documentation were used to create the list of EY Belgique finalists. After applying the OECD scale-up criteria, 43 of the 47 companies that made it to the final selection stage between 2013 and 2024 were kept. This award recognises high-potential Belgian companies based on their innovation, growth trajectory, and broader economic or societal contributions. The selection process is inherently biased in favour of high-performing companies that actively pursue recognition and external approval because participation is application-based.

For *Trends Tendances*, the sample includes companies that were awarded the *Trends Gazelles* title between 2013 and 2025 across six regions: Hainaut, Luxembourg, Namur, Liège, Walloon Brabant, and Brussels. The selection was carried out using archival records from Trends Tendances, although some data for the years 2014 and 2016 is incomplete due to the unavailability of official listings. Where possible, missing data for Brussels in 2014 was

retrieved from the Dutch version of the Trends website. Unlike EY, the *Gazelles* programme is based on automatic quantitative screening of companies' financial performance, as recorded with the National Bank of Belgium. To ensure comparability and relevance, only companies founded post-2000 and employing more than 10 individuals were retained. After applying the selection criteria and eliminating duplicates within the Gazelles list as well as overlaps (5) with the EY Scale-Up finalists, a total of 57 companies were retained from an initial pool of 200.

The final dataset includes information on 196 individual founders from 100 different scale-ups. On average, there are 1.96 founders per company. The majority of ventures were founded by either one (34%) or two (45%) individuals, while a smaller number involved three (14%), four (5%) or five (2%) founders. Since contextual variables like Province, Sector, and Year of Founding are shared among co-founders of the same company, the assumption of full statistical independence between all observations does not entirely hold. Nonetheless, including multiple founders from the same company offers a richer basis for analysis at the individual level, allowing for a more detailed exploration of founder characteristics.

Variables Description

The dataset includes a range of variables designed to capture educational, demographic, and professional characteristics of scale-up founders in French-speaking Belgium. These variables are defined and coded as follows:

- **Level of Education** (Ordinal): This variable captures the highest educational attainment of the founder. It is coded on a scale from 0 to 4, where 0 indicates no higher education, 1 corresponds to a Bachelor's degree, 2 to a Master's degree, 3 to a PhD or Doctorate, and 4 to an unknown level.
- **Field of Study** (Nominal): This categorical variable records the academic discipline pursued by the founder. Disciplines include, but are not limited to, Business/Management/Economics, Finance, Engineering, Mathematics, Life Sciences, Law, and Psychology.
- **Type of Institution** (Nominal): This variable identifies the type of higher education institution attended. Codes include 0 for no higher education, 1 for traditional universities, 2 for university colleges (e.g., Haute École or Hogeschool), 3 for business schools, 4 for foreign institutions, and 5 for unknown institution types.

- **Entrepreneurship Education** (Binary): This variable captures whether there was an explicit mention of participation in a formal entrepreneurship programme. It is coded as 1 when such a programme is mentioned, and 0 otherwise.
- **Gender** (Nominal): The gender of the founder is recorded as a nominal variable, coded as 1 for male, 2 for female, and 0 when gender could not be determined.
- **Estimated Age at Founding** (Ordinal): This variable approximates the founder's age at the time the company was established. It is grouped into categories: 0 for unknown, 1 for under 30, 2 for ages 30–39, 3 for 40–49, and 4 for 50 years or older.
- **Sector of Scale-up** (Nominal): The industry sector in which the company operates is recorded using this categorical variable. Categories include Agritech & Energy, Business Services, Fintech & Financial, Food & Consumer Goods, Health & Life Sciences, Industrial & Engineering, Technology & Software, and Others.
- **Prior Work Experience** (Binary): This variable indicates whether the founder had relevant professional experience prior to starting the scale-up. It is coded as 1 for previous relevant experience and 0 if no such experience was mentioned.
- **Province** (Nominal): The geographical location of the scale-up within Belgium is also recorded, with categories including provinces such as Namur, Liège, Walloon Brabant, and others.
- **Business Type** (Nominal): This variable indicates the primary market orientation of the scale-up. It includes three categories: B2B (business-to-business), B2C (business-to-consumer), and Both (targeting both business and consumer markets). The classification reflects the firm's commercial focus and customer segment.
- **Job Sector** (Nominal): This variable identifies the professional sector in which the founder was employed immediately before launching the scale-up. It includes categories such as Agritech & Energy, Business services, Fintech & Financial, Food & Consumer goods, Health and Life Sciences, Industrial & Engineering, Technology and Software, and Others. The category NA (Not applicable) refers to founders who transitioned directly into entrepreneurship without prior employment. Unknown is used when no reliable information about the founder's previous sector could be identified. This variable provides insight into the professional backgrounds from which entrepreneurs emerge.

For the purpose of this study, the companies were classified into eight overarching sectors to ensure analytical clarity and enable meaningful comparisons. This classification includes

Agritech and Energy, Business Services, Fintech and Financial Services, Food and Consumer Goods, Health and Life Sciences, Industrial and Engineering, Technology and Software, and Others. The decision to use eight categories was guided by the need to preserve sufficient within-group variation while avoiding excessive fragmentation that would limit the statistical power of subgroup analyses. This approach draws on the principle of sectoral systems of innovation, which recognises that entrepreneurial dynamics and resource requirements differ across sectors (Malerba, 2002). By using this structured classification, the analysis gains both methodological coherence and practical relevance for comparing entrepreneurial trajectories across industry contexts.

Note on Age Estimation

To better assess the timing of entrepreneurial activity in relation to educational attainment, this study uses the Estimated Age at Founding rather than the founder's current age. This variable captures the age at which the individual established the company, providing a more relevant temporal measure for evaluating the influence of education on entrepreneurial behaviour.

In the case the exact birth dates are not publicly available, the age at founding is estimated using Belgium-specific educational milestones, based on the standard structure of the Belgian education system under the Bologna framework (EHEA, n.d.).

Educational Stage	**Typical Graduation Age**	**Notes**
End of secondary education	18	6 years of secondary education
Bachelor's Degree	21	Typically, 3 years
Master's Degree	23	Typically, 1-2 years after bachelor
PhD	28-30	3-6 years after master's, depending on the field

Using this structure, Estimated Age at Founding is calculated as:
Estimated Age at Founding = Typical Graduation Age + (Year of Foundation – Year of Graduation)

If only the highest degree is known (e.g., Master or PhD), the typical age at completion is used as the base estimate. If multiple degrees are available with dates, the most recent graduation year is preferred for accuracy.

Where no information is available to estimate the age at founding, the value is recorded as "0 = Unknown." This ensures transparency in the dataset and avoids introducing potentially misleading assumptions.

Note Control Variable

This study does not include statistical control variables typically used in multivariate analyses to isolate the effect of specific predictors. While the primary focus is on the descriptive exploration of educational patterns among scale-up founders, this limitation has implications for the interpretability of the findings. In particular, the absence of control variables such as parental entrepreneurial background, financial situation at the time of founding, prior exposure to entrepreneurial ecosystems, and personality traits means that the relationships observed between education and entrepreneurial characteristics cannot be interpreted as causal.

Founders' educational trajectories may intersect with a range of unmeasured factors that shape their access to resources, opportunity perception, and risk-taking behaviour. For instance, individuals from entrepreneurial families may be more likely to pursue certain educational paths or receive informal training that is not captured by conventional educational variables. Similarly, financial capital or socioeconomic status could influence the feasibility of pursuing higher education and the likelihood of starting a business. The lack of data on these background factors means that important cautions must be applied to the conclusions of this study. Therefore, observed associations should be understood as exploratory and descriptive rather than indicative of underlying mechanisms or causal effects.

Future research aiming to identify the determinants of entrepreneurial outcomes with greater inferential precision would benefit from integrating such control variables into the design, whether through survey instruments, matched samples, or richer longitudinal data.

Data Collection Process

Data are collected using a structured, manual extraction process from publicly accessible online and print sources, including:

- Professional profiles (e.g., LinkedIn)
- Company websites and press releases
- Official business registries, such as the "Banque-Carrefour des Entreprises" and "Banque Nationale de Belgique"
- Media coverage, interviews, and EY/Trends-Tendances documentation

For each founder, the following variables are collected and entered into a SPSS-compatible dataset:

- Demographic information: gender, estimated age
- Educational Background: Level, field, institution type, institution name, entrepreneurship training
- Professional Background: Previous work experience (sector, role)
- Company information: sector, year of foundation, geographic location (province)

Where data are incomplete or unverifiable, the case is either excluded or flagged for partial inclusion, depending on analytical needs.

Software and Clustering Structure

All analyses were conducted using IBM SPSS Statistics. Since founders (n = 196) are from ventures (n = 100), violating the assumption of independence required for the classical Pearson χ^2 test, all cross-tabulations employed the Rao–Scott design-adjusted χ^2 statistic. This adjustment accounts for the design effect caused by intra-venture correlation. The Complex Samples module in SPSS was used, with Company_ID declared as the clustering variable, to ensure valid variance estimation and p-values.

Data Screening and Recoding

Before conducting the analysis, the data were carefully cleaned to ensure consistency. Value labels were standardised, and any codes that did not fall within the expected range were treated

as missing. Although variables like Level of Education and Estimated Age at Founding follow a natural order, they were examined using nominal methods to avoid assuming a linear relationship. In preparing the dataset for Multiple Correspondence Analysis, adjusted versions of some variables were created where needed. This approach ensured that no data were missing, allowing all cases to be included without relying on artificial replacements.

Descriptive Analysis

Frequencies

The initial stage of analysis involved reporting simple frequencies and bar charts (SPSS path: Analyse → Descriptive Statistics → Frequencies) for each higher education attribute and work experience. This descriptive step establishes the prevalence of educational profiles among the founders and addresses the first element of the research question.

Pairwise Association Tests

Every higher education variable was compared with relevant demographic and contextual factors in order to look at group differences. Instead of testing particular hypotheses, the purpose of these descriptive analyses was to identify possible trends and shed light on the possible relationships between entrepreneurial traits and educational background.

Chi-square tests of independence were used to assess whether observed differences were statistically significant. When more than 20% of expected cell counts were below five, Monte Carlo simulations with 10,000 replicates were applied to obtain more reliable p-values without collapsing categories. This allowed the analysis to retain the full detail of the original variables.

Effect sizes were reported using Cramer's V, with standard thresholds applied to interpret the strength of association: .10 for small, .21 for medium, and .35 for large effects. In one case involving potential clustering of responses by company, the design-adjusted Rao Scott test was used to account for shared variance within groups.

The analysis was entirely exploratory in nature. It did not involve post-hoc tests or the development of predictive models. Instead, it aimed to describe how different categorical variables relate to each other and to highlight patterns that could be worth investigating in future studies.

Further Test

Multivariate Exploratory Mapping

Beyond pairwise associations, a Multiple Correspondence Analysis (MCA) was performed to visualise the multivariate structure of the categorical variables in a low-dimensional space (SPSS path: Analyse → Dimension Reduction → Correspondence Analysis). MCA is appropriate for large and sparse indicator matrices such as the one used in this study, as it allows for the graphical interpretation of patterns of co-occurrence among categorical variables.

Only the dimensions that together accounted for at least 40% of the total variation in the data were retained for interpretation. The analysis focused on how closely different categories appeared to one another within the visual space, as this reflects how frequently they tend to occur together in practice. The exact position of each category in relation to the centre was not interpreted; instead, attention was given to the relative placement of categories within the overall pattern.

To enhance interpretability, Ward's hierarchical clustering was applied to the coordinates derived from the MCA. This post-MCA clustering helped identify homogeneous groups of founders based on shared educational and experiential attributes.

Reporting Conventions

To ensure clarity and consistency throughout the analysis, a few key reporting standards were followed. First, all p-values from inferential tests are reported as exact two-tailed values, with those below .001 shown as "< .001" for precision. Alongside each test, the corresponding effect size (Cramer's V) is also provided, following best practice in highlighting both statistical and practical significance. Finally, all figures and tables follow APA formatting guidelines. This includes using sans serif fonts, greyscale shading for better readability in print, and clear, descriptive captions to help readers interpret the data with ease.

Data Analysis

Descriptive Analysis

Gender

A preliminary analysis of the data reveals that only 6% of the most promising scale-ups in the sample have a female founder. While this may be partly due to the way the dataset was selected, it nevertheless highlights concerns about potential structural barriers or biases faced by women when trying to become entrepreneurs.

For context, in Belgium, 63% of women and 71% of men were employed in the last quarter of 2024 (StatBel, 2025a).

It is also important to note that this analysis focuses exclusively on the founders of scale-ups. However, women were found in roles such as administrators or auditors on some of the initial Boards of Directors. Being on a board does not necessarily mean that someone is a founder. These roles can also be filled by individuals who offer guidance or oversight rather than being directly involved in establishing the company.

Age at founding

Most founders began their companies when they were between 30 and 39 years old. This might have multiple interpretation: they could have tried other businesses before without success, or they may have spent their early career building experience before starting their own company.

Level of Education

The majority of founders (87%) have pursued a higher education degree, highlighting the importance of advanced academic training in the entrepreneurial journey. In comparison, only 37% of the general Belgian population aged 25–64 held a higher education degree in 2021 (StatBel, 2024). In the Brussels-Capital Region, the proportion was slightly higher at 42%, while in the Walloon Region it was 33%.

The gender gap in higher education achievement is clearly observable, with a 10-percentage point difference between women and men in Belgium overall: 42% of women versus 32% of men hold a higher education degree. In the Brussels-Capital Region, the gap is smaller at 6 percentage points (45% women vs. 39% men), whereas in the Walloon Region, the difference

is more pronounced at over 11 percentage points (39% women vs. 28% men) (StatBel, 2024a). This gender gap cannot be assessed in the sample, as the proportion of women is very low.

Moreover, 67% of the founders hold only a master's degree, which is significantly higher than in the general Belgian population aged 15–64, where only 16% held at least a master's degree in 2023 (StatBel, 2025).

Only 12% of founders have completed a PhD. Although doctoral degrees are not very common, this shows they can add valuable expertise for some founders. This number is much higher than the national average because in 2023 only 1% of people in Belgium had a PhD (StatBel, 2025).

At the other end of the spectrum, only 3% of founders in the sample hold only a high school diploma, and 8% have a bachelor's degree. This indicates that most entrepreneurs in this group tend to start their ventures after completing higher education. As a point of comparison, in Belgium, 21% of the population aged 15–64 held only a bachelor's degree in 2023 (StatBel, 2025).

