

Success factors of Start-up companies in the digital industry.

An empirical investigation of success factors in an international context within Spain.

Master Thesis

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Abstract

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The term start-up has become indispensable when new ideas are to be turned into business ventures. The number of start-ups is continuously increasing, but at the same time, many new start-ups are marked by failure. The successful path from start-up to a stable business model is to be explored in more detail in this thesis. The focus here is on the various success factors and how decisive they are.

At present, start-ups are mainly focusing on the area of digitalisation, not only triggered by the Covid19 pandemic but also by the high demand for digital products and services. In the past, start-ups founded in Silicon Valley/USA have been incredibly successful. Nevertheless, currently many other countries offer decisive advantages for start-ups and are therefore more attractive than the Silicon Valley. In Europe, Spain stands out with a rapidly growing start-up scene, primarily in the metropolises of Madrid and Barcelona.

This Master's thesis aims to empirically investigate the interrelationships of the necessary success factors in the start-up scene for the country of Spain. The focus of the study here is on the digitalisation industry. Qualitative content analysis is used for closer examination and is carried out through expert interviews. Qualitative research allows a much deeper insight into the interviewees' personal experiences and examines non-measurable factors. The subsequent evaluation is intended to present correlations and provide new insights. In summary, a list of recommendations is generated to provide future founders with suitable suggestions and advice right from the start.

Kurzreferat

Erfolgsfaktoren von Start-up-Unternehmen in der digitalen Industrie.

Eine empirische Untersuchung der Erfolgsfaktoren in einem internationalen Kontext innerhalb Spaniens.

Der Begriff Start-up ist nicht mehr wegzudenken, wenn neue Ideen in Unternehmensgründungen umgesetzt werden sollen. Die Anzahl der Start-ups nimmt kontinuierlich zu, gleichzeitig sind aber auch sehr viele neue Unternehmensgründungen vom Misserfolg geprägt. Der erfolgreiche Weg von der Unternehmensgründung hin zu einem stabilen Geschäftsmodell soll näher erforscht werden in dieser Arbeit. Der Fokus liegt hierbei auf den verschiedenen Erfolgsfaktoren und wie entscheidend diese sind.

Vor allem im Fokus liegen derzeit bei Unternehmensgründer der Bereich Digitalisierung, nicht nur ausgelöst durch die Covid19 Pandemie, sondern auch durch die große Nachfrage nach digitalen Produkten und Services. In der Vergangenheit konnten vor allem Start-ups, welche in im Silicon Valley/USA gegründet worden sind, sich besonders in Szene setzen. Gleichwohl gibt es derzeit sehr viele andere Länder, die entscheidende Vorteile für Start-ups bieten und dadurch sehr viel attraktiver sind als das Silicon Valley. In Europa sticht hier vorrangig Spanien hervor durch eine rasant anwachsende Start-ups Szene, primär in den Metropolen Madrid und Barcelona.

Diese Master Thesis soll die Zusammenhänge der notwendigen Erfolgsfaktoren in der Gründerszene für das Land Spanien empirisch untersuchen. Im Zentrum der Analyse stehen hier Unternehmen der Digitalisierung. Zur näheren Untersuchung wird die qualitative Inhaltsanalyse herangezogen und durch Experteninterviews durchgeführt. Die qualitative Forschung erlaubt einen weitaus tieferen Einblick in die persönlichen Erfahrungen der Befragten und beleuchtet auch nicht messbare Faktoren näher. Die anschließende Auswertung soll Zusammenhänge darstellen und neue Erkenntnisse liefern. Zusammenfassend wird eine Empfehlungsliste geniert, um zukünftigen Gründern von Anfang an die richtigen Anregungen und Ratschläge mitzugeben.

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List of Abbreviations and Symbols

AI	Artificial intelligence
COVID-19	'CO' stands for corona, 'VI' for a virus, and 'D' for disease in 2019
DESI	Digital Economy and Society Indexes
EDCI	European Digital City Index
FTE	Full-time equivalent
GDP	Gross domestic product
GEN	Global Entrepreneurship Network
LTE	Long Term Evolution
MNE	Multinational Enterprises
MVP	Minimum Viable Product
MWC	Mobile World Congress
PEST	Political, economic, socio-cultural and technological
SME	Small and medium-sized enterprises
SWOT	Strengths, weaknesses, opportunities and threats

1. Chapter of Introduction

1.1 Introduction

The potential of the start-up scene is rising to a higher level from year to year. It is essential to be on the front line when a new business opportunity or a new idea arises. Numerous companies in the globalized world with the highest turnover on the stock exchange are associated with the start-up business. Good examples of companies are Amazon, Facebook and Google. These companies have made the journey from a micro-enterprise or a start-up to an established global corporation.

Start-up companies are looking for new business opportunities and find them as the online business and the digital transformation continuously grows. In the recent past, the clear focus has been on the development of consumer applications, digitalisation of services and online e-commerce. Recently, the focus is more and more on business models by having access to market data (Big Data) and evaluating it to sell it to potential customers (Kollmann, 2006). Consumer analytics is at the epicentre of a Big Data revolution, and technology helps capture rich and plentiful data on consumer phenomena in real-time (Erevelles et al., 2016). In contrast, traditional companies with a long history trying to compete against start-ups under high pressure. Many of these companies are in a significant transformation phase to keep up with the rapid development. Still, other companies are trying to separate their traditional business from a segregated business in the form of start-ups. The number of start-ups that could be bought by large companies with a long history increases every month (Ramge, 2017). Large enterprises have pursued acquisitions to get quick access to technology, markets, and customers. This approach has always been a viable exit strategy for start-ups (Carbone, 2011). Thus, few very innovative global players can defend themselves against the start-up companies if they continue in their traditional business field. Innovation and digital disruption are the keys for successful companies and makes the difference to be competitive in future business (H. W. Chesbrough, 2003). Consumer behaviour constantly demands innovative products and services. This demand is mainly satisfied by new upcoming start-ups.

1.2 Motivation

I have already made several career steps in my professional career and have worked in various companies and countries. My experience in corporate culture and cooperation within companies is very wide-ranging. However, I have always had the dream of changing things and tackling them in my own way. In order to step into self-employment in the future, I would like to explore the opportunities in the digital market more deeply and analyze the critical success factors for starting a business. My motivation is to: *"Learn from the best!"* To expand the research also on an international perspective, I would like to use the opportunity to incorporate my already gained professional and personal experiences in Spain. In my view, Spain is a very active country and can make good use of crises. These contexts interest me very much and I would like to create a recommendation for myself and other interested persons.

1.3 Objective of the study

The digital industry is experiencing remarkable growth in recent years due to various factors. New business ideas are constantly born and implemented by start-ups. The trend is a global phenomenon of start-ups, with some countries standing out in particular. There are various scientific and statistical studies on the countries with an exceptionally high start-up activity (see the following chapter on literature research). In Europe, Spain, with its two hubs Barcelona and Madrid, mainly attracts attention. Numerous studies are available on the success of companies in relation to specific sectors. In contrast, in the case of start-ups, there is very little material on success factors in relation to country and culture. The case of Spain in relation to high growth in start-ups is very little researched, particularly not concerning the digital sector. This scientific gap offers excellent potential for in-depth research in this Master Thesis.

This work deals with the perspective of Spain and its country-specific characteristics. It is not intended to be a comparison with certain other model regions, rather to underline solely the specific attributes of Spain.

1.4 Research question

The objective of this master thesis is to close the research gap and investigate the differences in this aspect in profound research. The research aims to understand the logic of being successful or the perceived success of companies and find similarities across international borders for the digitalisation industry in Spain.

Research Objectives

1. Investigate and define further the characteristics of a successful start-up in the digitalisation industry, based on culture, country infrastructure, and people in Spain?
2. What are the trials facing digitalisation start-ups in Spain in each process step of the hypothesis-driven entrepreneurship approach?
3. What are the general and/or additional requirements of being successful, or is the location the most crucial part for the Spanish-based start-ups?