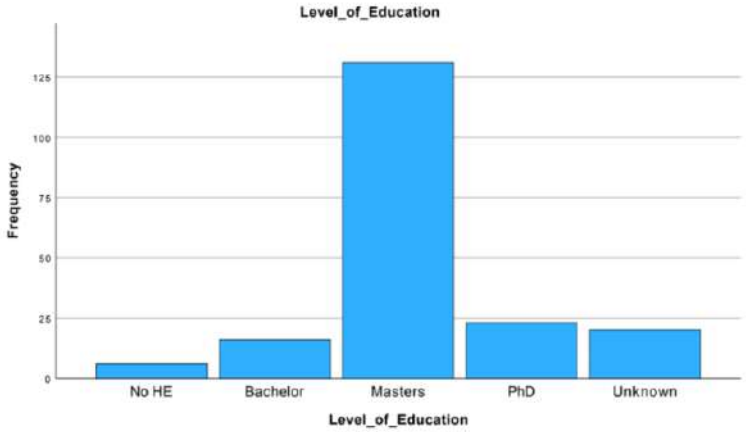

Figure I – Level of education repartition

Field of Study

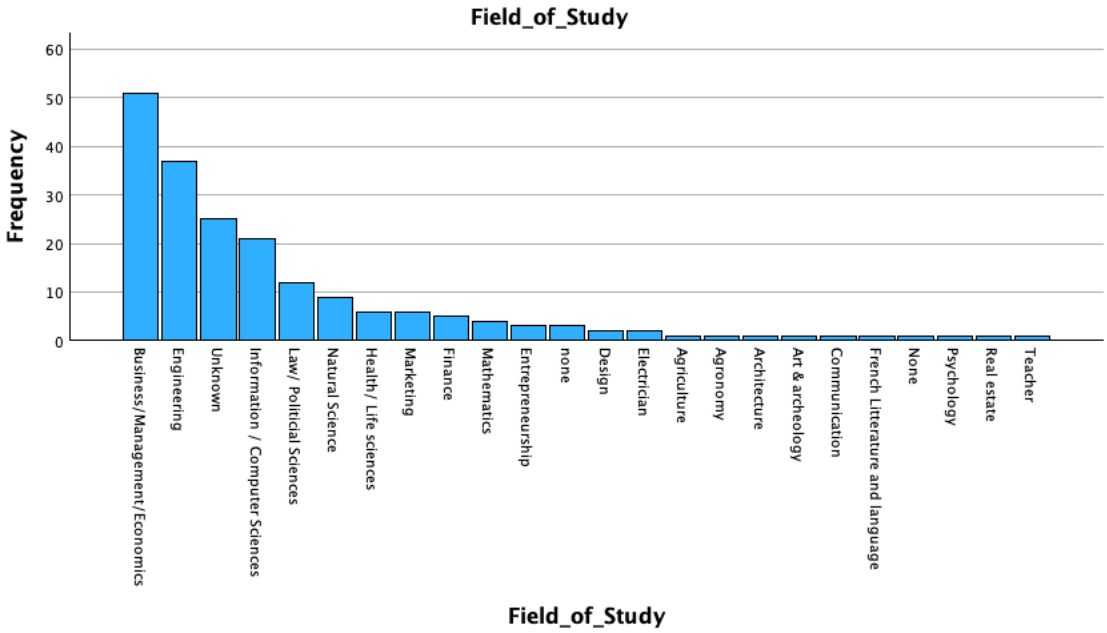

Figure II – Repartition of field of study

To assess the distribution of fields of study, a categorisation was created to avoid too many different groups and to allow for meaningful conclusions.

After running the frequency analysis, the top three fields are as follows:

- *Business/Management/Economics*: 26% of founders pursued studies in this area. This includes programmes such as Business, Management, Business Management, Economics, International Business, Business and High-Tech Management, Entrepreneurship, Business Administration, General Management, and MBA degrees.
- *Engineering*: 19% of the founders studied engineering-related subjects, including Engineering, Biotechnology Engineering, Electrical Engineering, Industrial Engineering and Microelectronics.
- *Information/Computer Science*: 11% of founders come from this background, covering studies in Computer Science and Information Technology.

The next major sector is Law/Political Science, representing 6% of the sample.

Only four founders were identified as not having pursued any degree beyond high school.

This distribution mostly aligns with the broader pattern of fields of study in Belgium, with one distinct exception: Health and Welfare. Although 27% of higher education graduates in Belgium studied in this area, only 4% of the sample's founders come from this field. This may be because graduates in this field usually pursue careers as practitioners or researchers rather than starting their own businesses (Eurostat, 2024). By contrast, 23% of Belgian graduates studied Business and Law, and 12% studied Engineering, figures which are much closer to those seen among the founders in the study (Eurostat, 2024).

Note: Out of 196 founders, for 25 individuals (13%), we were unable to find information about their field of study online.

Type of Institution

After identifying the founders' fields of study, the research focused on the type of institution they attended. 54% pursued their higher education at a university in Belgium. 16% completed at least part of their education at foreign universities, and 15% attended a university college in Belgium.

In the French-speaking part of Belgium, there are five universities and 19 university colleges (Wallonie-Bruxelles Campus, 2025). This shows the variety of higher education options available, which may influence how future entrepreneurs are trained.

Name of Institution

The next step was to identify which specific institutions the founders attended.

The university with the largest number of founders in the sample is the *Université Catholique de Louvain* (UCLouvain), accounting for 19% of the total. Around 3% of these founders studied at the *Louvain School of Management* specifically. UCLouvain is not only the highest-ranked French-speaking university in Belgium, but also the largest, with around 40,000 students across seven campuses (UCLouvain, 2025; CRef, 2025). Around 5% of these students are enrolled at the *Louvain School of Management* each year (Louvain School of Management, n.d.).

The second most represented institution is the *Université Libre de Bruxelles* (ULB), accounting for 12% of founders. Among them, 5% graduated from the *Solvay Brussels School of*

Economics and Management. As of September 2024, ULB had 38,000 students across five campuses, making it the second largest French-speaking university in Belgium (ULB, n.d.; CRef, 2025).

Next is the *Université de Liège* (ULiège), with 10% of founders having studied there. ULiège is the third-largest French-speaking university in Belgium, hosting around 27,000 students each year across four campuses (ULiège, 2024).

The distribution of founders in the sample is similar to that of the student population across the three largest French-speaking universities in Belgium. It is also worth mentioning that 10% of the founders studied at Flemish universities, reflecting the country's bilingual nature.

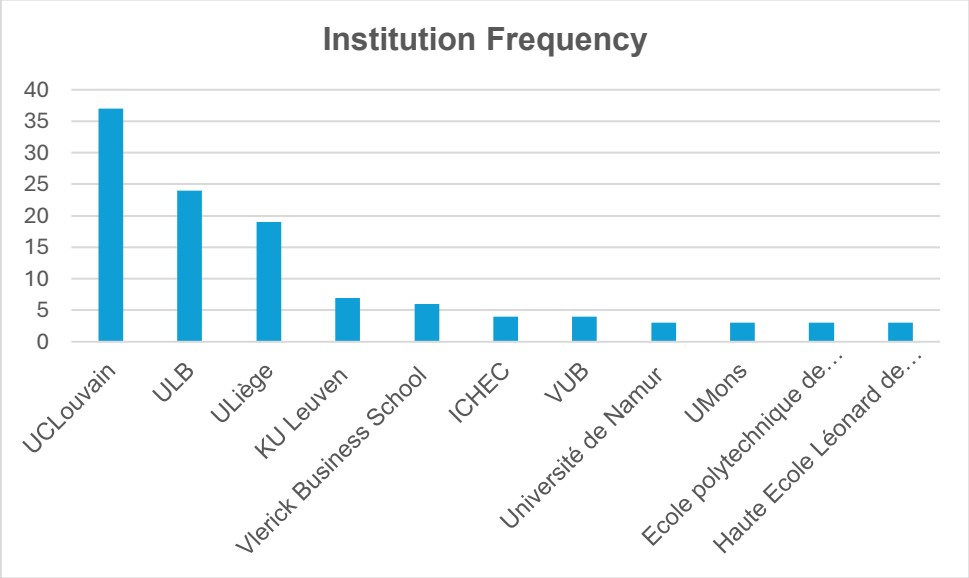

Figure III – Institutions repartition in number of people

Prior Work Experience & additional trainings such as Entrepreneurship education

When looking at the previous work experience of the founders, a large part of them (89%) had already relevant experience before starting their company. This is in line with the fact that most of them launched their successful venture when they were already 30–39 years old. 24% of the sample had worked in business services, for example as consultants or in marketing jobs. The second biggest group, 19%, had experience in the technology and software sector, working as web developers or engineers. The third most common past job was in health and science, with 11% of the founders. These people had worked as managers, business developers or

pharmacists. Among the 196 founders analysed, 34 (17%) had previously launched another startup or held a position as CEO or administrator.

When examining the connection between founders' previous work experience and the sector of their scale-up, the findings revealed that 51% had already worked in the same field before launching their business. The Technology and Software sector had the highest representation, accounting for 36% of these cases. Business Services came next with 22%, followed by Health and Life Sciences at 13%.

Regarding additional training, data on entrepreneurship education were collected, as the goal of this type of training is to foster entrepreneurial intention through specific classes or programmes. Only 12% of the founders said they had followed this kind of training, and most of them did so after launching their company.

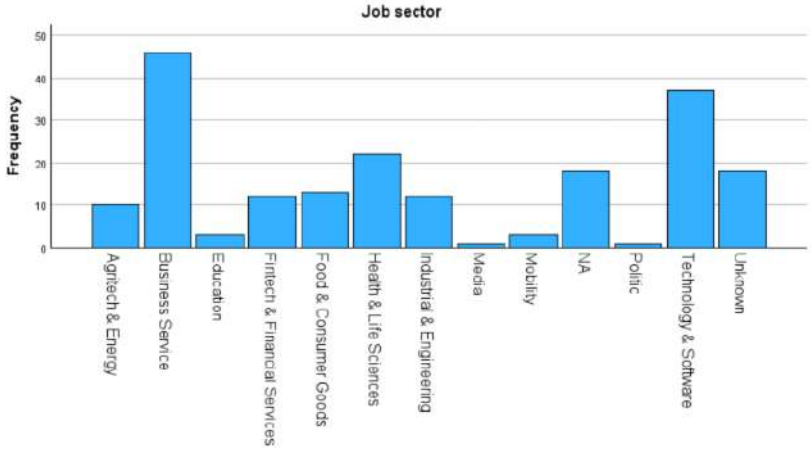

Figure IV – Distribution of Prior Job Sectors

Province & Sector of Scale-up

Finally, the data collected on the hundred scale-ups show that most Belgian-based new companies (32%) are headquartered in the capital city, Brussels-Capital. Walloon Brabant ranks second with 27%, followed by Liège in third place with 16%. Additionally, 3% of company headquarters are located outside of Belgium. The two companies based in the United States operate in the healthcare sector (Cefaly Technology and iTeos Therapeutics), while the one located in Paris specialises in the marketing sector (87seconds).

This distribution does not exactly reflect the registration patterns of new companies and VAT enterprises in the French-speaking part of Belgium: only 10% are registered in Brussels-Capital, while 25% are located in the Walloon Region (StatBel, 2024c). Within the Walloon Region, the highest number of enterprises are registered in the provinces of Hainaut and Liège: 60% of companies in the region are based in one of these two provinces (StatBel, 2024c). This concentration could be explained by demographic data showing that 67% of the Walloon population lives in Hainaut or Liège (StatBel, 2024d).

When looking at the sectoral distribution of the scale-ups in the sample, the most represented field is Technology & Software (31%), followed by Business Services (19%), and Health & Life Sciences (15%).

In comparison, according to the Belgian distribution of high-growth enterprises in 2022 (2,156 companies in total), the largest category was services, which accounted for 77%. This includes sectors such as professional and scientific activities (13%) and administrative and support service activities (12%) (Be.Stat, 2025; StatBel, 2024b). This broad service category includes Technology & Software, Business Services, and Health & Life Sciences, which are also the most represented sectors in our sample.

The second and third largest categories in the Belgian high-growth landscape are Manufacturing (11%) and Construction (10%), respectively (Be.Stat, 2025; StatBel, 2024b). These sectors are underrepresented in our sample, for example, there is only one scale-up in the construction sector.

The descriptive analysis shows that most scale-up founders in French-speaking Belgium have a high level of education, mainly in business, engineering, or IT. Many of them created their company after gaining work experience in the same sector. The majority are between 30 and 39 years old when they start their business. Women are still very few in this group, which shows there are still inequalities. Most of the companies are based in Brussels, Walloon Brabant, and Liège, and are active in Technology, Business Services, or Health.

Chi Square Association Tests

A series of chi-square tests were conducted to explore the relationships between the educational and professional backgrounds of founders and various demographic and business characteristics. The aim of these tests was to assess whether variables such as gender, age, education and company traits were systematically linked. Given the categorical nature of the data, cross-tabulations combined with chi-squared tests of independence were an appropriate method of examining these associations. The analysis was descriptive in nature, seeking to identify patterns within the data rather than make predictions or infer causal relationships.

We estimated exact p-values for the Pearson chi-square statistic using Monte Carlo simulations with 10,000 replicates when more than 20% of expected counts fell below five. This method ensured the reliability of results even in the presence of sparse data and allowed us to preserve the complete detail of the variables without collapsing categories.

Association between Level of Education and Gender

The relationship between highest level of education (no higher education, bachelor, master, PhD) and gender was examined among the 176 founders for whom gender was known. Of these, 93.8% were male and 5.7% were female. The Pearson chi-square statistic was 13.07 with six degrees of freedom, and the Monte Carlo p-value was .042. The effect size, measured by Cramer's V, was .193, indicating a small but statistically significant association. Female founders were overrepresented among PhD holders and entirely absent from the group without higher education.

To account for the possibility that some founders belonged to the same company and may have shared unobserved company-level influences, the analysis was repeated using SPSS's Complex Samples Crosstabs procedure. Company name was specified as the clustering unit. The design-adjusted Rao Scott F test produced $F(5.93, 586.96) = 2.07$ with a p-value of .056. After adjusting for clustering, the association between gender and education level no longer reached statistical significance.

Association between Level of Education and Age at Founding

The second test examined whether educational attainment differed across five age bands (under 30, 30 to 39, 40 to 49, 50 and older, unknown). The chi-square statistic was 8.95 with nine

degrees of freedom, and the Monte Carlo p-value was .442. The effect size was small (Cramer's V = .130), indicating no evidence of a significant association between age at founding and level of education.

Association between Institution Type and Gender or Age

We also examined whether the type of institution attended (university, university college, business school, foreign institution, or unknown) varied by gender or age. The test for gender yielded a chi-square value of 2.19 with ten degrees of freedom (Monte Carlo p = .995; Cramer's V = .075), while the test for age returned a chi-square value of 17.08 with fifteen degrees of freedom (Monte Carlo p = .314; Cramer's V = .175). In both cases, no statistically significant association was observed.

Association between Field of Study and Business Orientation

We investigated whether academic background was associated with the market orientation of the scale-up (B2B, B2C, or both). Among 196 valid cases, the chi-square statistic was 57.53 with 46 degrees of freedom (p = .119), and Cramer's V was .383, suggesting a moderate effect size. Although not statistically significant, descriptive patterns indicate that founders from technical fields such as engineering or information sciences were more likely to lead B2B ventures, whereas those from marketing or communication showed a higher prevalence in B2C or hybrid models.

Association between Field of Study and Gender

To assess whether field of study might explain gender differences among scale-up founders, a chi-square test was conducted using the full sample. The result was $\chi^2(46) = 61.75$ with a p-value of .060, and a moderate effect size (Cramer's V = .397). Although the association narrowly missed conventional significance thresholds, descriptive analysis shows that female founders were more frequently found in life sciences, psychology, and marketing, whereas technical fields such as engineering remained predominantly male.

Association between Prior Job Sector and Scale-Up Sector

Finally, we examined whether founders were more likely to start businesses in the same sector in which they had previously worked. The Pearson chi-square test produced a value of 562.94

with 96 degrees of freedom ($p < .001$), and the effect size was substantial (Cramer's $V = .599$). This statistically significant result suggests a clear association between prior professional experience and the sector of the scale-up, indicating that sector-specific knowledge and networks may play a role in shaping entrepreneurial paths.

Summary Chi Square Association Tests

The chi-square analyses revealed a mix of significant and non-significant associations. Education level was weakly associated with gender, though this relationship did not hold after adjusting for clustering. Age at founding did not correlate with education level or institution type, but younger founders were significantly more likely to have received entrepreneurship education. No gender differences were found in entrepreneurship training or institutional background. Meanwhile, moderate patterns emerged between field of study and both business type and gender, although these did not reach statistical significance. The strongest relationship was observed between prior job sector and the scale-up sector, pointing to the importance of professional continuity in entrepreneurial activity. These analyses offer a more detailed insight into the relationship between education, experience, and entrepreneurial outcomes.

Multiple Correspondence Analysis of Founder Profiles

To understand how different background variables combine and interact among the 196 founders, clusters were created using Multiple Correspondence Analysis (MCA). Eight characteristics were considered in forming these clusters: level of education, participation in entrepreneurship training, gender, age at the time of founding the company, field of study, type of institution attended, the province where the scale-up is headquartered, and the sector in which the scale-up operates.

These clusters were formed by placing the founders across two dimensions.

Dimension 1: Educational Background

The first one focuses on education. Founders with lower levels of formal education and more practical backgrounds, such as architecture or technical fields, appear on one side. On the other side are founders with a master's or doctoral degree, mostly in business, economics, engineering, law, or IT. This axis shows a difference between more hands-on experience and more advanced academic or managerial training.

Dimension 2: Age & Entrepreneurial Experience

The second dimension combines age and entrepreneurship experience. Founders under 30 who took part in entrepreneurship training are placed higher on this axis and are mostly male. In contrast, founders over 40 who did not receive any formal training and are more often women are found on the lower end. This dimension highlights how both age and specialised training influence founders' approaches to starting and growing a company.

To check how reliable the test was and how much of the differences in the eight variables could be explained, we calculated Cronbach's alpha. The result was 0.768, showing a good level of consistency between the variables. Together, the two main factors explain about 76% of the variation in the founders' profiles.

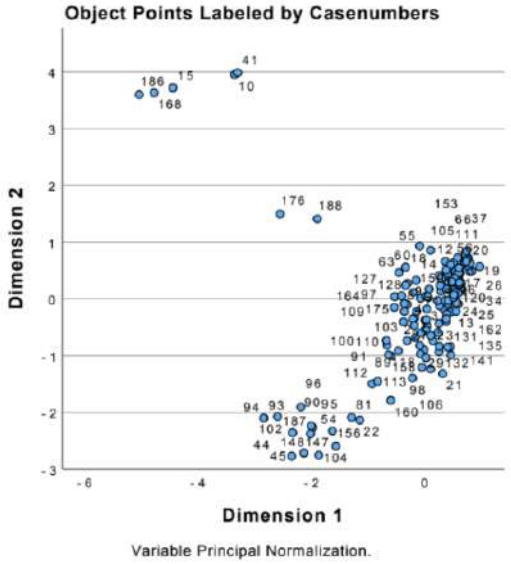

Figure V – Scatter Plot of founders

When plotting all the founders on these two axes, a two-dimensional map of founder types appears.

The top right area (positive on both Dimensions 1 and 2) comprises younger, highly educated founders who have received entrepreneurship training. They often come from backgrounds in business, engineering or finance. By contrast, the top left area (negative on Dimension 1, positive on Dimension 2) comprises younger founders who have strong technical skills but lower levels of formal education.

The bottom right (positive Dim 1, negative Dim 2) represents older, highly educated founders with education in law, life sciences, or other academic disciplines. Finally, the bottom left (negative Dim 1, negative Dim 2) represents older, less formally educated founders who have no entrepreneurship education.

Finally, the results of the founders' positioning along the two dimensions were used as input to create a dendrogram using Ward's hierarchical clustering method. The four resulting clusters are:

- **Cluster 1:** Highly educated founders in mid-career, working mostly in business services, finance, and technology.
- **Cluster 2:** Younger founders, many of whom lack a formal higher education background, primarily active in sectors such as agritech, finance and technology.
- **Cluster 3:** Older founders with backgrounds in health and science, often linked to foreign universities, working in health and engineering.
- **Cluster 4:** Smaller and more diverse group, including people with artistic or non-traditional backgrounds, working in food, real estate, or other sectors.

The way founders are spread along the two axes highlights differences between founder types. This supports the structure found in the clustering analysis.

Data analysis provided detailed insights into the educational, demographic and professional backgrounds of 196 founders from 100 Belgian scale-up companies. Following careful preparation and the application of suitable statistical tools, the study revealed several trends. These included the high proportion of founders with a master's degree, the low representation of women, and the significant influence of prior work experience. To reveal deeper patterns, the analysis also relied on multivariate methods and inferential tests. While many of the relationships between education and demographic factors did not reach statistical significance, several observations were identified in the analysis. These included a relatively small gender gap in educational attainment and differences in exposure to entrepreneurship education across age groups. Using multiple correspondence analysis, the study identified distinct founder profiles based on education and entrepreneurial experience. Together, these results form the

basis for the next section, which interprets the findings in relation to existing literature and addresses the main research questions in order to draw broader conclusions about the link between higher education and entrepreneurial outcomes.

Interpretation

This section of the thesis presents the primary findings, which are based on data collected from 196 French-speaking Belgian scale-up founders. It examines how various aspects of higher education, including degree level, field of study, institution type, and prior work experience, are related to entrepreneurial outcomes. The analysis also considers factors such as gender, age and previous work experience, in order to gain a better understanding of how educational and professional backgrounds can influence the decision to start and grow a business. Each research question is examined in relation to the academic literature and the theoretical framework introduced earlier in the thesis.

RQ1 - Prevalence of Higher Education attributes

This section addresses the first sub-research question by looking at the most common higher education characteristics among French-speaking Belgian scale-up founders. It examines how common these educational attributes are among the founders in the sample, including their degree level, field of study, type and name of institution, as well as any additional training. It also considers how these factors vary according to gender and age.

The data show that 67% of the founders in the sample hold a Master's degree, and 12% have completed a PhD. Only 3% of the founders did not pursue any form of higher education, which is much lower than the national average. These results support the Human Capital Theory (Becker, 1975), which suggests that higher education helps individuals gain knowledge and skills that are useful for decision-making and managing complex challenges.

In terms of academic background, the most frequent fields of study are Business, Management and Economics (26%), followed by Engineering (19%) and Information or Computer Science (11%). These areas are closely linked to the skills needed in high-growth sectors such as Technology & Software and Business Services (Hunady et al., 2018; Van der Sluis et al., 2008).

Gender disparities are clearly visible in the sample. Only 6% of the founders are women. Although women in the sample are slightly more represented at the PhD level, they remain largely underrepresented among the founders overall. In this group, there does not appear to be a strong link between gender and either the type of institution or the level of education.

Only 12% of founders reported taking part in dedicated entrepreneurship courses or similar training. These opportunities seem to be more common among younger entrepreneurs, especially those who started their ventures between the ages of 30 and 39. This trend hints that

recent changes in education may be starting to have an impact, helping to better prepare younger graduates for the challenges of entrepreneurship.

Most founders (54%) earned their degrees at Belgian universities. The most cited institutions are UCLouvain (19%), ULB (12%), and the University of Liège (10%). These results are in line with their strong academic reputation in the French-speaking part of Belgium (World University Rankings 2025; 2025). Additionally, 16% of founders completed at least one degree abroad. Erasmus exchanges were not included in this figure, since students remained enrolled at their Belgian universities during these programmes.

In conclusion, the findings show that most scale-up founders hold advanced degrees, particularly in subjects such as business, engineering or IT. Many of them studied at institutions such as UCLouvain, ULB or ULiège. Their level of education is higher than that of the general population, which reinforces the idea that higher education is important in preparing individuals to lead and grow high-potential ventures.

RQ2 – Field of Study Patterns

This sub-research question examined whether specific academic disciplines are more commonly represented among French-speaking Belgian scale-up founders, with the objective of identifying how educational specialisation may relate to the entrepreneurial process, particularly during the scaling phase

The data shows that some fields of study appear more often than others among the founders of high-growth ventures. Business, Management, and Economics make up 26% of the sample, followed by Engineering at 19%, and Information or Computer Science at 11%. Together, these three areas account for over half of the academic backgrounds represented. This pattern aligns with the findings of Hunady et al. (2018) and Van der Sluis et al. (2008), who argue that education in technical and commercial disciplines tends to equip individuals with the kinds of skills and knowledge needed for entrepreneurship, particularly in areas like strategic planning, innovation, and market analysis.

This pattern is consistent with Human Capital Theory, which suggests that education enhances productivity by developing cognitive and domain-specific skills (Becker, 1975). Business and STEM-related programmes often include analytical reasoning, quantitative modelling, and applied problem-solving. These competencies are relevant throughout the early and growth

stages of entrepreneurial ventures. Furthermore, these academic paths may also provide opportunities for project-based learning, teamwork, and exposure to real-world applications, thereby supporting the development of what Davidsson and Honig (2003) refer to as entrepreneurial capital.

By contrast, fields such as Life Sciences, Law and Political Science are less frequently represented among the founders in the sample. Despite being one of the most common fields among Belgian higher education graduates, Health and Welfare makes up just 4% of founders. This underrepresentation may be due to the nature of career paths in these areas, where graduates often move into regulated professions or research-focused roles that provide fewer incentives or opportunities for entrepreneurial ventures.

In summary, the data suggests that founders with academic backgrounds in business and STEM fields are more likely to create and grow high-potential ventures. These findings reinforce the idea that higher education, although a general enabler, has differentiated effects depending on the field of study and its alignment with entrepreneurial skill requirements.

RQ3- Education level and Comparison with the General Population

The third question examines the higher education level of French-speaking Belgian scale-up founders compared to that of the general active population in Belgium.

The analysis shows that most of them, around 87%, have a high level of education. In particular, 67% hold a Master's degree and 12% have a PhD. In comparison, only 15% of the general Belgian population aged 15 to 64 have a Master's degree or similar qualification, and less than 1% have a PhD (StatBel, 2025). These numbers show that scale-up founders are generally much more highly educated than the wider population.

These findings support Human Capital Theory (Becker, 1975), which suggests that investing in education helps people build knowledge, develop skills, and improve their economic prospects. When it comes to entrepreneurship, Davidsson and Honig (2003) point out that education not only helps with identifying opportunities and making plans but also makes it easier to access important resources like funding and strategic partners. Moreover, Van der Sluis et al. (2008) found that each additional year of education is associated with higher entrepreneurial income and improved performance outcomes. The role of higher education may

be even more important within scale-up ecosystems. Coad et al. (2024) and Coviello et al. (2024) point out that scaling up is not only about achieving rapid growth. It also involves building solid internal structures and being able to adapt effectively to complex and constantly changing environments.

However, the relationship between education and entrepreneurship is not always linear. Birch et al. (2017) observed that, depending on the institution where higher education is pursued, it may even discourage entrepreneurial ambitions. Some institutions, in fact, may not recognise entrepreneurship as a legitimate or desirable career path. Van der Sluis et al. (2008) noted that while higher education improves performance, it does not necessarily increase the likelihood of starting a business. Similarly, the opportunity cost of leaving stable employment, especially for individuals with advanced degrees, can discourage entrepreneurial pursuits (Van der Sluis et al., 2008; Kim et al., 2006). Nevertheless, in our sample, most scale-up founders hold a master's or even a doctoral degree, which suggests that once they do choose the entrepreneurial path, their education may support stronger outcomes.

To sum up, founders of scale-ups typically have higher educational levels than people in general, and many of them have earned a Master's or even a PhD. This emphasises how important higher education is in preparing business owners to manage the challenges of beginning and growing a company.

Further Analysis

While the primary analysis focused on answering the main research questions regarding the prevalence, level, and disciplinary orientation of higher education among Belgian scale-up founders, several additional patterns became apparent during the empirical phase. These patterns gave rise to further interpretative questions that complement, rather than deviate from the original research objectives. Specifically, they offer a more nuanced understanding of how education interacts with other factors such as gender dynamics, and prior professional experience. The following sections present these additional questions, namely RQ4, and RQ5, by building on descriptive trends and statistical associations identified during the analysis. Although these questions are exploratory in nature, they serve to enrich the core findings and contribute to a broader understanding of the relationship between higher education and entrepreneurial outcomes in high-growth contexts.

RQ4 – Gender and Field of Study in Scale-Up Representation

Research Question: To what extent does the field of study help explain the lower presence of women among French-speaking Belgian scale-up founders, especially in male-dominated areas such as STEM?

This question also emerged during data analysis, in response to the striking underrepresentation of female founders in the sample. Although only 6% of the 196 founders were women, further exploration suggested that this disparity may be partially related to differences in academic background, particularly in the context of disciplinary gender segregation.