1.5 Dependent and independent variables

The definition of the dependent and independent variables are fundamental to the formulation of hypotheses in the research question.

In the questions presented, the dependent variable is the success of the companies. The basic notion of success must be discussed in more detail and defined in a framework. The independent variables are all influencing factors, internal, external and especially the country-specific factors of Spain. An isolated consideration without interference from other effects must be guaranteed by a precise classification.

1.6 Structure

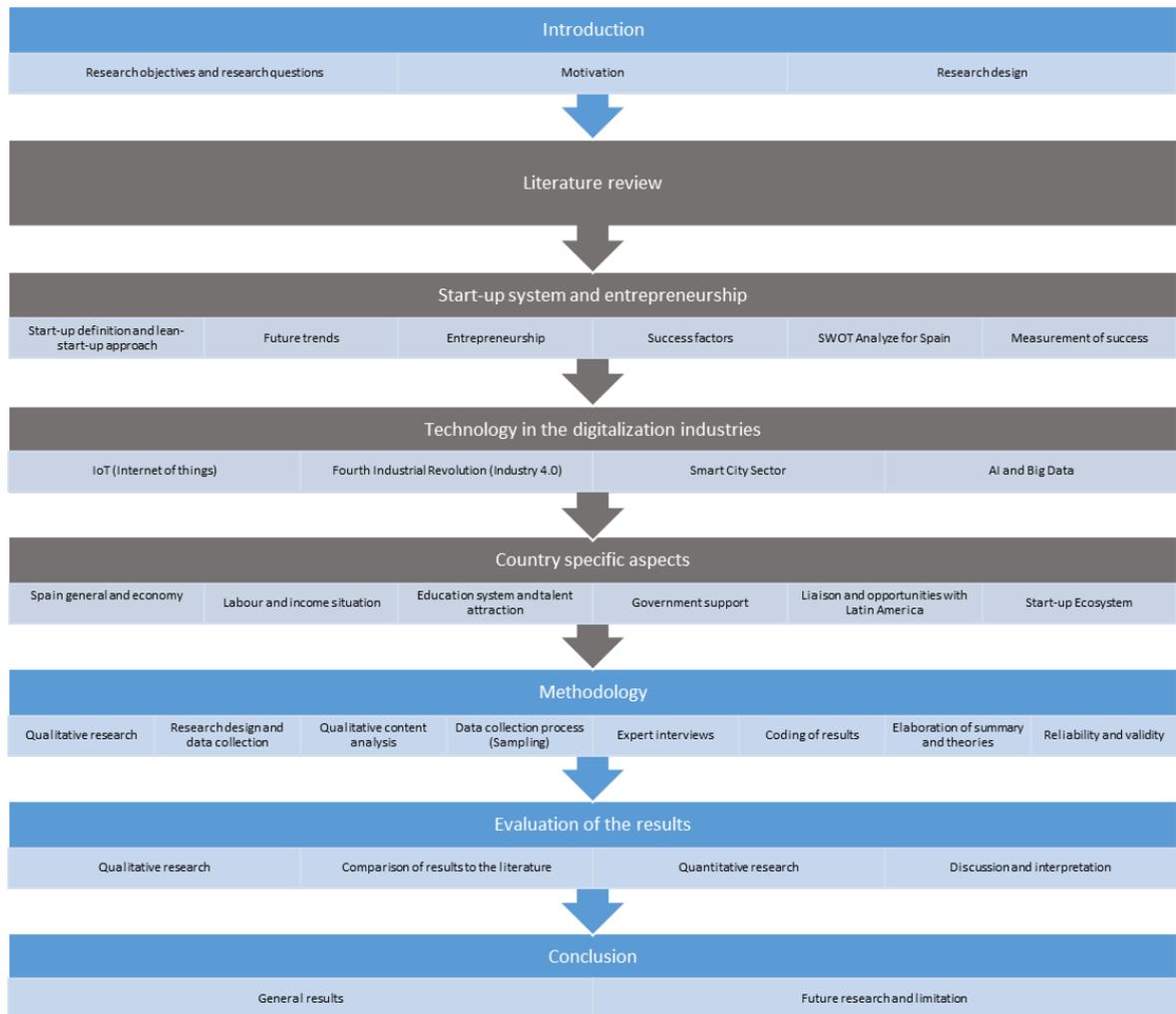


Figure 1 Structure of the master thesis

Source: Self-creation, Hehle, 2021

2. Literature Research

2.1 Start-up system and entrepreneurship

2.1.1 Definition of start-up and the lean method

The term start-up can be described in a few words: New, active and independent (Luger & Koo, 2005). Other researchers and experts go even more profound and limit the definition even more. Kim and Mauborgne (2005) recommend focusing only on start-ups in markets that do not yet exist and which should be entered with the entrepreneurial spirit of a start-up (W. C. Kim & Mauborgne, 2009).

In general, start-ups are limited in terms of resources and time in the beginning. Therefore, not all new companies survive the crucial first few years until they are profitable. In the past, the path of start-ups was described by having an innovative idea and transforming that idea by developing new products or services.

Some other authors see the definition even more radical and describe the performance as one of the key factors:

“The effectiveness of a startup’s initial operations and its success depends on the idea of a product, its quick creation, checking response of the potential target group, measuring quality, drawing conclusions to streamline the product, and transition into the next development phase” (Skawińska & Zalewski, 2020).

Other authors describe start-ups as companies that differ in the following characteristics (*The Global Startup Ecosystem Report, 2020*). It is important that the characteristics always occur together because individual characteristics are also present in traditional companies:

- Creativity
- Innovation
- Own research and development of current topics
- Mature business model, which is designed for rapid growth

Start-up market

The start-up market continues to grow every year and currently reaches dimensions equivalent to the GDP of an entire national economy. Furthermore, this market is driven by investment firms that invest heavily in this industry. In 2019, the total start-up market was equivalent to more than 3 trillion US dollars, with an estimated 300 billion in investment by external investors. (*The Global Startup Ecosystem Report, 2020*)

Foundation of company

One of the essential aspects of the start-ups is the foundation and the associated founding phase. This phase is associated with a vast number of tasks and the target of establishing and growing the company as quickly as possible. The growth factor is crucial for future investors. Of course, this phase is also marked by many problems and uncertainties for the founders. In particular, the high stress factor with simultaneous financial pressure gets to

impact the founders heavily. The workload is very challenging primarily due to the development of new products. It is valued that more than 50% of start-ups fail in the first six years (Fritsch, 2019, p. 122). The question here is what leads to the fragility of failure. Probably the most significant difference to traditional businesses is the initial lack of productivity of small businesses. In particular, the fixed costs are very high and can lead by the initially also very high e.g. production costs of small series very fast to a collapse, if the enterprises are not financially firmly set up. The classic size factor is essential here. The larger the number of units that can be achieved, the better it is for the companies to share the fixed costs. This in turn increases the pressure to grow quickly and to transition the start-up phase into a stable entrepreneurial phase.

Peripheral products and Blue Ocean strategy

The majority of start-ups try to concentrate on specific marginal areas of products or services at the beginning of their career. This market entry allows them to participate directly in that particular business from the beginning and generate revenue. The lean start-up focuses on the piece-by-piece sampling of products and their specifications to meet exact customer demand (Rasmussen & Tanev, 2015, p. 16). The main focus is on the pace of development of a specific product. Traditional companies with traditional product marketing go the other way. They try to expand their market dominance through market share and internal development or open up new markets through new developments. In this case, speed plays less of a role; rather, the focus is on profit and revenue generation.

There is a specific description in the literature for the marginal product markets: Blue Oceans. These "oceans" are so-called as yet undefined environments and partly completely unexplored from the product or sales perspective. In most cases, these blue oceans are bordering directly to the so-called: "Red Oceans", which are to be understood as existing markets (W. C. Kim & Mauborgne, 2009). These markets can only be conquered by taking over market shares from other competing companies. This is very difficult, because it can only be done by price or by an outstanding product.