The association between field of study and gender was close to statistical significance ($p = .060$), with a moderate effect size (Cramer's $V = .397$). Descriptive patterns indicated that women founders were more often trained in life sciences, psychology, or marketing, whereas male founders predominated in engineering, computer science, and finance.

These findings reflect wider structural trends in higher education, where female students are disproportionately concentrated in fields with lower average entrepreneurial participation. As noted by the OECD (2022), gender imbalances remain persistent in STEM fields, both in terms of enrolment and post-graduate career trajectories. Within this context, the academic pipeline leading into entrepreneurship is itself shaped by gendered educational pathways.

From a Human Capital perspective, different fields of study provide varying levels of exposure to entrepreneurial opportunities and capabilities (Becker, 1975). Women's concentration in academic disciplines that have weaker connections to entrepreneurial activity can limit their overall representation among founders, irrespective of their ability or ambition (OECD, 2022).

Furthermore, prior research has shown that education plays a compensatory role for women in entrepreneurship. Boden and Nucci (2000) and Van der Sluis et al. (2008) found that women entrepreneurs often rely more heavily on formal education as a source of legitimacy, particularly in sectors where gender bias persists. However, this compensatory mechanism may not be sufficient to overcome the structural barriers associated with entry into male-dominated fields or industries.

In conclusion, although education by itself does not fully explain the gender gap in scale-up entrepreneurship, the findings indicate that the field of study plays a role. This suggests that addressing gender imbalances within academic disciplines may be an important step toward fostering greater inclusion in entrepreneurial ecosystems over the long term.

RQ5 – Prior Job sector and Scale-up sector

Research Question: Is there a relationship between the sector in which founders previously worked and the sector of their scale-up venture? To what extent does previous experience influence the choice of business activity?

The analysis shows that 51% of French-speaking Belgian scale-up founders had experience in the same sector before starting their business. The association between prior work sector and scale-up sector was statistically significant ($p < .001$), with a strong effect size (Cramer's $V = .599$). This suggests a link between their previous jobs and their entrepreneurial projects. It supports the idea that past work experience can be useful by giving founders relevant knowledge and connections they can use in their new ventures.

This result aligns with several theories reviewed in the literature. According to Human Capital Theory (Becker, 1975), learning does not only occur through formal education but also through workplace experience. When starting their businesses, founders are likely to benefit from applying their sector-specific knowledge, contacts and insight into industry dynamics. Unger et al. (2009) argue that practical skills and experience matter more for success than formal academic qualifications. This means that previous work experience can be especially helpful for entrepreneurs when it comes to spotting opportunities and building their businesses.

Davidsson and Honig (2003) expand on this by introducing the concept of "entrepreneurial capital," which includes human, social, and cultural capital. Prior work experience helps accumulate all three: human capital through skills and expertise, social capital through industry connections, and cultural capital through familiarity with sector norms. These elements can increase legitimacy in the eyes of stakeholders, such as clients, investors, or regulators, making it easier to grow the business.

Other studies also support the role of work experience. For example, Hunady et al. (2018) show that experienced individuals are more effective in identifying opportunities and adjusting to changing markets. Similarly, Brüderl et al. (1992) found that entrepreneurs with relevant

industry backgrounds had higher business survival rates, especially in regions with strong institutional ecosystems, where prior sector knowledge allowed them to better navigate formal structures and informal networks.

However, experience can also be limiting. Van der Sluis et al. (2008) explain that the entrepreneurial path often depends on a person's background and the labour market. Some founders change sectors because they lack opportunities in their original field or because they want to follow new trends. Hunady et al.'s study (2018) also highlights demographic factors such as age. Older graduates who have gained work experience and industry knowledge are more likely to choose entrepreneurship later in their careers as a second professional step.

In conclusion, over half of the scale-up founders started businesses in sectors where they had prior experience, suggesting that work-related knowledge and networks support entrepreneurial success. Nevertheless, career shifts also occur, suggesting that prior experience guides but does not determine the sector of new ventures.

Results from Clustering

Multiple Correspondence Analysis (MCA) helps show the range of educational and demographic profiles in the sample. The first-dimension highlights differences in education, separating founders with more technical or hands-on training from those with advanced academic degrees in areas like business, economics, or IT. The second dimension relates to age and entrepreneurial experience, contrasting younger founders who received targeted training in entrepreneurship with older ones who followed more traditional career paths.

These findings support Human Capital Theory, which sees education and experience as key to productivity (Becker, 1975). The MCA shows younger founders with entrepreneurship training clustering together, suggesting the impact of some educational reforms. The patterns also reflect entrepreneurial capital (Davidsson & Honig, 2003), demonstrating that entrepreneurial potential is influenced by a combination of academic, social and cultural factors, rather than just formal education.

Unger et al. (2009) highlight that practical skills and knowledge, not just formal qualifications, drive success. This is seen in the MCA, where successful founders with less education but strong technical expertise emerge. Meanwhile, older, highly educated founders in Clusters 1

and 3, often from law or health sciences, show how accumulated human capital and strategy can support venture growth (Van der Sluis et al., 2008).

Overall, the MCA provides empirical support for the nuanced findings in the literature: while higher education plays an important role, the pathways to successful entrepreneurship are varied and shaped by the interaction of education, experience, and demographic context.

Conclusion

The analysis of 196 scale-up founders shows that formal education, particularly in fields like business, engineering, and IT, is associated with entrepreneurial pathways. The majority of founders (79%) hold at least a Master's degree, a level well above the national average, supporting Human Capital Theory's assumption that education enhances knowledge, productivity, and economic performance (Becker, 1975; Van der Sluis et al., 2008).

However, the impact of education is not uniform across individuals. Fields of study, the type of institution, and participation in entrepreneurship-specific training contribute in different ways to entrepreneurial outcomes. These findings are consistent with research by Hunady et al. (2018) and Davidsson and Honig (2003), who emphasise the value of technical and commercial training in developing competencies like opportunity recognition, planning, and innovation. Moreover, disparities in gender and discipline highlight structural factors that influence access to entrepreneurship, as also noted by Van der Sluis et al. (2008) and Boden and Nucci (2000).

Prior work experience also plays an important role. Over half of the founders launched ventures in sectors where they had previously worked, supporting the idea that entrepreneurial learning happens not only through education but also through professional practice (Unger et al., 2009). This continuity helps founders apply industry-specific knowledge, build legitimacy, and access relevant networks (Davidsson & Honig, 2003).

Clustering analysis confirmed the existence of different types of founder, shaped by a combination of education, age and experience. While higher education is an important factor in supporting entrepreneurship, these results show that its impact depends on how it connects with individual life paths and the wider social and economic environment.

In conclusion, educational institutions have an important role to play. By offering interdisciplinary learning, promoting inclusion, and expanding entrepreneurship training, they can help prepare future entrepreneurs to grow successful and impactful businesses.

Limitations

While this study offers valuable insights into the educational backgrounds of French speaking Belgian scale-up founders, several limitations must be acknowledged. First, the research relies on publicly available archival data, which limits completeness and consistency. In cases where information such as entrepreneurship education, age at founding, or prior experience was unavailable, standardised assumptions were applied. This approach introduces a degree of approximation into the dataset.

Second, the descriptive and exploratory nature of the analysis restricts the capacity to draw causal inferences. Although the study identifies associations between educational variables and entrepreneurial outcomes, it does not estimate the likelihood of becoming a founder or growing a business. Although Rao Scott corrections were applied to account for clustering, small sample sizes in some subgroups reduce statistical power and the reliability of marginal findings.

Third, the study does not include control variables typically used to isolate the effect of education from other influential factors. Background elements such as parental entrepreneurship, financial capital, personality traits, or access to informal networks were not available. These unobserved factors may influence both educational trajectories and entrepreneurial choices, raising the possibility of confounding.

Fourth, the sample may reflect selection bias. The *EY Belgique Scale-Up de l'Année* programme favours firms that meet specific visibility and performance criteria, which may exclude ventures with alternative growth profiles. For this reason, the results cannot be generalised to all Belgian start-ups or scale-ups.

Finally, the geographical scope is limited to the French-speaking regions and Brussels. Institutional and cultural differences within Belgium may limit the broader applicability of the findings.

Taken together, these limitations suggest that the results should be interpreted as exploratory. They offer descriptive insights and generate relevant questions but do not establish causal relationships.

Conclusion

This thesis examined the relationship between higher education and the increase in high-growth entrepreneurship by analysing the educational backgrounds of 196 scale-up founders in French-speaking Belgium. A combination of descriptive statistics, bivariate analysis and Multiple Correspondence Analysis (MCA) was used to explore patterns in academic training, entrepreneurship education and career paths. The study also took into account factors such as gender, age, business sector and region. Based on Human Capital Theory (Becker, 1975), the research aimed to understand how diverse educational experiences contribute to the establishment and expansion of successful enterprises.

Summary of Key Findings

The analysis shows that scale-up founders are more educated than the general Belgian population. Almost 90% of the sample have at least a Bachelor's degree, and 79% hold a Master's degree. By contrast, only 37% of Belgians aged 15 to 64 have higher education. This supports the main idea of Human Capital Theory from Becker (1975), which suggests that education, along with work experience and other learning, helps build the skills and knowledge needed for economic success. While this result may seem expected, the contrast with the general population, where only 15% have a Master's degree, highlights the unique profile of people who manage to build and grow successful companies.

Beyond general education levels, the field of study appears to matter. Founders were predominantly trained in business, engineering, and IT. These fields provide technical, analytical, and managerial competencies that are well suited for high-growth ventures. In contrast, fields such as health sciences and law were underrepresented, perhaps due to more regulated or institutionally bound career paths. These findings support earlier work by Hunady et al. (2018) and Van der Sluis et al. (2008), who argue that commercial and technical education can foster the skills needed for innovation and strategic growth.

Additional training such as entrepreneurship-specific education remains relatively rare, only 12% of founders reported participating in dedicated programs. However, this training was more common among younger entrepreneurs, suggesting the recent inclusion of entrepreneurship in academic curricula. This suggests a generational shift and the potential growing influence of education policy reform. Although its effects on venture performance remain to be explored.

Gender disparities were also observed. Only 6% of the sample were women, a significant imbalance that cannot be explained solely by education level. In fact, women in the sample were slightly overrepresented at the PhD level. Instead, this imbalance reflects broader systemic issues such as access to opportunities, field-of-study segregation, and entrepreneurial norms. These findings align with those of Boden and Nucci (2000) and the OECD (2022), who demonstrate that women often rely more heavily on formal education to gain recognition within male-dominated entrepreneurial environments. In this way, education becomes an important tool for overcoming structural inequalities.

Prior work experience also played a significant role, with 89% of the founders having worked before launching their scale-up. This result is not surprising, as most founders started their scale-ups between the ages of 30 and 39, supporting Hunady et al.'s (2018) idea that entrepreneurship is often a second career path. Over half had experience in the same sector as their business, reinforcing the notion that entrepreneurship often builds on existing industry knowledge and networks. This aligns with Davidsson and Honig's (2003) concept of "entrepreneurial capital," which integrates human, social, and cultural dimensions of preparation for entrepreneurship.

The MCA revealed distinct founder profiles shaped by combinations of education, experience, and demographics. Younger founders with entrepreneurship training formed one group, while older, more traditionally educated founders represented another. These findings reflect the varied pathways into entrepreneurship and confirm that formal education, while important, is only part of a more complex equation.

Personal Reflections

This research highlights the complexity of entrepreneurial journeys. Creating and growing a business involves not only the right training but also a combination of factors such as educational background, career experience, individual goals, demographic characteristics, and exposure to people active in entrepreneurship. Although Human Capital Theory offers a useful framework, it does not fully capture how personal context and informal learning contribute to entrepreneurial outcomes. The clusters identified in the analysis reflect that success often depends on a wide variety of influences, including both institutional and personal factors.

An interesting finding is that many founders had limited access to practical, hands-on training, even though universities are becoming more involved in preparing students for today's

changing job market. This raises questions about how well academic programmes help students connect what they learn with real career opportunities. Another important point is the clear gender gap. Even though many women in the sample have advanced degrees, this does not always lead to equal chances in entrepreneurship. It is important to look more closely at how different groups move from education into starting their own businesses. Mentorship and access to professional networks could play a key role in bridging the gap between formal education and entrepreneurial success. This is an area that deserves more attention and support.

Implications for Policy and Practice

These findings have implications for universities, policymakers and support organisations. In Wallonia and Brussels, for example, universities could better prepare students for a variety of career paths by focusing more on practical skills, encouraging interdisciplinary learning, and incorporating real-world experience. Curricula should also be more inclusive, reaching students from a range of academic backgrounds and ensuring that everyone has equal opportunities, regardless of gender or socioeconomic status.

Rather than treating entrepreneurship as a separate subject, it could be integrated into broader academic programmes, especially in STEM, life sciences, and social sciences. This would help students develop strategic thinking and adaptability relevant across sectors. Regional governments and business support actors could also strengthen their collaboration with universities to provide environments that combine academic learning with exposure to innovation and professional challenges.

Future Research

This exploratory study relies on existing data. While it reveals certain correlations, it does not demonstrate cause and effect. Additionally, influential factors such as parental influence, personality traits and informal mentoring were not considered, despite their potential impact on entrepreneurial success.

Future research might explore these gaps using surveys or studies that follow founders over time. Another useful approach could be to compare the education backgrounds of scale-up founders with those of entrepreneurs who don’t scale or with intrapreneurs working inside larger companies. This could help show whether certain education paths specifically support growth, or if they are just linked to entrepreneurship in general.

It would also be valuable to examine the long-term performance of ventures founded by individuals with and without entrepreneurship training. As more universities invest in entrepreneurship education, it is critical to evaluate its effectiveness not just in starting businesses, but in enabling them to grow and survive.

This thesis contributes to our understanding of how higher education interacts with entrepreneurship in the specific context of scale-ups. It shows that advanced education, especially in business, engineering, and IT, is common among successful founders, and that prior work experience often shapes the direction of entrepreneurial ventures. Yet education is not a universal solution. Its impact depends on how it combines with demographic factors, institutional support, and real-world experience.

With entrepreneurship becoming more important, especially in Europe, education systems will need to evolve. They should go beyond just teaching facts and create spaces where students feel motivated to take initiative and accept risks, while making sure everyone feels included. Only then can higher education really play its full role in helping entrepreneurs succeed.