As a result, companies that continue to strive for steady growth have to enter the blue ocean to enter new territories. Especially start-ups go directly into these markets, as the competitive situation is more simple. Consequently, start-ups initially focus on niche markets and unique customized products in order to assert themselves.

The covid-19 crisis effects

The global pandemic triggered by the Covid-19 virus also had a significant impact on start-ups to a certain extent. As a result of the loss of turnover and the failure to sell products, many entrepreneurs had to react quickly and reduce fixed costs. Spain implemented a comprehensive short-time work model during the crisis, which nevertheless could not secure all jobs.

The impact in numbers is as follows: 60% of companies have laid off employees or cut salaries. At the same time, start-ups that cut full-time positions have seen an average of 33% of jobs eliminated. The figure 2 is showing the trend of layoffs during spring 2020 on a global level. (*The Global Startup Ecosystem Report, 2020, p. 21*)

The Covid-19 crisis was mainly characterized by: Reduction of salaries and crisis-related layoffs. These short-term effects have a high potential in the end if the markets do not recover quickly. At the same time, in contrast, the Covid-19 crisis has unleashed a huge momentum in terms of the speed of digital transformation in many sectors. Online calls have become indispensable, and interconnected cloud computing has taken hold very quickly. This crisis-driven support has great potential to expand further and has quickly established itself in almost all sectors.

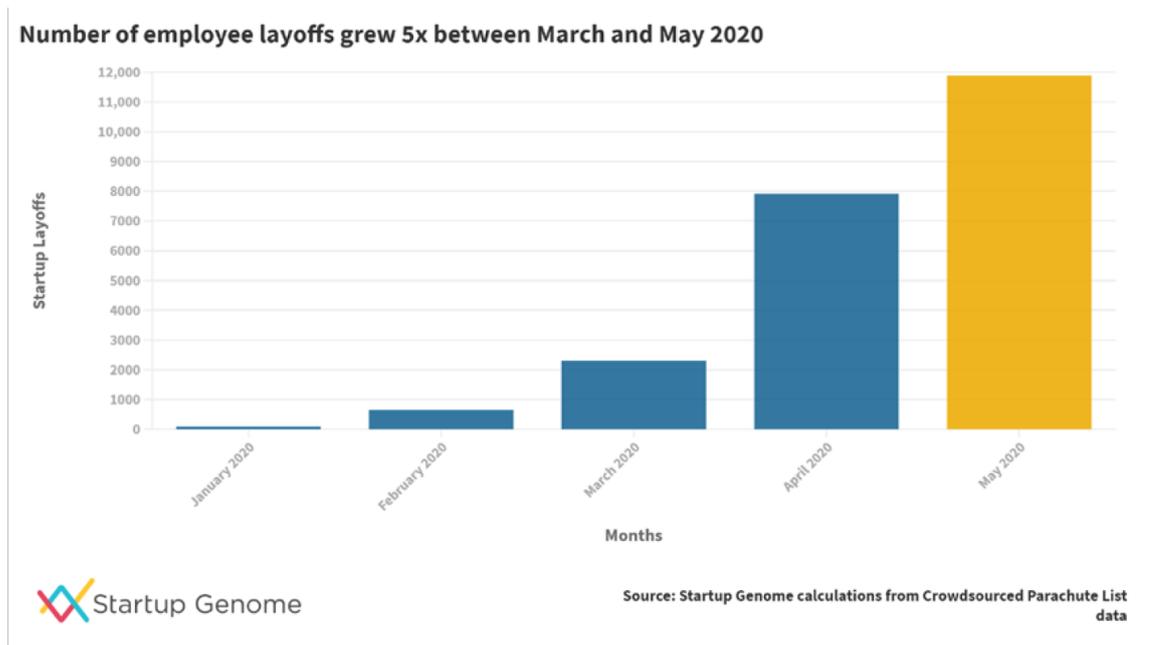


Figure 2 Employee layoffs

Source: Start-up genome, 2020

Lean start-up approach

The founding of a start-up and the realization of a product idea entails a major risk for the founders. As mentioned in the chapters above, start-ups not only follow a different business model, their development and validation plans with a different approach. The lean start-up process can be very supportive in this respect and can more precisely question and scrutinize the customer's needs (Soltanifar et al., 2021).

In this way, any incorrect developments are recognized at an early stage, and costs can be minimized.

Recently, a high number of start-ups trying to follow the lean start-up standard approach. Entrepreneurs in these companies translate their vision into falsifiable business model hypotheses and then test the hypotheses against a set of fictive prototypes, each of which represents the smallest set of characteristics/activities required for rigorous validation of a concept (Ries, 2011a) see figure 3.

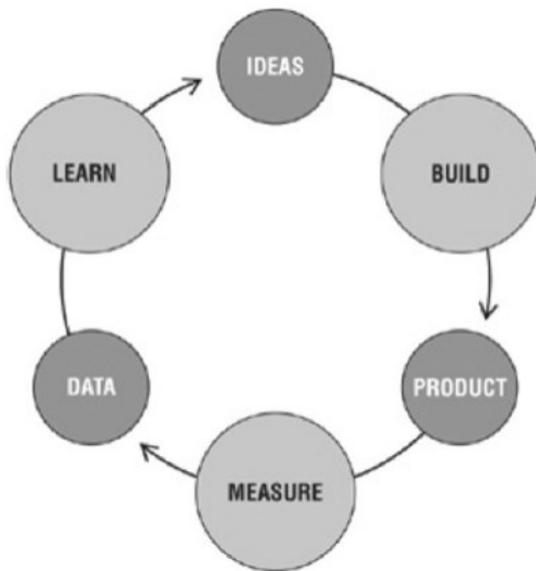


Figure 3 Build-measure-learn feedback loop 1

Source: Ries, 2011

In order to better and more accurately illustrate the differences between so-called traditional companies and start-ups, it is essential to take a closer look at the various comparison possibilities within the companies. What is striking at first glance in figure 4 is that there are significant differences between the two company models in all categories. Consequently, it appears that the approach to product and market development is based on different ways, in many cases the Lean Start-up method.

Comparative Category	Lean Startups	Born-Global Firms
Type of firm	Technology startups	Small and medium-sized enterprises
Target market	New niche markets	Preexisting niche market
Product commercialization strategy	Technology adoption lifecycle model / Crossing the chasm to address first new market niche	Global marketing approach focusing on market entry strategies
Product development focus	New product development / Prototyping / Experimentation / Agile development	Innovative products / Technology excellence
Business model	Business model emergence	Business model development / Adoption
Entrepreneurship approach	Hypothesis-driven entrepreneurship	Exploring the value of effectual entrepreneurship but focusing on causal, goal-driven internationalization strategies
Overall temporal perspective of key business attributes	Ex ante	Ex post

Figure 4 Comparison of lean start-ups and born-global firms

Source: Rasmussen & Tanev, 2015

The most significant difference from regular product development is the creation of a valid prototype model. The prototype can possibly be thought of as the most straightforward option imaginable. As an example of a new website, the paper draft can already be used as a prototype and tested through real customer experience. These prototypes are called "Minimum Viable Product" (MVP). The focus here is on using as few resources as possible and being able to test directly on the market as quickly as possible (Ries, 2011a). This cycle with MVP usually happens in several rounds in order to adapt the product step by step precisely to the requirements. Figure 5 illustrates this very clearly, as even radical changes to the initial requirements for the product are completely changed in the lean start-up process.

The primary emphasis is on effective ideation and continuous enhancement of the solution. This is only possible by actively approaching customers and constantly modifying the products. The ultimate decisive success in business is significantly higher through this method, however, as special niche products, in particular, require a very high level of customer adaptation (Frederiksen & Brem, 2017, p. 182). The fastest possible market maturity is the decisive point for start-ups.