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Appendices

Appendix 1: Data Preparation

The original dataset included 196 founders from 100 Belgian scale up companies. As series of transformations and recoding were done on SPSS statistics to ensure that the following descriptive analyses, association tests and exploratory multivariate mapping were conducted on clean and consistent data.

Firstly, the level of education was recoded into an ordinal variable named “LOE_ord”. Each category received an ascending numeric code one for no higher education two for a bachelor’s degree three for a master’s degree and four for a doctorate. Any cases for which educational information was unknown were flagged as user missing so they remained visible in frequency tables but were excluded from inferential tests.

Next, the estimated age at founding, which was originally recorded as a general age group, was put into a more specific category called 'Age_ord'. People who started the company were under 30 and were given one. Those aged 30 to 39 were given two. Those aged 40 to 49 were given three, and those aged 50 and over were given four. Once again, users whose age was unknown were marked as missing. This was to make sure that the statistics only included founders with valid age data.

Four nominal variables that had been stored as text ‘field of study’, ‘type of institution’, ‘province’ ,and ‘sector’ of scale up were converted into numeric format using SPSSs Automatic Recode feature. This produced “Fstudy_n”, “Inst_n”, “Prov_n” and “Sector_n”. In the variable view each of these new variables was defined as numeric with nominal measurement.

Initial frequency checks revealed that the Golf and Mobility sectors were represented by 1 and 4 founders respectively falling below the minimum cell count to be able to perform a valid chi square analysis. Golf and Mobility were merged into a new category “Others” to be able to perform the different analyses.

Because province and sector are related to the scale up rather than to the individual founders, a separate venture level file was created using the SPSS aggregate function. This file contained

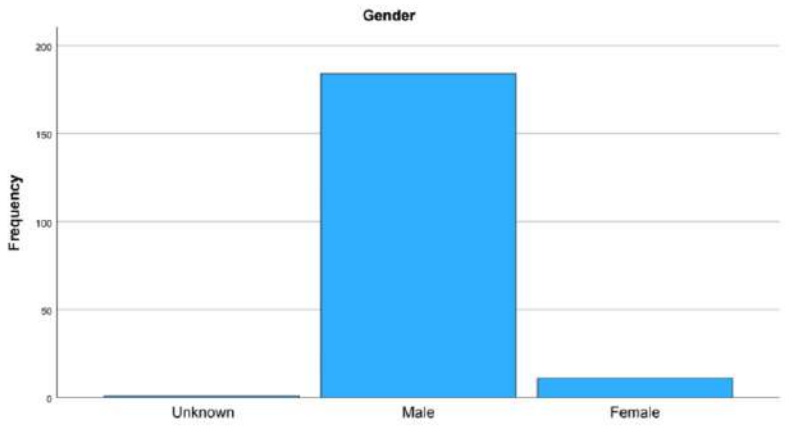
one row per company with the first province and sector code preserved. The frequency analyses for province and sector of the scale up were performed based of this file.

Finally, to prepare for the Multiple Correspondence Analysis, the SPSS default treatment of zero as missing was treated for 3 variables (LOE_ord, Entrepreneurship Education and Gender). Those variables use zero to signal unknown or no participation in EE. Therefore, new shifted versions of these variables were created by adding one to every original code. This guaranteed that no variable value remained at zero and that all cases were included in the correspondence analysis without requiring case deletion or additional imputation.

Through this careful sequence of ordinal recoding, midpoint creation, text-to-numeric conversion, category merging, venture-level aggregation and code shifting, we produced a clean and fully documented dataset that underpins all subsequent inferential tests and exploratory multivariate analysis.

Appendix 2: Frequencies

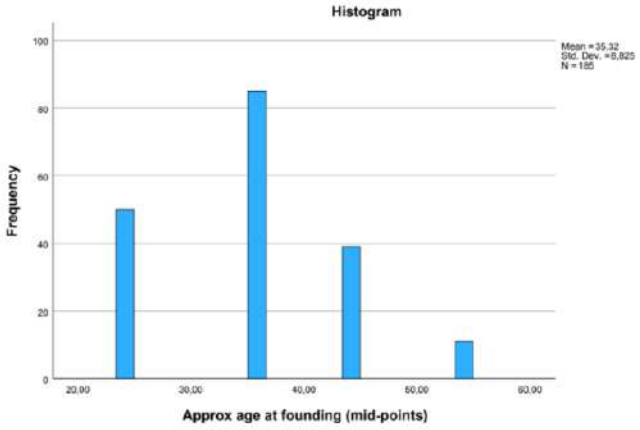
A. Gender



B. Approx age at founding

Approx age at founding (mid-points)

		N	%
24,00		50	25,5%
35,00		85	43,4%
45,00		39	19,9%
55,00		11	5,6%
Missing	System	11	5,6%

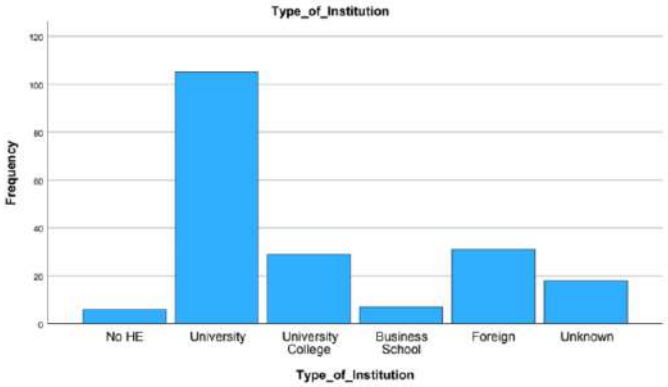


C. Field of Study

Field_of_Study

	N	%
Agriculture	1	0,5%
Agronomy	1	0,5%
Architecture	1	0,5%
Art & archeology	1	0,5%
Business/Management/Economics	51	26,0%
Communication	1	0,5%
Design	2	1,0%
Electrician	2	1,0%
Engineering	37	18,9%
Entrepreneurship	3	1,5%
Finance	5	2,6%
French Litterature and language	1	0,5%
Health/ Life sciences	6	3,1%
Information / Computer Sciences	21	10,7%
Law/ Politicial Sciences	12	6,1%
Marketing	6	3,1%
Mathematics	4	2,0%
Natural Science	9	4,6%
none	3	1,5%
None	1	0,5%
Psychology	1	0,5%
Real estate	1	0,5%
Teacher	1	0,5%
Unknown	25	12,8%

D. Type of Institutions



Type_of_Institution

	N	%
No HE	6	3,1%
University	105	53,6%
University College	29	14,8%
Business School	7	3,6%
Foreign	31	15,8%
Unknown	18	9,2%

E. Name of Institution

Name_Institution

	N	%
Université catholique de Louvain	31	15,8%
Unknown	21	10,7%
Université de Liège	19	9,7%
Université libre de Bruxelles	14	7,1%
Solvay Brussels School of Economics and Management	10	5,1%
KU Leuven	7	3,6%
Louvain School of Management	6	3,1%
Vlerick Business School	6	3,1%
Ichec	4	2,0%
none	4	2,0%
Vrije Universiteit Brussel	4	2,0%
Ecole polytechnique de Bruxelles	3	1,5%
ESSEC	3	1,5%
Haute Ecole Léonard de Vinci, Bruxelles	3	1,5%
UMons	3	1,5%
Université de Namur	3	1,5%
Académie royales des Beaux-Arts de Bruxelles	2	1,0%
CentraleSupélec	2	1,0%
Ecole superieure des Arts de l'image LE 75	2	1,0%
EPHEC	2	1,0%
ESCP Business School	2	1,0%
FUCAM	2	1,0%
Haute Ecole Louvain en Hainaut	2	1,0%
HELMo	2	1,0%
INSEAD	2	1,0%
Centrale Lille	1	0,5%
Chambre Belge des Comptables, Experts-Comptables et Conseils Fiscaux	1	0,5%
ECAM Brussels Engineering School	1	0,5%
EDHEC Business School	1	0,5%
EHSAL Brussel	1	0,5%

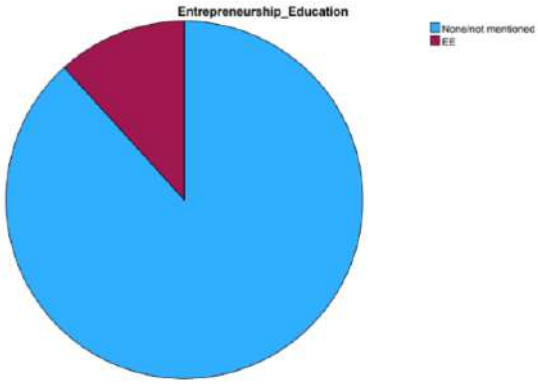
Name_Institution

	N	%
Emlyon business school	1	0,5%
EPFC	1	0,5%
EPFL	1	0,5%
EPITECH - European Institute of Technology	1	0,5%
ESCI Fontainebleau	1	0,5%
ESIGELEC	1	0,5%
Ghent University	1	0,5%
Harvard T.H. Chan School of Public Health	1	0,5%
Haute Ecole Léonard de Vinci	1	0,5%
HECM	1	0,5%
HEI - Hautes Etudes d'Ingénieur	1	0,5%
HEPL - Haute école de la province de Liège	1	0,5%
HUB-EHSAL	1	0,5%
IESN & ESA	1	0,5%
IFPME / INFAC/ INFOBO	1	0,5%
Institut de l'enseignement Technique	1	0,5%
Institut supérieur d'Architecture 'Saint-Luc'	1	0,5%
INT Namur	1	0,5%
Katholieke Hogeschool Leuven	1	0,5%
KEDGE Business School	1	0,5%
Khouribga	1	0,5%
Leiden University	1	0,5%
London Business School	1	0,5%
Northwestern University - Kellogg School of Management	1	0,5%
Politecnico di Milano	1	0,5%
Regent's University London	1	0,5%
SupBiotech	1	0,5%
TBS education	1	0,5%
Universitatea „Dunrea de Jos" din Galai	1	0,5%
University of Paris: Panthéon-Sorbonne	1	0,5%

Name_Institution

	N	%
University of Pharmacy Marseille	1	0,5%
VLEKHO Business School Bruxelles	1	0,5%

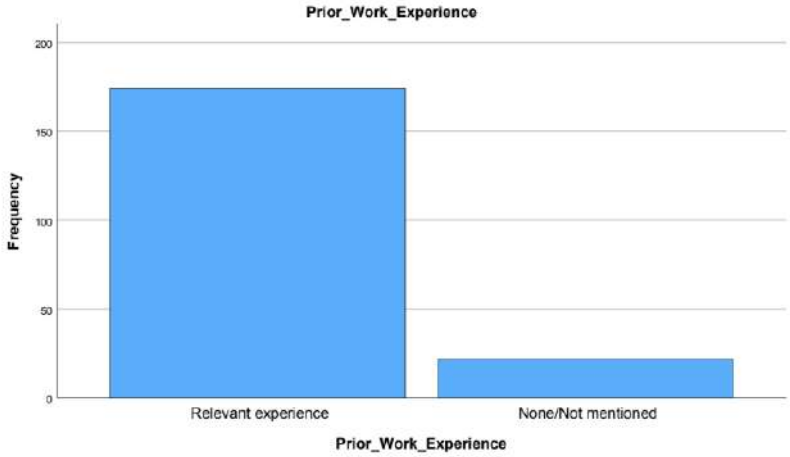
F. Entrepreneurship education



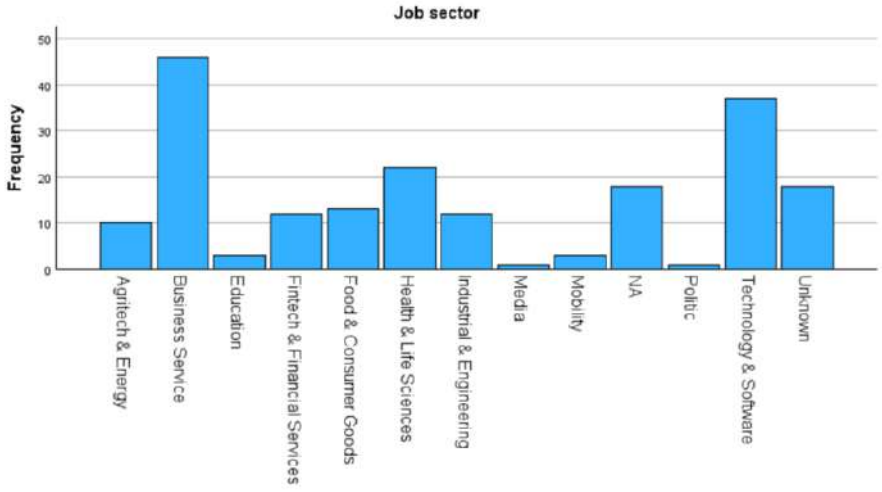
Entrepreneurship_Education

	N	%
None/not mentioned	173	88,3%
EE	23	11,7%

G. Prior work experience



H. Job Sector of Prior Work experience



Job sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agritech & Energy	10	5,1	5,1	5,1
	Business Service	46	23,5	23,5	28,6
	Education	3	1,5	1,5	30,1
	Fintech & Financial Services	12	6,1	6,1	36,2
	Food & Consumer Goods	13	6,6	6,6	42,9
	Health & Life Sciences	22	11,2	11,2	54,1
	Industrial & Engineering	12	6,1	6,1	60,2
	Media	1	,5	,5	60,7
	Mobility	3	1,5	1,5	62,2
	NA	18	9,2	9,2	71,4
	Politic	1	,5	,5	71,9
	Technology & Software	37	18,9	18,9	90,8
	Unknown	18	9,2	9,2	100,0
	Total	196	100,0	100,0	