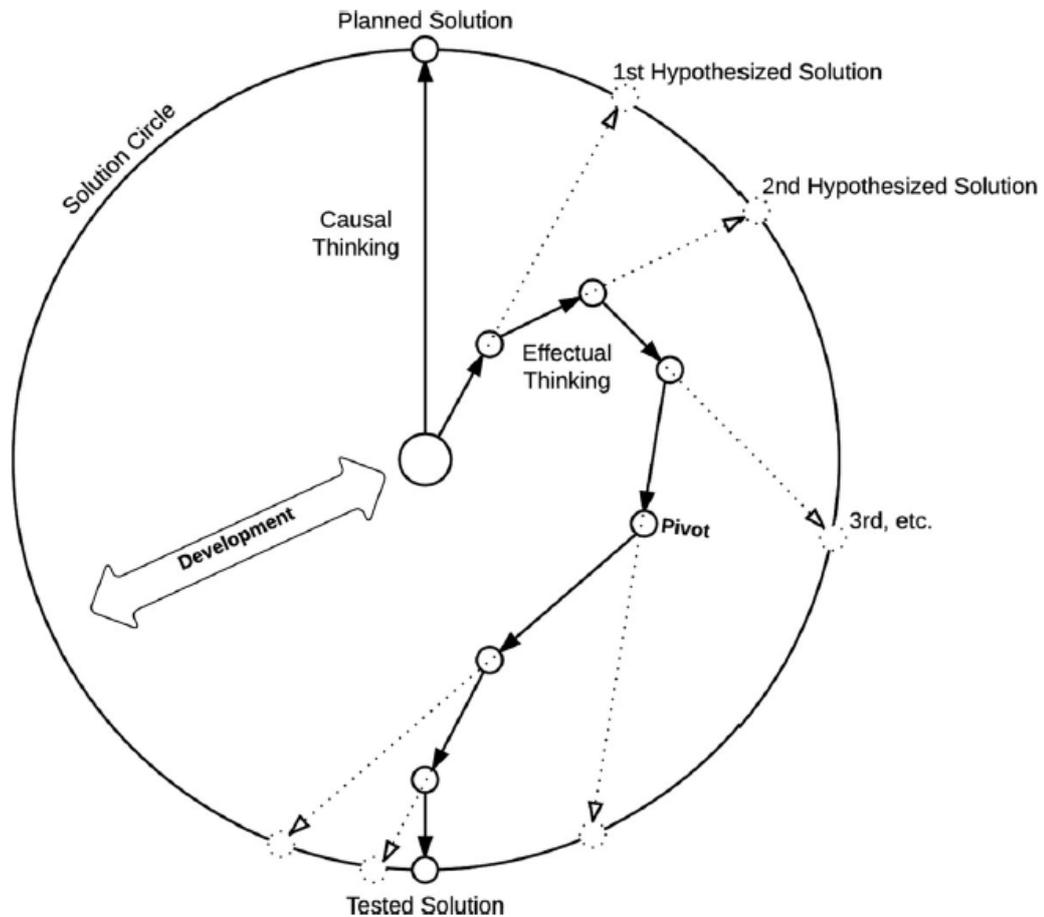


Figure 5 Solution circle

Source: Frederiksen & Brem, 2017

The entire process is very accurately illustrated in figure 5 and forms a continuous loop like a circle. This circle is executed until the objective, a certain level of maturity in the product or service, has been fulfilled. This agile process includes not only the product itself also the applicable business model and the monetisation of the business in terms of revenue.

The validated result is called "product-market fit" (Mansoori, 2017). The figure 6 describes the entire Lean Start-up as a flowchart. It illustrates well the product validation process, which is central and circular to the core of the method.

The key point is depicted at the end of the chart. The realization that a hypothesis does not have the required potential is a crucial insight. This statement helps in many cases and generally says: "Where are no customers, there is also no market".

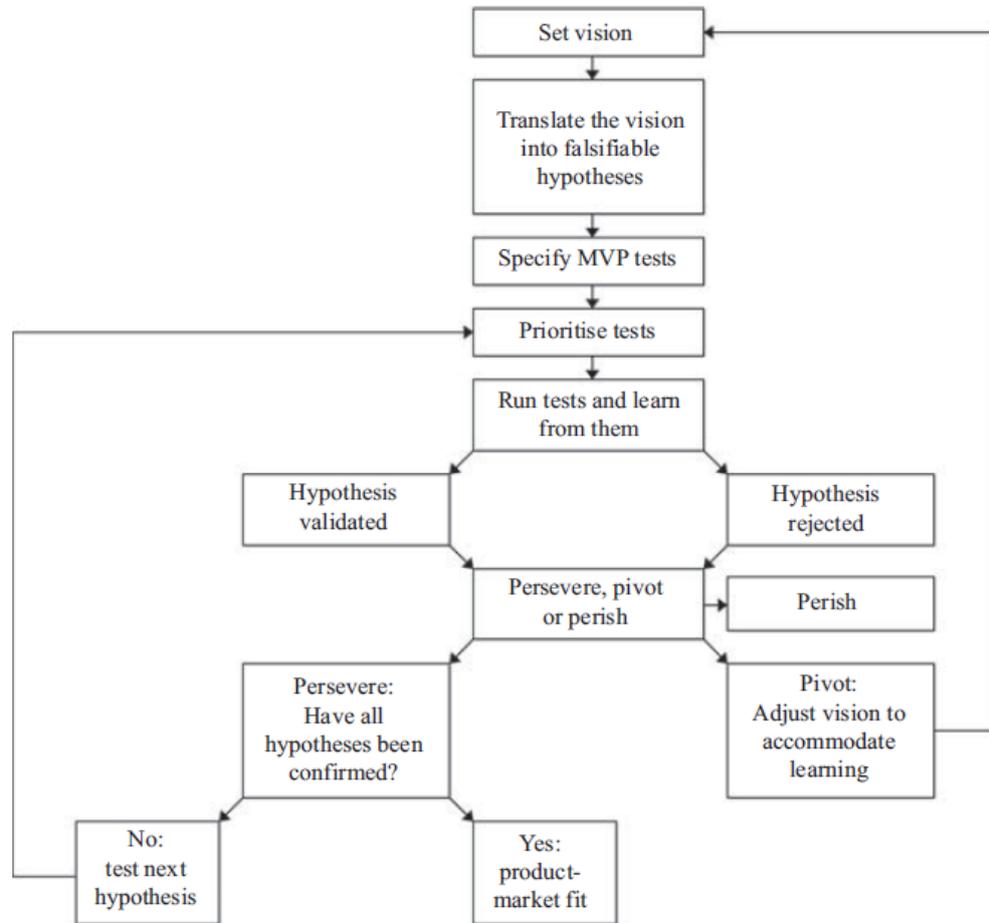


Figure 6 Flowchart of Lean start-up method

Source: Mansoori, 2017

2.1.2 Future trends

Future ideas can most easily be derived from the current changes in the market environment and consumer behaviour.

To research more precise these future trends, the so-called Futurology research can be applied. The Futurology study forecasts future developments in the social sciences (O'Toole, 2017). In my current working position as a project manager for innovative products in mechanical engineering, I am very much involved in these trends. The European based companies are under high competitive pressure from Asian competitor products. The price pressure for equivalent products is noticeable. In order to stand the competition or win market shares again, innovative products or business models are the essential points where to start. One of the current trends, both in general and in the industrial environment, is digitalisation and the associated technology of connectivity. When it becomes clear how and where we can use this technology efficiently, there will be enormous potential for increasing efficiency and for new business models (Gatterer, 2021).

In my industrial environment, we focus on the digitalisation of our products to differentiate ourselves from the market. The classic mechanical engineering attributes and the potential for improvement are abundantly exhausted at this point. The mechanical engineering area needs to differentiate from the market, especially in the following sectors (Gatterer, 2021):

- IoT (Internet of things)
- Fourth Industrial Revolution
- Smart City Sector

All three areas focus on networking with people and within the Internet to work at a maximum efficiency. Nevertheless, the areas differ significantly from the final user perspective.

The diverse future technologies are subject to constant change and partly coincide in their functions. Other authors explicitly pass on the requirements to companies and even call on them to use these technologies in their areas. In this context, the trend towards cloud computing is highlighted. Other important terms are (Valacich & Schneider, 2017):

- Mobile (cloud) computing
- Big Data

These terms are categorised mainly by the terminology of digitalisation. These days, digitalisation is present in all areas of daily life and has become indispensable in some cases. The fundamental prerequisite is the demand for it, usually associated with a customer benefit for the consumer.

This omnipresent digital world or the interconnection of devices in daily life is only possible due to the permanent development of computer technologies.

The enormous leaps in performance lie in computing power and also in the associated storage capacity. A big advance has been made from the 90s to the present day. What was accomplished by the most powerful computer at that time can now be done by a smartphone. It is expected that the computing power will double again in the next few years. This technological leap will continue in the coming years. (Granig et al., 2018)

2.1.3 Entrepreneurship

Definition

The concepts of entrepreneurship and start-up are frequently mentioned in the same breath. They are both inseparable since the appropriate entrepreneurship must be present for a company founding. The term stands above all for new and young entrepreneurs and their spirit. The terminology focuses on the entrepreneurial initiative, creativity, innovation and the taking of economic risks (Fritsch, 2019). In turn, other literature refers to the discipline term with proactivity, innovativeness and risk-taking as three standard dimensions of entrepreneurial behaviour (Soltanifar et al., 2021, p. 5). Entrepreneurship is not only a term used in relation to start-ups or the foundation of companies in general; it is also used in traditional companies as a driving force to move things and steer them in the right direction. The creation or further development of new ventures requires the right attitude to evaluate these opportunities correctly and consequently to take advantage of them by taking risks.

According to Fritsch, 2019, entrepreneurship stands for special characteristics of people and their actions through the following skills:

- Alertness and opportunity recognition
- Creativity
- Initiative and willingness to create
- Introduction of new ideas
- Striving for self-fulfilment
- Taking responsibility for one's own actions
- Ability and desire to assert oneself
- Readiness to take risks (Fritsch, 2019, p. 8).

Digital Innovation and Entrepreneurship

The term innovation is always associated with entrepreneurship. Digital innovation implies integrating technology into daily life and all its embedded challenges (Soltanifar et al., 2021, p. 9). The assignment is to find and analyse the potential gaps. This requires the right incentive, especially in the area of digitalisation, to achieve entrepreneurial success. Entrepreneurial behaviour is characterised by change and the willingness to change. Without this willingness, no new ideas and no progress will be realized (Soltanifar et al., 2021, p. 28). In conclusion, the entrepreneurial spirit is exemplified by the desire for transformation and the implementation of creative and new ideas. This shift is facilitated by digitalisation on a broad scale.

The author Frisch, 2019 explains that founding a start-up requires a high degree of willingness and is basically an experiment that is examined through a real test. It depends very intensely on the perception of an individual. In what manner can business ideas be identified at the appropriate and early-stage and how can these ideas be implemented. The entrepreneurial mindset is characterised in particular by the persistence and driving strength in the implementation of ideas. The absence of this core characteristic is a significant cause of weak growth or even the failure of a start-up (Fritsch, 2019, p. 17). Correspondingly, the entrepreneurial spirit must be enthusiasm for new technologies and the satisfaction of testing them out. It is only through enthusiasm for their own ideas themselves that the implementation process has no limits.

Founder person attitude

The founder person is, by definition, at the centre of the foundation of a new company. The substantial development of the organisation relies on this particular person and their entrepreneurship attitude. The start-up passes through several processes during the evolution of the company. During the foundation phase, a huge demand is placed on the founder, and a high-stress level rests on the person. Self-confidence and persistence must be the essential prerequisites. In the initial phase, it is vital to ensure the basis of the product's success through innovative approaches. However, on the other hand, the company's financial situation must always be kept in mind. In the subsequent period, the

founder experiences new challenges and requires different important character traits. In the growth phase, it is important to expand one's networking to promote growth in all sectors. The founder must always be aware of the operative business because of a certain routine in the company. This requires the appropriate business management knowledge, or the entrepreneur must secure himself in this field by managing his employees. Entrepreneurs should be economically competent and socially skilled to get through the different phases of a start-up successfully. (Kollmann, 2006)

Most of these characteristics do not exist as a background for university or school graduates. These qualities have to be acquired. Knowledge building through employment in an SME is an excellent way to do this, as described by Soltanifar, 2021. Scientifically, former employees in an SME have a much higher founder probability than employees from large companies. In small enterprises, employees usually have to cover many activities and take on more responsibility for their area. It is rather unlikely that a person will start a business directly after school or university.

On the contrary, people gain their first experiences and then frequently there is a desire to found their own start-up. The reasons are very diverse and usually also on a personal level. (Soltanifar et al., 2021, p. 76)

Table 1 Success factors based on founders skills

Source: Fritsch, 2019, p. 132 (self-translation into English)

Overview 10.1 Hypotheses and empirical findings on the importance of the founder as a person for start-up success		
<i>Sphere of influence</i>	<i>Expression(s)</i>	<i>Empirical findings</i>
<i>Qualification of the founder</i>	Level of the highest educational qualification [+], subject-specific training [+], variety of knowledge [+], knowledge in the field of business administration/management [+].	Adequate education and training is a key variable for success. Diversity of knowledge tends to have a positive effect.
<i>Professional and industry experience</i>	Duration of professional activity (in general, in the industry concerned, in small businesses, in business management, experience as a founder) [+].	Industry experience has a strong positive influence. Management experience tends to have a positive effect.
<i>Employment status before the foundation</i>	In secure employment [+] vs. unemployed or threatened with unemployment [-].	Unemployed people are more likely to start smaller and less ambitious firms. When controlling for firm start-up characteristics, no lower survival probability for start-ups by the unemployed.
<i>Gender</i>	Male [+] vs. female [-]	Women are more likely to start smaller and less ambitious companies. When controlling for The results of the study show that the start-up characteristics of a company do not make it less likely that a company founded by women will survive.
<i>Personality traits</i>	Entrepreneurial personality profile [+], inclination to take risks [+].	Largely unexplained; indications of an optimal level of risk propensity.

<i>Attitude and motivation</i>	Success and growth-oriented [+]	Indications of positive effects; unclarified in detail.
<i>Migration background</i>	National vs. born abroad, nationality [?]	Unresolved. Often necessity foundations; depends on the country of origin, among other things.
<i>Availability of capital</i>	Amount of equity capital [+], real estate holdings [+], property [+].	Can lead to larger start-ups, which are generally more likely to survive.
<i>Integration into support networks</i>	Support from family, colleagues and friends [+]; contacts to counselling and financing institutions [+].	In particular, support from the life partner as well as from relatives and friends are conducive to success. Public funding rather insignificant.
<i>Notes: +: positive relationship expected; -: negative relationship expected; ? : expected direction of effect unclear</i>		

Summary

The entrepreneurial mindset and the will to succeed are prerequisites for setting up a business. According to Fritsch, 2019, a fundamental distinction should be made between two areas: The qualifications that can be learned and certain personality traits that must be possessed and can only partially be learned. Table 1 shows the direct relationship between founder characteristics and the resulting success factors.

Beyond that, Fritsch, 2019 refers to character traits of founders, such as a high degree of orientation, an openness to new experiences and, above all, conscientiousness. The fundamental characteristic for founders is the change, which naturally entails a great willingness to take risks and only succeeds through optimism and belief in oneself. (Fritsch, 2019, p. 62)

2.1.4 Success factors based on companies

Implementing ideas and new business models is the first step of new companies. On the other hand, the long-term survival of a company can only be ensured by its success. Success is not just based on having a single approach or having a great idea. Modelling the business is a crucial point in the first year of a company's existence. Henry Chesbrough, 2010 comes to the same conclusion by saying that technology as such has no value whatsoever. The economic value of technology remains latent for a long time until commercialize it in a certain way through a business model (H. Chesbrough, 2010).