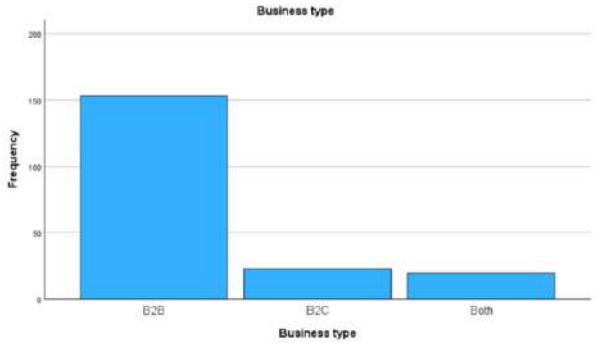
I. Former position

Role

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	,5	,5	,5
	Account manager	1	,5	,5	1,0
	Administrator	1	,5	,5	1,5
	Analyst	2	1,0	1,0	2,6
	Associate	3	1,5	1,5	4,1
	Attorney	1	,5	,5	4,6
	Auditor	1	,5	,5	5,1
	Awex	1	,5	,5	5,6
	Business analyst	1	,5	,5	6,1
	Business Development Manager	5	2,6	2,6	8,7
	Business Service	2	1,0	1,0	9,7
	CEO	3	1,5	1,5	11,2
	CEO/Administrateur	1	,5	,5	11,7
	CEO/Founder	1	,5	,5	12,2
	Co founder	10	5,1	5,1	17,3
	Conseillère communale	1	,5	,5	17,9
	Consultant	17	8,7	8,7	26,5
	Controller	1	,5	,5	27,0
	Corporate finance	1	,5	,5	27,6
	Developer	8	4,1	4,1	31,6
	Development Manager	2	1,0	1,0	32,7
	Director	7	3,6	3,6	36,2
	Electrician	1	,5	,5	36,7
	Engineer	5	2,6	2,6	39,3
	Founder	17	8,7	8,7	48,0
	Head of Couriers	1	,5	,5	48,5
	Head of Product Management	1	,5	,5	49,0

	Java Architect	1	,5	,5	49,5
	Judicial officer	2	1,0	1,0	50,5
	Junior	1	,5	,5	51,0
	Junior Associate	1	,5	,5	51,5
	Manager	31	15,8	15,8	67,3
	Marketing	4	2,0	2,0	69,4
	NA	18	9,2	9,2	78,6
	Net Developer	1	,5	,5	79,1
	Owner	2	1,0	1,0	80,1
	Partner	3	1,5	1,5	81,6
	Pharmacist	1	,5	,5	82,1
	Principal Banker	1	,5	,5	82,7
	Product Owner	1	,5	,5	83,2
	Professor	5	2,6	2,6	85,7
	Project leader	1	,5	,5	86,2
	Researcher	6	3,1	3,1	89,3
	Respo SME	1	,5	,5	89,8
	Senior	1	,5	,5	90,3
	Senior Planner	1	,5	,5	90,8
	Unknown	18	9,2	9,2	100,0
	Total	196	100,0	100,0	

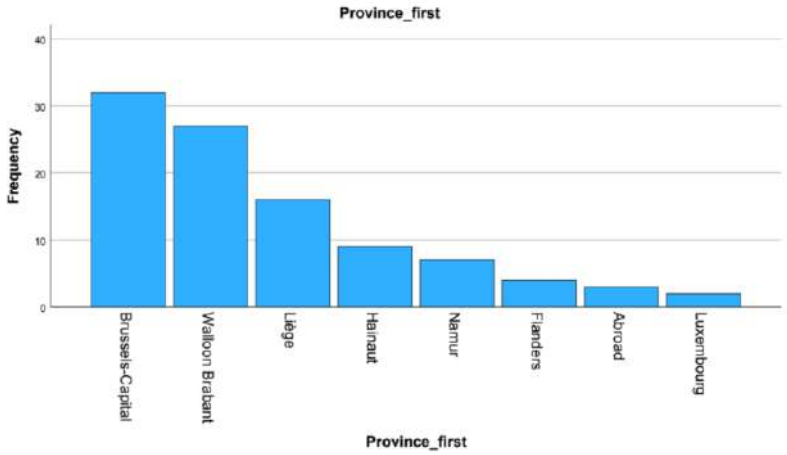
J. Business type



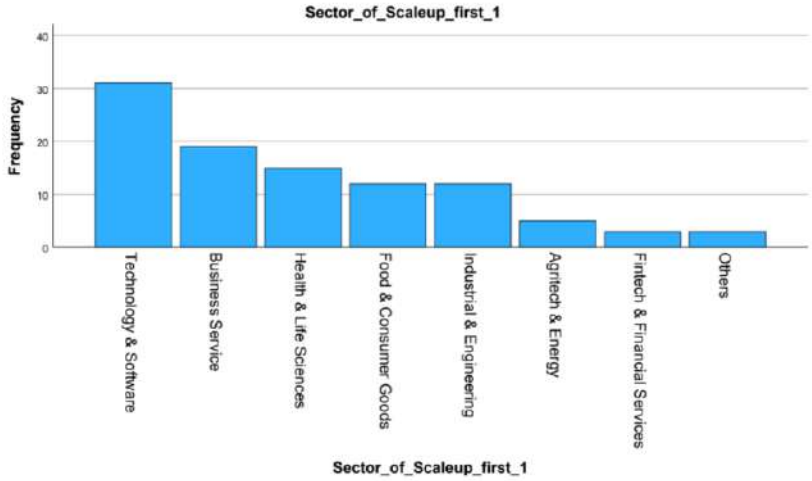
Business type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	B2B	153	78,1	78,1	78,1
	B2C	23	11,7	11,7	89,8
	Both	20	10,2	10,2	100,0
	Total	196	100,0	100,0	

K. Provinces



L. Sector of Scale up



Appendix 3: Crosstab

A. Level of Education ordered x Gender

Case Processing Summary

Level of Education ordered * Gender Crosstabulation

			Gender	
			Unknown	Male
Level of Education ordered	No higher Education	Count	0	6
		Expected Count	.0	5.6
		% within Level of Education ordered	0.0%	100.0%
	bachelor	Count	1	14
		Expected Count	.1	15.0
		% within Level of Education ordered	6.3%	87.5%
	Master	Count	0	125
		Expected Count	.7	122.8
		% within Level of Education ordered	0.0%	95.4%
	PhD/Doctorate	Count	0	20
		Expected Count	.1	21.6
		% within Level of Education ordered	0.0%	87.0%
Total		Count	1	165
		Expected Count	1.0	165.0
		% within Level of Education ordered	0.6%	93.8%

Level of Education ordered * Gender Crosstabulation

			Gender	
			Female	Total
Level of Education ordered	No higher Education	Count	0	6
		Expected Count	.3	6.0
		% within Level of Education ordered	0.0%	100.0%
	bachelor	Count	1	16
		Expected Count	.9	16.0
		% within Level of Education ordered	6.3%	100.0%
	Master	Count	6	131
		Expected Count	7.4	131.0
		% within Level of Education ordered	4.6%	100.0%
	PhD/Doctorate	Count	3	23
		Expected Count	1.3	23.0
		% within Level of Education ordered	13.0%	100.0%
Total		Count	10	176
		Expected Count	10.0	176.0
		% within Level of Education ordered	5.7%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Monte Carlo Sig. (2-sided) Significance	99% ... Lower Bound
Pearson Chi-Square	13.067[a]	6	.042	.088[b]	.081
Likelihood Ratio	7.634	6	.266	.172[b]	.162
Fisher-Freeman-Halton Exact Test	10.345			.108[b]	.100
Linear-by-Linear Association	2.800[c]	1	.094	.119[b]	.111
N of Valid Cases	176				

Chi-Square Tests

	Monte Carlo ... 99% ... Upper Bound	Monte Carlo Sig. (1-sided) Significance	99% Confidence Interval Lower Bound	Upper Bound
Pearson Chi-Square	.095			
Likelihood Ratio	.182			
Fisher-Freeman-Halton Exact Test	.116			
Linear-by-Linear Association	.127	.067[b]	.060	.073
N of Valid Cases				

a. 7 cells (58.3%) have expected count less than 5. The minimum expected count is .03.

b. Based on 10000 sampled tables with starting seed 2000000.

c. The standardized statistic is 1.673.

Symmetric Measures

		Value	Approximate Significance	Monte Carlo Significance Significance	99% ... Lower Bound
Nominal by Nominal	Phi	.272	.042	.088[c]	.081
	Cramer's V	.193	.042	.088[c]	.081
N of Valid Cases		176			

Symmetric Measures

		Monte Carlo ... 99% ... Upper Bound
Nominal by Nominal	Phi	.095
	Cramer's V	.095
N of Valid Cases		

c. Based on 10000 sampled tables with starting seed 2000000.

B. Level of Education ordered x Age at founding ordered

Case Processing Summary

	Cases Valid N	Valid Percent	Missing N	Missing Percent	Total N	Total Percent
Level of Education ordered * Age at founding ordered	176	89.8%	20	10.2%	196	100.0%

Level of Education ordered * Age at founding ordered Crosstabulation

			Age at founding ...	
			Under 30	30 - 39
Level of Education ordered	No higher Education	Count	3	3
		Expected Count	1.7	2.8
		% within Level of Education ordered	50.0%	50.0%
	bachelor	Count	4	9
		Expected Count	4.5	7.5
		% within Level of Education ordered	25.0%	56.3%
	Master	Count	39	60
		Expected Count	37.2	61.8
		% within Level of Education ordered	29.8%	45.8%
	PhD/Doctorate	Count	4	11
		Expected Count	6.5	10.8
		% within Level of Education ordered	17.4%	47.8%
Total		Count	50	83
		Expected Count	50.0	83.0
		% within Level of Education ordered	28.4%	47.2%

Level of Education ordered * Age at founding ordered Crosstabulation

			Age at founding ...	
			40 - 49	50+
Level of Education ordered	No higher Education	Count	0	0
		Expected Count	1.2	.3
		% within Level of Education ordered	0.0%	0.0%
	bachelor	Count	2	1
		Expected Count	3.2	.7
		% within Level of Education ordered	12.5%	6.3%
	Master	Count	28	4
		Expected Count	26.1	6.0
		% within Level of Education ordered	21.4%	3.1%
	PhD/Doctorate	Count	5	3
		Expected Count	4.6	1.0
		% within Level of Education ordered	21.7%	13.0%
Total		Count	35	8
		Expected Count	35.0	8.0
		% within Level of Education ordered	19.9%	4.5%

Level of Education ordered * Age at founding ordered Crosstabulation

			Total
Level of Education ordered	No higher Education	Count	6
		Expected Count	6.0
		% within Level of Education ordered	100.0%
	bachelor	Count	16
		Expected Count	16.0
		% within Level of Education ordered	100.0%
	Master	Count	131
		Expected Count	131.0
		% within Level of Education ordered	100.0%
	PhD/Doctorate	Count	23
		Expected Count	23.0
		% within Level of Education ordered	100.0%
Total		Count	176
		Expected Count	176.0
		% within Level of Education ordered	100.0%

Chi-Square Tests

				Monte Carlo Sig. (2-sided)	
	Value	df	Asymptotic Significance (2-sided)	Significance	99% ... Lower Bound
Pearson Chi-Square	8.951[a]	9	.442	.430[b]	.417
Likelihood Ratio	9.276	9	.412	.500[b]	.487
Fisher-Freeman-Halton Exact Test	8.147			.454[b]	.441
Linear-by-Linear Association	4.039[c]	1	.044	.041[b]	.036
N of Valid Cases	176				

Chi-Square Tests

	Monte Carlo ...	Monte Carlo Sig. (1-sided)		
	99% ...		99% Confidence Interval	
	Upper Bound	Significance	Lower Bound	Upper Bound
Pearson Chi-Square	.443			
Likelihood Ratio	.513			
Fisher-Freeman-Halton Exact Test	.467			
Linear-by-Linear Association	.046	.023[b]	.020	.027
N of Valid Cases				

a. 9 cells (56.3%) have expected count less than 5. The minimum expected count is .27.
b. Based on 10000 sampled tables with starting seed 334431365.
c. The standardized statistic is 2.010.

Symmetric Measures

		Value	Approximate Significance	Monte Carlo Significance	
				Significance	99% ... Lower Bound
Nominal by Nominal	Phi	.226	.442	.430[c]	.417
	Cramer's V	.130	.442	.430[c]	.417
N of Valid Cases		176			

Symmetric Measures

		Monte Carlo ... 99% ... Upper Bound
Nominal by Nominal	Phi	.443
	Cramer's V	.443
N of Valid Cases		

c. Based on 10000 sampled tables with starting seed 334431365.

C. Type of Institution x Gender

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Type_of_Institution * Gender	196	100.0%	0	0.0%	196	100.0%

Type_of_Institution * Gender Crosstabulation

			Gender	
			Unknown	Male
Type_of_Institution	No HE	Count	0	6
		Expected Count	.0	5.6
		% within Type_of_Institutio	0.0%	100.0%
	University	Count	1	97
		Expected Count	.5	98.6
		% within Type_of_Institutio	1.0%	92.4%
	University College	Count	0	28
		Expected Count	.1	27.2
		% within Type_of_Institutio	0.0%	96.6%
	Business School	Count	0	7
		Expected Count	.0	6.6
		% within Type_of_Institutio	0.0%	100.0%
	Foreign	Count	0	29
		Expected Count	.2	29.1
		% within Type_of_Institutio	0.0%	93.5%
	Unknown	Count	0	17
		Expected Count	.1	16.9
		% within Type_of_Institutio	0.0%	94.4%
Total		Count	1	184
		Expected Count	1.0	184.0
		% within Type_of_Institutio	0.5%	93.9%

Type_of_Institution * Gender Crosstabulation

			Gender Female	Total
Type_of_Institution	No HE	Count	0	6
		Expected Count	.3	6.0
		% within Type_of_Institutio	0.0%	100.0%
	University	Count	7	105
		Expected Count	5.9	105.0
		% within Type_of_Institutio	6.7%	100.0%
	University College	Count	1	29
		Expected Count	1.6	29.0
		% within Type_of_Institutio	3.4%	100.0%
	Business School	Count	0	7
		Expected Count	.4	7.0
		% within Type_of_Institutio	0.0%	100.0%
	Foreign	Count	2	31
		Expected Count	1.7	31.0
		% within Type_of_Institutio	6.5%	100.0%
	Unknown	Count	1	18
		Expected Count	1.0	18.0
		% within Type_of_Institutio	5.6%	100.0%
Total		Count	11	196
		Expected Count	11.0	196.0
		% within Type_of_Institutio	5.6%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Monte Carlo Sig. (2-sided) Significance	99% ... Lower Bound
Pearson Chi-Square	2.185[a]	10	.995	.990[b]	.988
Likelihood Ratio	3.321	10	.973	.973[b]	.969
Fisher-Freeman-Halton Exact Test	6.436			1.000[b]	1.000
Linear-by-Linear Association	.019[c]	1	.889	.923[b]	.916
N of Valid Cases	196				

Chi-Square Tests

	Monte Carlo ... 99% ... Upper Bound	Monte Carlo Sig. (1-sided) Significance	99% Confidence Interval Lower Bound	Upper Bound
Pearson Chi-Square	.993			
Likelihood Ratio	.977			
Fisher-Freeman-Halton Exact Test	1.000			
Linear-by-Linear Association	.929	.474[b]	.461	.486
N of Valid Cases				

a. 11 cells (61.1%) have expected count less than 5. The minimum expected count is .03.
b. Based on 10000 sampled tables with starting seed 221623949.
c. The standardized statistic is .139.