A recently published study by the University of Zielona Góra focused on the success factors within the EU and the comparison between them. This study unified the factors into the following key factors:

1. Access to human capital
2. Quality and outcomes of institutions and business relations
3. Focus on the market situation
4. Business experience
5. Development potential (Skawińska & Zalewski, 2020).

However, many country-specific factors are not taken into account to allow an international comparison study. This missing component, country-specific factors and influences, must be discussed in more detail (Skawińska & Zalewski, 2020).

Therefore, the meaning of success as a general term is not precisely defined in the literature. There are various general ideas about how to assess success. A different approach is the more straightforward target approach to measure business success. It is based on the interests of the company's internal coalition, i.e. the owner, management and employees (Böing, 2001).

What hampers the prospects of success, especially in the start-up scene, is the extreme uncertainty with which start-ups are confronted in the early years (Ries, 2011b). As a result, the proportion of failed start-ups is relatively high, averaging over 50%, according to several studies (De, 2005).

Research on success factors based on previous studies

Different literature exists, particularly with the theoretical background of the master's thesis, which seeks different views on the success stories of start-ups. Beyond very wide-ranging studies on success factors, several studies on start-ups have also been conducted. These studies are strongly limited to individual factors or to specific branches. Still, there are overlaps within the evaluations:

First study: The researcher Julia Rohrer, 2018, focuses on the founder person and their attitude entrepreneurship behaviour. The five key factors based on these studies are:

1. The entrepreneurial person has a vision.
2. The entrepreneurial opportunity based on Intensive marketing research optimally adapted to the market and target group.
3. Resources included the founder person with a strong demeanour, great self-confidence, a treasure trove of human capital and an extensive network.
4. Organization set-up.
5. Environment for founders (Rohrer, 2018).

Second study: The investigated study is elaborated by the author Nikras Agha, 2017. The thesis is sharpening more details and uses the success factors like in the task process of setting up a start-up. The author created a framework based on six main factors and separated the internal from the external factors:

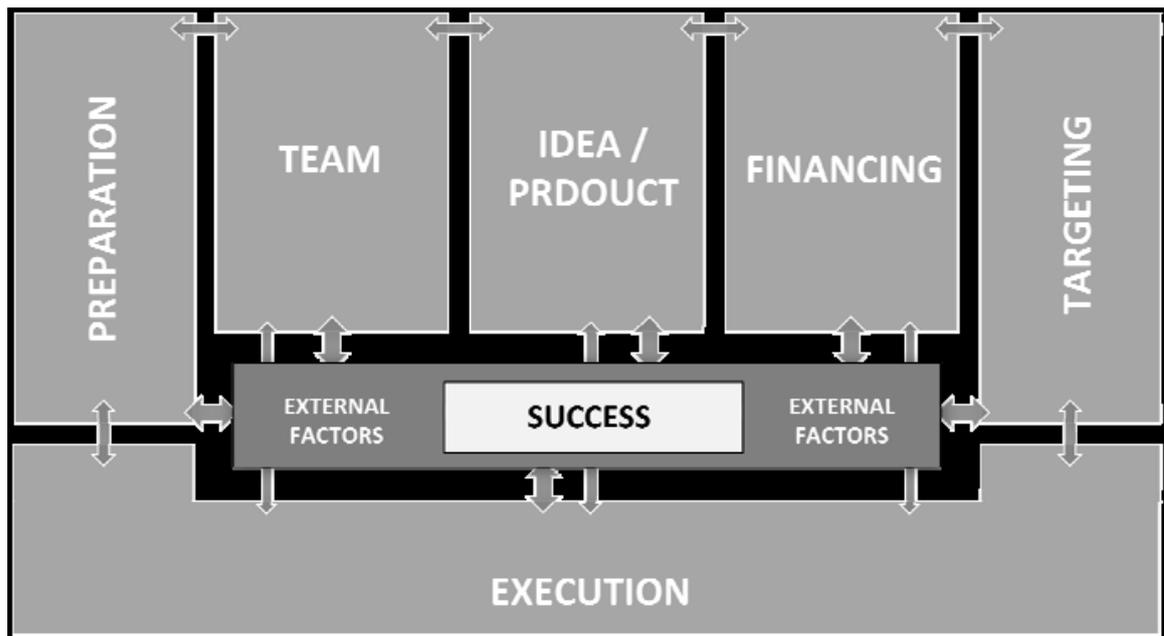


Figure 7 Abstracted Success Factor Model

Source: Agha, 2017

The study is similar in structure to the one mentioned above; only the industries and countries investigated differ. Principally, differences in factors can be found in Agha, 2017 in figure 7 and again listed here:

1. Preparation
2. Team
3. Idea / Product
4. Financing
5. Targeting
6. Execution

The execution of the start-up and the financing are the main differences between the first and the second studies. External factors, which are not described in detail, are also taken into account. (Agha, 2017)

Third study: The researcher Andreas Rusnjak, 2014 in his book: “Entrepreneurial Business Modeling”, comes to the following conclusions in the definition of success factors using the example of the digital and e-commerce industry:

1. Strategy, collaborations and alliances.
2. Analysis & benchmarking, customer focus & customer value.
3. Brand, technology and organization.
4. Usability.

5. Management and service orientation (Rusnjak, 2014).

This study, by contrast, is more centered on the topic of business modelling and places more emphasis on strategic topics than on practical product issues.

Summary: There are no classic success factors that can be assumed for different cases. Instead, it is always a mix of certain aspects which are decisive for the respective branch and form of organization to assert itself on the market. The deductive approach to the knowledge gained here is implemented in the interview questionnaire to have a corresponding professional basis for dialogue.

2.1.5 Marketing instrument: SWOT Analyze for Spain

General description: The Swot analysis deals with four points of considerations in a matrix representation to determine planning and positioning (figure 8). Within the four points are: **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats. In general, countries or companies can assess themselves better and define a strategy based on this: Strengths and Weaknesses are divided into points to which the company can or cannot build on and therefore have a positive or negative impact. Opportunities and threats are primarily external factors and trends with a limited influence. The Swot analysis helps to prepare this complex environment thoroughly. (Kotler et al., 2021)

The consequent strategic review of the four points requires a comprehensive understanding of all the factors included. The elements are compared with each other and evaluated towards which direction the company shall adopt (Wolf et al., 2019).



Figure 8 SWOT Analyze description

Source: Kotler, 2021

Spain country analysis: A comprehensive study for Spain would go further than the scope of this Master Thesis. Consequently, the vital generalizable aspects of Spain are addressed on the basis of existing literature. A related SWOT study, conducted by the author Thomas Bush, 2019, has the following findings in figure 9:

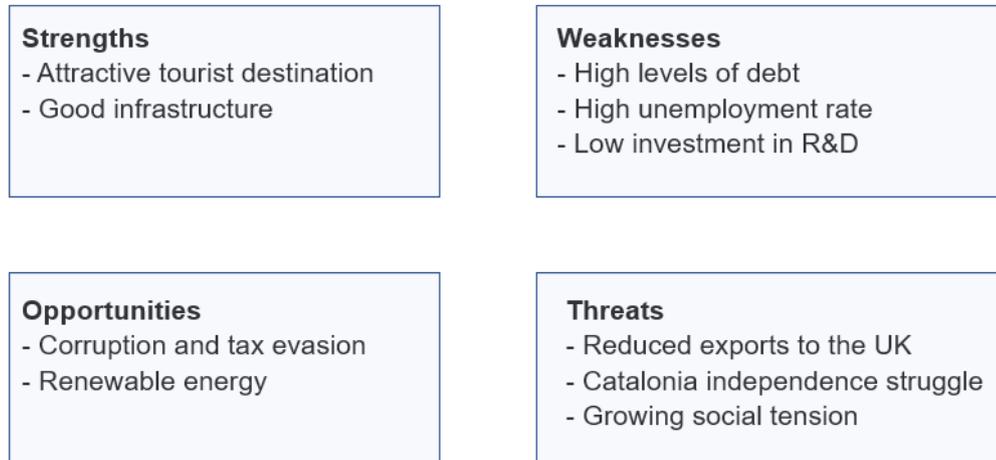


Figure 9 Country SWOT Analyze Spain

Source: Self-creation based on Bush, 2019

It is easy to see a pattern in the analysis of Spain. The technological advantages are not significantly visible. Spain is situated more in the area of tourism than in the area of technology and industry (Bush, 2019). Clearly, individual industries and also the generally good infrastructure distinguish as very opportunistic. Still, a clear recommendation cannot be derived from the results on a comprehensive basis. The individual aspects may only be discussed by further qualitative research methods.