Symmetric Measures

		Value	Approximate Significance	Monte Carlo Significance Significance	99% ... Lower Bound
Nominal by Nominal	Phi	.106	.995	.990[c]	.988
	Cramer's V	.075	.995	.990[c]	.988
N of Valid Cases		196			

Symmetric Measures

		Monte Carlo ... 99% ... Upper Bound
Nominal by Nominal	Phi	.993
	Cramer's V	.993
N of Valid Cases		

c. Based on 10000 sampled tables with starting seed 221623949.

D. Type of Institution x Age at founding ordered

Case Processing Summary

	Cases Valid N	Valid Percent	Missing N	Missing Percent	Total N	Total Percent
Type_of_Institution * Age at founding ordered	185	94.4%	11	5.6%	196	100.0%

Type_of_Institution * Age at founding ordered Crosstabulation

			Age at founding ...	
			Under 30	30 - 39
Type_of_Institution	No HE	Count	3	3
		Expected Count	1.6	2.8
		% within Type_of_Institutio	50.0%	50.0%
	University	Count	31	45
		Expected Count	28.4	48.2
		% within Type_of_Institutio	29.5%	42.9%
	University College	Count	7	15
		Expected Count	7.8	13.3
		% within Type_of_Institutio	24.1%	51.7%
	Business School	Count	2	5
		Expected Count	1.9	3.2
		% within Type_of_Institutio	28.6%	71.4%
	Foreign	Count	7	15
		Expected Count	8.4	14.2
		% within Type_of_Institutio	22.6%	48.4%
	Unknown	Count	0	2
		Expected Count	1.9	3.2
		% within Type_of_Institutio	0.0%	28.6%
Total		Count	50	85
		Expected Count	50.0	85.0
		% within Type_of_Institutio	27.0%	45.9%

Type_of_Institution * Age at founding ordered Crosstabulation

			Age at founding ...	
			40 - 49	50+
Type_of_Institution	No HE	Count	0	0
		Expected Count	1.3	.4
		% within Type_of_Institutio	0.0%	0.0%
	University	Count	23	6
		Expected Count	22.1	6.2
		% within Type_of_Institutio	21.9%	5.7%
	University College	Count	6	1
		Expected Count	6.1	1.7
		% within Type_of_Institutio	20.7%	3.4%
	Business School	Count	0	0
		Expected Count	1.5	.4
		% within Type_of_Institutio	0.0%	0.0%
	Foreign	Count	7	2
		Expected Count	6.5	1.8
		% within Type_of_Institutio	22.6%	6.5%
	Unknown	Count	3	2
		Expected Count	1.5	.4
		% within Type_of_Institutio	42.9%	28.6%
Total		Count	39	11
		Expected Count	39.0	11.0
		% within Type_of_Institutio	21.1%	5.9%

Type_of_Institution * Age at founding ordered Crosstabulation

			Total
Type_of_Institution	No HE	Count	6
		Expected Count	6.0
		% within Type_of_Institutio	100.0%
	University	Count	105
		Expected Count	105.0
		% within Type_of_Institutio	100.0%
	University College	Count	29
		Expected Count	29.0
		% within Type_of_Institutio	100.0%
	Business School	Count	7
		Expected Count	7.0
		% within Type_of_Institutio	100.0%
	Foreign	Count	31
		Expected Count	31.0
		% within Type_of_Institutio	100.0%
	Unknown	Count	7
		Expected Count	7.0
		% within Type_of_Institutio	100.0%
Total		Count	185
		Expected Count	185.0
		% within Type_of_Institutio	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Monte Carlo Sig. (2-sided) Significance	99% ... Lower Bound
Pearson Chi-Square	17.079[a]	15	.314	.310[b]	.298
Likelihood Ratio	18.951	15	.216	.301[b]	.289
Fisher-Freeman-Halton Exact Test	13.635			.464[b]	.451
Linear-by-Linear Association	4.082[c]	1	.043	.047[b]	.041
N of Valid Cases	185				

Chi-Square Tests

	Monte Carlo ... 99% ... Upper Bound	Monte Carlo Sig. (1-sided) Significance	99% Confidence Interval Lower Bound	Upper Bound
Pearson Chi-Square	.322			
Likelihood Ratio	.313			
Fisher-Freeman-Halton Exact Test	.477			
Linear-by-Linear Association	.052	.028[b]	.023	.032
N of Valid Cases				

a. 14 cells (58.3%) have expected count less than 5. The minimum expected count is .36.

b. Based on 10000 sampled tables with starting seed 1535910591.

c. The standardized statistic is 2.020.

Symmetric Measures

		Value	Approximate Significance	Monte Carlo Significance Significance	99% ... Lower Bound
Nominal by Nominal	Phi	.304	.314	.310[c]	.298
	Cramer's V	.175	.314	.310[c]	.298
N of Valid Cases		185			

Symmetric Measures

		Monte Carlo ... 99% ... Upper Bound
Nominal by Nominal	Phi	.322
	Cramer's V	.322
N of Valid Cases		

c. Based on 10000 sampled tables with starting seed 1535910591.

E. Job Sector x Sector of Scale-up

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Job sector * Sector_of_Scaleup	196	100.0%	0	0.0%	196	100.0%

Job sector * Sector_of_Scaleup Crosstabulation

			Sector_of_Scaleup	
			Agritech & Energy	Business Service
Job sector	Agritech & Energy	Count	6	1
		% within Sector_of_Scaleup	54.5%	2.9%
	Business Service	Count	1	20
		% within Sector_of_Scaleup	9.1%	58.8%
	Education	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Fintech & Financial Services	Count	1	2
		% within Sector_of_Scaleup	9.1%	5.9%
	Food & Consumer Goods	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Health & Life Sciences	Count	0	2
		% within Sector_of_Scaleup	0.0%	5.9%
	Industrial & Engineering	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Media	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Mobility	Count	0	1
		% within Sector_of_Scaleup	0.0%	2.9%
	NA	Count	1	3
		% within Sector_of_Scaleup	9.1%	8.8%
	Politic	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Technology & Software	Count	0	3
		% within Sector_of_Scaleup	0.0%	8.8%
	Unknown	Count	2	2
		% within Sector_of_Scaleup	18.2%	5.9%
Total		Count	11	34
		% within Sector_of_Scaleup	100.0%	100.0%

Job sector * Sector_of_Scaleup Crosstabulation

			Sector_of_Scaleup	
			Fintech & Financial Services	Food & Consumer Goods
Job sector	Agritech & Energy	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Business Service	Count	2	2
		% within Sector_of_Scaleup	22.2%	10.5%
	Education	Count	0	3
		% within Sector_of_Scaleup	0.0%	15.8%
	Fintech & Financial Services	Count	6	0
		% within Sector_of_Scaleup	66.7%	0.0%
	Food & Consumer Goods	Count	0	8
		% within Sector_of_Scaleup	0.0%	42.1%
	Health & Life Sciences	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Industrial & Engineering	Count	0	1
		% within Sector_of_Scaleup	0.0%	5.3%
	Media	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Mobility	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	NA	Count	0	1
		% within Sector_of_Scaleup	0.0%	5.3%
	Politic	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Technology & Software	Count	1	1
		% within Sector_of_Scaleup	11.1%	5.3%
	Unknown	Count	0	3
		% within Sector_of_Scaleup	0.0%	15.8%
Total		Count	9	19
		% within Sector_of_Scaleup	100.0%	100.0%

Job sector * Sector_of_Scaleup Crosstabulation

			Sector_of_Scaleup	
			Golf	Health & Life Sciences
Job sector	Agritech & Energy	Count	0	1
		% within Sector_of_Scaleup	0.0%	3.8%
	Business Service	Count	0	3
		% within Sector_of_Scaleup	0.0%	11.5%
	Education	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Fintech & Financial Services	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Food & Consumer Goods	Count	0	1
		% within Sector_of_Scaleup	0.0%	3.8%
	Health & Life Sciences	Count	0	12
		% within Sector_of_Scaleup	0.0%	46.2%
	Industrial & Engineering	Count	0	3
		% within Sector_of_Scaleup	0.0%	11.5%
	Media	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Mobility	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	NA	Count	0	3
		% within Sector_of_Scaleup	0.0%	11.5%
	Politic	Count	1	0
		% within Sector_of_Scaleup	100.0%	0.0%
	Technology & Software	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Unknown	Count	0	3
		% within Sector_of_Scaleup	0.0%	11.5%
Total		Count	1	26
		% within Sector_of_Scaleup	100.0%	100.0%

Job sector * Sector_of_Scaleup Crosstabulation

			Sector_of_Scaleup	
			Industrial & Engineering	Mobility
Job sector	Agritech & Energy	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Business Service	Count	1	1
		% within Sector_of_Scaleup	6.3%	25.0%
	Education	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Fintech & Financial Services	Count	1	0
		% within Sector_of_Scaleup	6.3%	0.0%
	Food & Consumer Goods	Count	0	3
		% within Sector_of_Scaleup	0.0%	75.0%
	Health & Life Sciences	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Industrial & Engineering	Count	5	0
		% within Sector_of_Scaleup	31.3%	0.0%
	Media	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Mobility	Count	2	0
		% within Sector_of_Scaleup	12.5%	0.0%
	NA	Count	2	0
		% within Sector_of_Scaleup	12.5%	0.0%
	Politic	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Technology & Software	Count	0	0
		% within Sector_of_Scaleup	0.0%	0.0%
	Unknown	Count	5	0
		% within Sector_of_Scaleup	31.3%	0.0%
Total		Count	16	4
		% within Sector_of_Scaleup	100.0%	100.0%

Job sector * Sector_of_Scaleup Crosstabulation

			Sector_of_Scale..	
			Technology & Software	Total
Job sector	Agritech & Energy	Count	2	10
		% within Sector_of_Scaleup	2.6%	5.1%
	Business Service	Count	16	46
		% within Sector_of_Scaleup	21.1%	23.5%
	Education	Count	0	3
		% within Sector_of_Scaleup	0.0%	1.5%
	Fintech & Financial Services	Count	2	12
		% within Sector_of_Scaleup	2.6%	6.1%
	Food & Consumer Goods	Count	1	13
		% within Sector_of_Scaleup	1.3%	6.6%
	Health & Life Sciences	Count	8	22
		% within Sector_of_Scaleup	10.5%	11.2%
	Industrial & Engineering	Count	3	12
		% within Sector_of_Scaleup	3.9%	6.1%
	Media	Count	1	1
		% within Sector_of_Scaleup	1.3%	0.5%
	Mobility	Count	0	3
		% within Sector_of_Scaleup	0.0%	1.5%
	NA	Count	8	18
		% within Sector_of_Scaleup	10.5%	9.2%
	Politic	Count	0	1
		% within Sector_of_Scaleup	0.0%	0.5%
	Technology & Software	Count	32	37
		% within Sector_of_Scaleup	42.1%	18.9%
	Unknown	Count	3	18
		% within Sector_of_Scaleup	3.9%	9.2%
Total		Count	76	196
		% within Sector_of_Scaleup	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	562.943[a]	96	<.001
Likelihood Ratio	254.011	96	<.001
N of Valid Cases	196		

a. 108 cells (92.3%) have expected count less than 5. The minimum expected count is .01.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	1.695	<.001
	Cramer's V	.599	<.001
N of Valid Cases		196	

Appendix 4: Multiple Component Analysis

A. Model Summary

Model Summary

Dimension	Cronbach's Alpha	Variance Accounted For: Total (Eigenvalue)	Inertia
1	.787	3.209	.401
2	.747	2.888	.361
Total		6.097	.762
Mean	.768[a]	3.049	.381

a. Mean Cronbach's Alpha is based on the mean Eigenvalue.

B. Tables

Age at founding ordered

Points: Coordinates

Category	Frequency	Centroid Coordinates: Dimension 1	Dimension 2
Under 30	50	.024	.482
30 - 39	85	.151	.212
40 - 49	39	.108	-.324
50+	11	-.121	-1.075
Missing	11		

Variable Principal Normalization.

FStudy_n

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
Agriculture	1	-5.037	3.599
Agronomy	1	-.084	.011
Architecture	1	-.464	.464
Art & archeology	1	-.226	-1.394
Business/Management/Economics	51	.384	.215
Communication	1	.022	-.556
Design	2	-.376	-.314
Electrician	2	-1.000	1.170
Engineering	37	.358	.221
Entrepreneurship	3	.404	.708
Finance	5	.562	.193
French Litterature and language	1	.634	.208
Health/ Life sciences	6	.057	-.901
Information / Computer Sciences	21	.440	.390
Law/ Politicial Sciences	12	.369	.060
Marketing	6	.399	.225
Mathematics	4	.060	-.552
Natural Science	9	.296	-.773
none	3	-3.701	3.884
None	1	-2.558	1.494
Psychology	1	.959	.567
Real estate	1	-4.776	3.630
Teacher	1	-.648	-.984
Unknown	25	-1.508	-1.880

Variable Principal Normalization.

Inst_n

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
No HE	6	-3.803	3.382
University	105	.309	-.020
University College	29	.154	.127
Business School	7	.334	.211
Foreign	31	.328	.241
Unknown	18	-1.896	-2.192

Variable Principal Normalization.

Prov_n

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
Abroad	4	.450	-.499
Brussels-Capital	72	.423	.296
Flanders	8	-1.010	-.534
Hainaut	18	-.254	-.584
Liège	26	-.967	-.633
Luxembourg	4	.523	-.024
Namur	11	-1.543	-.687
Walloon Brabant	53	.243	.206

Variable Principal Normalization.

Sector_n

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
Agritech & Energy	11	-1.051	-.364
Business Service	34	.268	.037
Fintech & Financial Services	9	.203	-.330
Food & Consumer Goods	19	-.618	-1.049
Health & Life Sciences	26	.021	-.838
Industrial & Engineering	16	-1.736	.340
Others	5	.310	-.150
Technology & Software	76	.401	.448

Variable Principal Normalization.

Gender2

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
1.00	1	-.349	.557
2.00	184	-.035	.003
3.00	11	-.072	-.893

Variable Principal Normalization.

EE2

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
1.00	173	-.123	-.124
2.00	23	.593	.556

Variable Principal Normalization.

LOE2

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2
1.00	6	-3.912	3.396
2.00	16	.015	.376
3.00	131	.319	.113
4.00	23	.431	-.300
Missing	20		

Variable Principal Normalization.