2.1.6 Measurement of success

Different theories and opinions exist regarding the measurement of success. In principle, a distinction is made between objective and subjective variables, or financial and non-financial (Rohrer, 2018). Indeed, financial success in a company, such as revenue, profit and return on investment, is always in the foreground. In contrast, other variables such as employee satisfaction, market share, customer satisfaction and supplier satisfaction.

Customer and supplier satisfaction are parameters that are much more important for many people in the present day (Rusnjak, 2014). The long-term success of a company can only be guaranteed if these soft factors are also fulfilled. In the study by Julia Rohrer, 2018, the overall growth and survival of the company are the key metrics:

- The survival of the start-up company.
- The sales development of the start-up company.
- The employment development of the start-up company (Rohrer, 2018).

In summary, the success can be interpreted differently depending on the industry and environment and consequently must be evaluated with dissimilar metrics. Start-ups differ from other companies in terms of their innovative strength. The competitive advantage involved cannot be measured numerically, but it is an explicit guarantee of success (Skawińska & Zalewski, 2020). It is usually estimated in years of development advantage in tech companies to differentiate themselves from the competition.

2.2 Technology in the digitalisation industries

The start-up entrepreneurs and new businesses are active in a variety of sectors that promise change and growth. This study aims to highlight growth and change in the digital transformation. The industry describes this change as much more aggressive and therefore calls it disruption. This change makes current traditional companies obsolete and replaces them with digital models. A classic example is online banking, which eliminates the need to visit a banking branch. The former CISCO boss John Chambers assumes a reduction of 40% of today's companies through replacement by digitalisation (Granig et al., 2018, p. 85).

An Oxford University study goes even further, estimating that over 47% of all jobs will be replaced by computer technology in the next two decades (quoted by Zamora). Even so, business models must adapt to the digital industry in order to be profitable.

The significant advances in digital transformation are currently addressed in the computing industry and are setting completely new opportunities for value creation. The key concepts are always the same, such as AI, IoT, Big Data, and cloud computing.

This omnipresent change across all industries cannot be stopped and offers both opportunities and risks (Zamora, 2017, p. 15). The relevant current digital technologies are shown in figure 10 from Zamora, 2017.

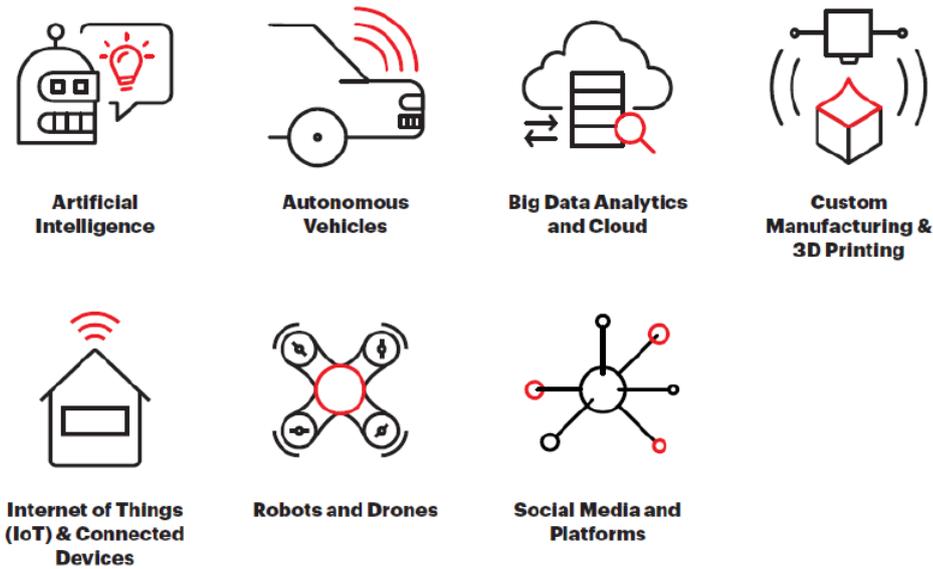


Figure 10 Technologies within the digital industry

Source: Zamora, 2017

Spain as a testing field

Spain is benefiting from a type of leadership role in digitalisation by hosting important trade fairs. The Mobile World Congress (MWC) is one of the largest trade fairs. The MWC is considered a vanguard in the field of mobile communications, and essential industry representatives use it to announce new technologies. Spain often gets the chance to test these technologies in practice as a prototype country, such as the 5G mobile technology.

In Spain, the trade fairs in the digital sector are very decisive, and the global corporations that invest in digitalisation within the country. The Spanish car manufacturer SEAT has a strong focus on the connected car sector and urban mobility within the Volkswagen group (SEAT, n.d.). The full integration of the internet and smartphones is to facilitate future car generations. In addition, Seat outsources the research for mobility solutions to an in-house start-up laboratory, which is located in the centre of Barcelona (Zamora, 2017, p. 73). The very attractive location of this lab, the Metropolis, not only attracts professionals but also permits a more substantial and closer collaboration with the city to develop realistic mobility models together.

This study deals with the leading future technologies found in Chapter 2.1.2 and relates them to Spanish business creation in digital industries like follows:

2.2.1 IoT (Internet of things)

Description

The Internet of things (IoT) describes a type of network to connect anything with the Internet, based on stipulated protocols through information sensing equipment's to conduct

information exchange and communications in order to achieve intelligent recognitions, positioning, tracing, monitoring, and administration (Patel et al., 2016).

This platform, which is comparable as an infrastructure, resides in millions of different new devices and enables maximum efficiency through total networking. The connectivity has become a feature of almost all consumer product categories today, including smart TVs, laptops, routers, home control, and many more. The technology advancement through total networking dated back to 1999 and emerged from the higher performance of the modern internet. Today's possibilities after more than 20 years are far more versatile because of the wireless LTE mobile technology. This technology allows all mobile devices to be connected as well (Berte, 2018). The idea of IoT solutions belongs to the digital disruption strategy, which entails a radical change from analogue or manual processes to fully automated global processes (Granig et al., 2018, p. 67).

In the product development for the consumer goods industry, IoT is particularly important for obtaining consumer data directly from customers. This data can then be used directly for customer-specific marketing activities or product development with little effort. An extreme example is the loudspeaker "Amazon Echo," better known by its pseudonym: "Alexa." This device, developed by Amazon, records all customer data and thus controls an automatic adaptation to the advertising of this customer. This data alignment and the evaluation of the data for company purposes is called: "Big Data" (Wu et al., 2019).