C. Correlation Transformed Variables

Correlations Transformed Variables

Dimension: 1

	Age at founding ordered	FStudy_n	Inst_n	Prov_n	Sector_n
Age at founding ordered[a]	1.000	.032	-.045	-.027	-.072
FStudy_n	.032	1.000	.830	.422	.397
Inst_n	-.045	.830	1.000	.328	.401
Prov_n	-.027	.422	.328	1.000	.469
Sector_n	-.072	.397	.401	.469	1.000
Gender2	-.028	-.018	-.038	-.023	.179
EE2	-.117	.172	.129	.165	.033
LOE2[a]	.014	.717	.597	.171	.246
Dimension	1	2	3	4	5
Eigenvalue	2.934	1.199	1.045	.951	.899

Correlations Transformed Variables

Dimension: 1

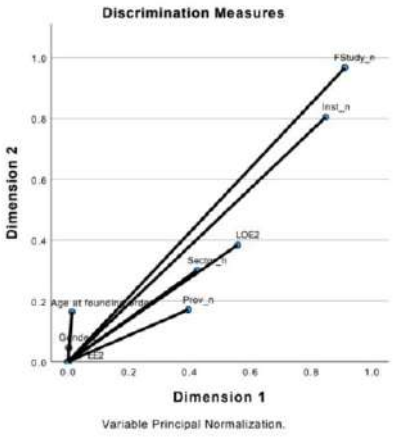
	Gender2	EE2	LOE2
Age at founding ordered[a]	-.028	-.117	.014
FStudy_n	-.018	.172	.717
Inst_n	-.038	.129	.597
Prov_n	-.023	.165	.171
Sector_n	.179	.033	.246
Gender2	1.000	.056	-.002
EE2	.056	1.000	.066
LOE2[a]	-.002	.066	1.000
Dimension	6	7	8
Eigenvalue	.463	.378	.131

a. Missing values were imputed with the mode of the quantified variable.

D. Discrimination Measures

Discrimination Measures

	Dimension 1	Dimension 2	Mean
Age at founding ordered	.013	.164	.089
FStudy_n	.912	.968	.940
Inst_n	.848	.805	.826
Prov_n	.396	.171	.284
Sector_n	.424	.300	.362
Gender2	.002	.046	.024
EE2	.055	.050	.052
LOE2	.558	.384	.471
Active Total	3.209	2.888	3.049



E. Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Object scores dimension 1	196	-5.04	.96	-.0386	1.04268
Object scores dimension 2	196	-2.77	3.98	-.0442	1.05181
Valid N (listwise)	196				

F. Cluster – Ward Linkage

Agglomeration Schedule

	Cluster Combined			Stage Cluster First Appears		
Stage	Cluster 1	Cluster 2	Coefficients	Cluster 1	Cluster 2	Next Stage
1	23	196	.000	0	0	71
2	79	169	.000	0	0	36
3	166	167	.000	0	0	4
4	144	166	.000	0	3	38
5	150	153	.000	0	0	84
6	151	152	.000	0	0	7
7	40	151	.000	0	6	19
8	147	148	.000	0	0	141
9	6	143	.000	0	0	57
10	124	126	.000	0	0	37
11	93	94	.000	0	0	146
12	73	77	.000	0	0	36
13	70	71	.000	0	0	97
14	65	69	.000	0	0	38
15	56	66	.000	0	0	79
16	5	62	.000	0	0	55
17	42	57	.000	0	0	45
18	48	49	.000	0	0	33
19	35	40	.000	0	7	21
20	38	39	.000	0	0	34
21	33	35	.000	0	19	22
22	32	33	.000	0	21	111
23	16	17	.000	0	0	37
24	7	9	.000	0	0	140
25	20	37	.000	0	0	32
26	107	114	.000	0	0	51
27	80	195	.000	0	0	76
28	31	170	.000	0	0	55
29	163	171	.000	0	0	68
30	72	74	.000	0	0	48
31	67	78	.000	0	0	75
32	20	138	.000	25	0	65
33	48	181	.000	18	0	73
34	30	38	.000	0	20	43
35	50	59	.000	0	0	77
36	73	79	.000	12	2	73
37	16	124	.000	23	10	94
38	65	144	.001	14	4	68
39	24	36	.001	0	0	69
40	99	101	.001	0	0	64
41	11	64	.001	0	0	85
42	85	87	.001	0	0	78
43	30	86	.002	34	0	85

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
44	28	53	.002	0	0	91
45	42	88	.002	17	0	94
46	117	149	.002	0	0	70
47	52	184	.003	0	0	75
48	58	72	.003	0	30	77
49	174	183	.004	0	0	63
50	61	194	.004	0	0	76
51	4	107	.005	0	26	145
52	34	120	.005	0	0	134
53	137	139	.006	0	0	79
54	76	179	.006	0	0	81
55	5	31	.007	16	28	69
56	90	95	.007	0	0	110
57	6	185	.008	9	0	98
58	26	173	.009	0	0	129
59	2	146	.009	0	0	112
60	119	145	.010	0	0	128
61	121	129	.011	0	0	106
62	25	46	.012	0	0	92
63	134	174	.013	0	49	96
64	43	99	.014	0	40	115
65	20	125	.015	32	0	101
66	128	165	.016	0	0	131
67	175	177	.017	0	0	116
68	65	163	.019	38	29	108
69	5	24	.020	55	39	124
70	68	117	.021	0	46	137
71	23	51	.022	1	0	104
72	135	141	.024	0	0	123
73	48	73	.025	33	36	98
74	47	189	.027	0	0	92
75	52	67	.028	47	31	90
76	61	80	.030	50	27	150
77	50	58	.032	35	48	138
78	85	180	.033	42	0	109
79	56	137	.035	15	53	101
80	136	172	.037	0	0	126
81	76	116	.039	54	0	96
82	75	115	.040	0	0	121
83	10	41	.042	0	0	188
84	111	150	.045	0	5	114
85	11	30	.048	41	43	111
86	91	100	.051	0	0	154

Agglomeration Schedule

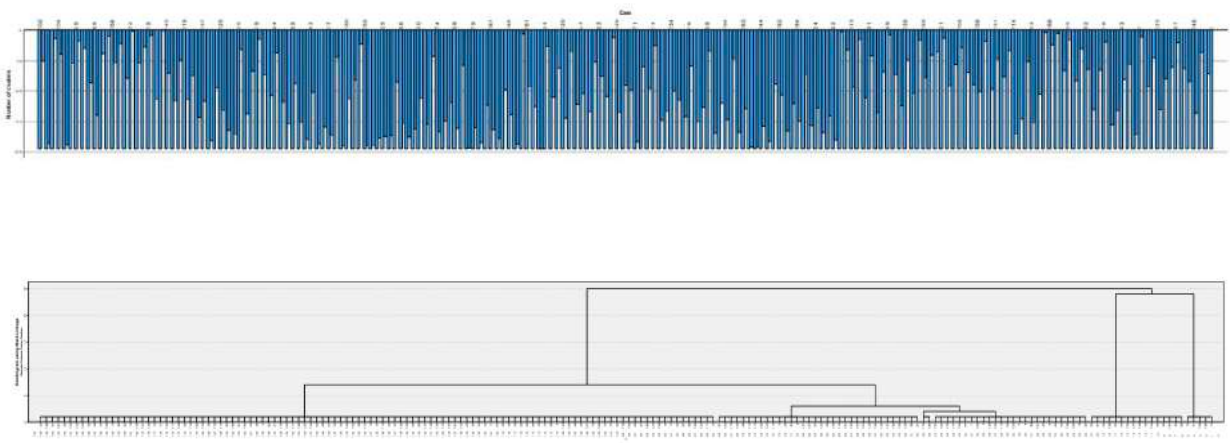
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
87	142	162	.054	0	0	134
88	13	82	.058	0	0	120
89	84	178	.061	0	0	122
90	52	182	.065	75	0	108
91	3	28	.069	0	44	145
92	25	47	.073	62	74	144
93	132	154	.077	0	0	148
94	16	42	.081	37	45	109
95	29	158	.085	0	0	107
96	76	134	.090	81	63	137
97	70	122	.094	13	0	106
98	6	48	.099	57	73	138
99	131	157	.103	0	0	149
100	14	130	.108	0	0	136
101	20	56	.113	65	79	121
102	112	113	.119	0	0	164
103	127	164	.125	0	0	151
104	23	161	.132	71	0	170
105	123	193	.140	0	0	139
106	70	121	.147	97	61	136
107	29	118	.156	95	0	127
108	52	65	.165	90	68	124
109	16	85	.174	94	78	152
110	90	187	.184	56	0	157
111	11	32	.193	85	22	153
112	2	190	.203	59	0	133
113	60	63	.213	0	0	166
114	12	111	.224	0	84	152
115	8	43	.235	0	64	140
116	109	175	.246	0	67	135
117	22	81	.257	0	0	174
118	106	159	.268	0	0	155
119	27	133	.279	0	0	149
120	13	83	.291	88	0	144
121	20	75	.304	101	82	147
122	84	192	.317	89	0	158
123	135	155	.330	72	0	148
124	5	52	.346	69	108	150
125	1	108	.362	0	0	159
126	136	140	.379	80	0	147
127	29	191	.397	107	0	168
128	89	119	.415	0	60	154
129	19	26	.434	0	58	165

Agglomeration Schedule

Stage	Cluster Combined Cluster 1	Cluster 2	Coefficients	Stage Cluster First Appears Cluster 1	Cluster 2	Next Stage
130	55	105	.454	0	0	180
131	18	128	.475	0	66	132
132	18	92	.497	131	0	166
133	2	110	.520	112	0	159
134	34	142	.543	52	87	161
135	97	109	.569	0	116	151
136	14	70	.594	100	106	171
137	68	76	.620	70	96	162
138	6	50	.647	98	77	153
139	103	123	.676	0	105	168
140	7	8	.704	24	115	176
141	45	147	.734	0	8	156
142	168	186	.765	0	0	169
143	54	156	.799	0	0	174
144	13	25	.832	120	92	161
145	3	4	.866	91	51	153
146	93	102	.902	11	0	183
147	20	136	.940	121	126	165
148	132	135	.979	93	123	179
149	27	131	1.019	119	99	153
150	5	61	1.061	124	76	162
151	97	127	1.109	135	103	175
152	12	16	1.158	114	109	158
153	6	11	1.210	138	111	173
154	89	91	1.263	128	86	181
155	98	106	1.317	0	118	160
156	45	104	1.394	141	0	178
157	44	90	1.472	0	110	167
158	12	84	1.557	152	122	173
159	1	2	1.642	125	133	175
160	21	98	1.738	0	155	179
161	13	34	1.838	144	134	170
162	5	68	1.940	150	137	171
163	3	27	2.046	145	149	177
164	112	160	2.152	102	0	181
165	19	20	2.264	129	147	182
166	18	60	2.380	132	113	176
167	44	96	2.506	157	0	178
168	29	103	2.643	127	139	177
169	15	168	2.782	0	142	188
170	13	23	2.935	161	104	185
171	5	14	3.104	162	136	185
172	176	188	3.306	0	0	191

Agglomeration Schedule

Stage	Cluster Combined Cluster 1	Cluster 2	Coefficients	Stage Cluster First Appears Cluster 1	Cluster 2	Next Stage
173	6	12	3.513	153	158	182
174	22	54	3.755	117	143	187
175	1	97	4.085	159	151	186
176	7	18	4.567	140	166	180
177	3	29	5.058	163	168	184
178	44	45	5.579	167	156	183
179	21	132	6.119	160	148	184
180	7	55	6.685	176	130	186
181	89	112	7.738	154	164	189
182	6	19	8.812	173	165	190
183	44	93	9.945	178	146	187
184	3	21	11.158	177	179	189
185	5	13	12.483	171	170	190
186	1	7	14.167	175	180	191
187	22	44	16.232	174	183	194
188	10	15	18.570	83	169	194
189	3	89	22.522	184	181	192
190	5	6	27.246	185	182	193
191	1	176	37.444	186	172	192
192	1	3	53.299	191	189	193
193	1	5	91.915	192	190	195
194	10	22	236.623	188	187	195
195	1	10	390.000	193	194	0



Appendix 5: Scale-up

A. EY Belgique – Scale-up de l'année (Before applying OECD standards and duplicates with Trends Tendance Gazelles)

Dog Chef	2024
Copains	2024
e-peas	2024
Soil Capital	2024
Vertuoza	2023
MyData-TRUST	2023
Trustup	2023
Woolclap	2023
Aerospacelab	2022
AppTweak	2022
Cognivia	2022
EMAsphere	2022
Cowboy	2021
eFarmz	2021
Elysia	2021
Netaxis	2021
Urbantz	2021
Proxyclick	2020
BePark	2020
EyeD pharma	2020
La Niche	2020
Sortlist	2020

CluePoints	2019
Euro Nova	2019
ProUnity	2019
Qualifio	2019
NewPharma	2018
Aproplan	2018
Qover	2018
Skylane Optics	2018
Trasis	2017
Edebex	2017
Lasea	2017
RedPharma	2017
Riaktr	2016
Citius Engineering	2016
eRowz	2016
The Biotech Quality Group	2016
OncoDNA	2015
Domobios (Acar'up)	2015
MyMicroInvest	2015
Universem	2015
CEFALY Technology	2014
IntoPIX	2014
ORA	2014
UNITEQ	2014
Odoo	2013

B. Trends Tendances Gazelles (After applying OECD standards)

Carconnex
Carbomat Group
Axone Pharma
nSilition
Duo Catering
High Security
Brain-e-log
N-Side
G-Line Construct
Idloom
ASDAEX
BELGATECH by Abylsen
Gevers
Phinest Consulting
Cream Consulting
87seconds
Stanley/Stella
Bio Vrac
Manhattn's
Collibra
Interbio
Paysans-Artisans
Oniryx
La Toto qui roule
Akxio IT
AE Valves
Naxhelet
Wikipower
Afelio
ADS H24
PMSweet
MULTI CLEVER TRADE
Belgium Peak Beer
5th floor Software
Viridaxis
iTeos Therapeutics
Pharmasimple
Human Supports Medical
Epics Therapeutics
Étude Lapraille & Associés
Avertim
Epco
eWon
Maisons Compère
Nalys
Zensor
EnergyVision
Multimedian
ZappTax

Armin Robotics
MachineSight
IDWeaver
RealDev
Batrageci SPRL
Auvray Vision
Energreen Solutions
Pareto
Sortlist
CluePoints
Qualifio
Trasis
Odoo