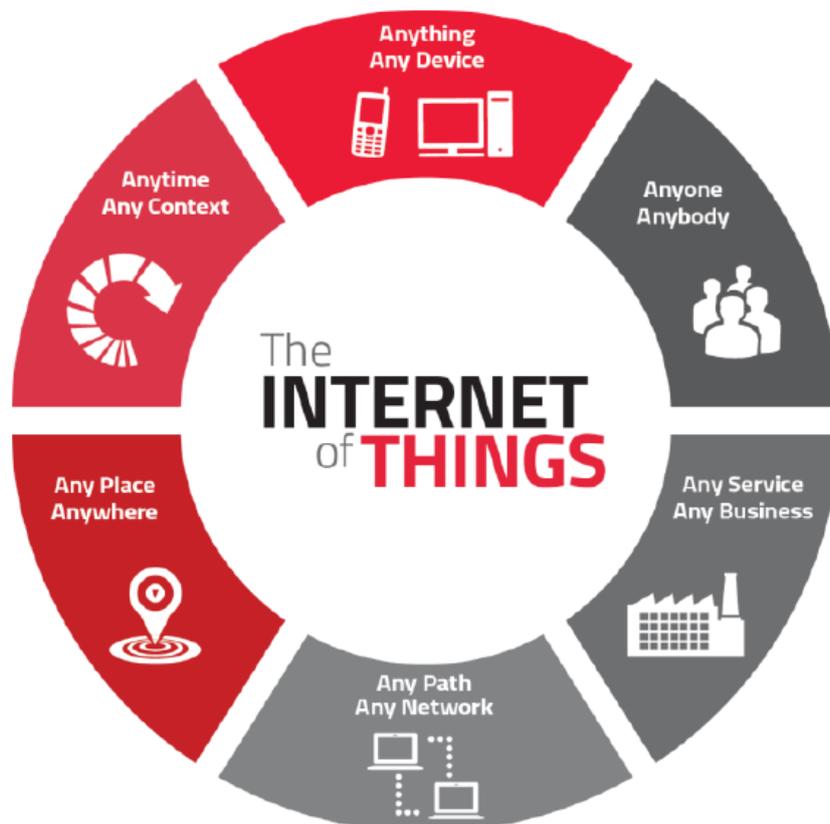


Figure 11 Internet of things overview

Source: Patel, 2016

Overview of services

IoT, by contrast, is not just designed to connect devices; instead, the technology seeks to connect the physical world with the virtual world using the internet (Patel et al., 2016). Figure 11 gives an overview of all the possibilities that are consistent with IoT technology. The figure illustrates that the focus is not on connectivity; in fact, it is on the possibility of creating connections at all levels towards total networking even outside of industrial applications.

Market growth

One of the current major products are so-called wearables devices. This refers to all products such as smartwatches or wireless headphone systems. Throughout the previous few years, all of these products have made great leaps forward in development and can be integrated cost-effectively into nearly any form or product. The study by Rimol, 2021 indicates that the volume alone will increase by 18.1 % from 2020 to 2021 to 81.5 billion US dollars. Table 2 illustrates the forecasts for the next few years and confirms the extraordinary opportunities offered by this technology. (Rimol, 2021)

Table 2 Global Wearable Devices Spending's (Millions of \$)

Source: Rimol, 2021

Device Type	2019	2020	2021	2022
Smartwatch	18,501	21,758	25,827	31,337
Wristband	5,101	4,987	4,906	4,477
Ear-worn	14,583	32,724	39,220	44,160
Head-mounted display	2,777	3,414	4,054	4,573
Smart clothing	1,333	1,411	1,529	2,160
Smart patches	3,900	4,690	5,963	7,150
Total	46,194	68,985	81,499	93,858

IoT Solutions World Congress

As already mentioned above, it is crucial for Spain to offer a platform for IoT industries like the MWC to attract interested company founders and investors. The IoT Solutions World Congress, held annually in Barcelona, substantially supports the IoT environment in Spain and is meanwhile regarded as a global trade fair for forming and advancing partnerships.

2.2.2 Fourth Industrial Revolution (Industry 4.0)

The past has shown that the industry is subject to constant change. This change can better be represented in the industry's evolution and can be divided into four epochs. The first industrial revolution was on the steam engine, which took away physical labour. The second and third revolutions introduced electrical energy and the support of computer technology. Recent developments in production processes and their automation have led to the definition of the fourth industrial revolution, commonly known as "Industry 4.0". Industry 4.0 is a vast domain that includes production processes, efficiency, data management, relationship with consumers, competitiveness, and much more (Piccarozzi et al., 2018). This technology focuses on the total networking of production and manufacturing within the global industrial world. The resulting increase in efficiency, i.e. cost savings, means a clear competitive advantage for companies.

Customer adaption and delimitation

The advanced technology allows in the similar process a better and also more individual adaptation of the customers requirement. Customers can record their requirements in a technical specification, and specific points are addressed by simply adapting the software from the standard software. This process is very cost-effective and achievable in a short time with few resources (Granig et al., 2018, p. 19).

The combination of the digital and real-world in manufacturing is the core of the technology. The distinction from IoT is not always easy, but basically, Industry 4.0 is limited to industry and manufacturing solutions (Granig et al., 2018, p. 208). In addition to networking technology, this requires basic hardware such as sensors and automation technology.

Government support

The Spanish state supports digitalisation with various programmes and a national strategy called: "Digitalisation of European Industry" or "CI4.0 Initiative". The strategy's objective is to bring together the most diverse companies in the digital industry to work on standard solutions. This involves completely new developments and also the setting up of a collaborative environment. The synergies from the different economic sectors shall be developed nationally and subsequently used internationally. This vision is summarised by the Spanish government under the Digital Agenda. The CI4.0 strategy builds on an entirely new type of manufacturing industry. The challenge is to become more intelligent and interconnected. This in turn demands that the CI4.0 strategy also includes the adaptation of business models. (Lazaro, 2017)

Example from Industry 4.0

The product range of Industry 4.0 has moved from simple networking technology to an all-encompassing technology revolution. The goal is maximum automation or even the support of human forces. The trend is towards collaborative robots that are not only able to work directly with humans without the risk of injury. The robots can also take over movements and processes directly from humans (Granig et al., 2018, p. 207). Certainly, this robotic technology will continue to replace humans in production over the long term. Through the joint networking of these robots, a constant networked learning process is held in the

background to enable continuous improvement. This practical example describes Industry 4.0 and its interplay of networking and automation in the best possible way.

2.2.3 Smart City Sector

The Smart city trade is one of the absolute growth markets in the digitalisation industry and the start-ups that emerge from it. Similar to IoT, the term deals with the linking of data and services in the field of urbanization and cities.

The smart city provides the ability to remotely monitor, manage and control devices, and to create new insights and actionable information from massive streams of real-time data. The key features of a smart city include a high degree of information technology integration and a comprehensive application of information resources. (T. Kim et al., 2017)

An additional extensive area of the Smart City deals with the digitalisation of public authorities and their interaction with citizens. In many respects, there is still great potential here in the governance sector, as this market has not yet been the core focus of the software industry.

Barcelona as a leading smart city example

The technology generally allows a vast range of services that are connected to the public space. In turn, IoT also contributes to this process by connecting mobile devices to the city's infrastructure. Barcelona assumes an important and leading position internationally as a smart city development city due to the great attractiveness that the city offers with its Mediterranean flair (*Start-up Ecosystem Spanien*, 2019, p. 45). Further evidence is hosting one of the most important trade fairs in this regard, the Smart City Expo World Congress. The annual fair, which takes place in November, attracts not only a large number of international visitors but also city representatives from almost all continents.

Smart City does not only describe the city's role as a vanguard for the implementation of digital technology and connectivity. The term also stands for the city's willingness to support digital entrepreneurship. The European Digital City Index (EDCI) measures this commitment based on various criteria. Barcelona takes a top position in the European field of the EDCI in ninth place (*Start-up Ecosystem Spanien*, 2019). The following initiatives stand out in particular:

- Intelligent traffic management
- Free public Wifi
- The open data initiative
- Creation of the 22 @ Innovation District (*Start-up Ecosystem Spanien*, 2019).

Public sector

The public sector requires public funding to receive the right incentives. According to current literature and government data, Spain provides a wide range of subventions to digital transformation. These are summarised in the government's Digital Agenda. Similar to all subsidy programmes, the associated objective of the subsidy is to stimulate the economy in combination with the creation of employment prospects. The Digital Agenda is not only

supporting the creation of new businesses; it is also directly supporting cities and municipalities in the implementation of digital technologies in their area, e.g. as smart cities (Zamora, 2017, p. 51).

2.2.4 AI and Big Data

The two terms Big Data and AI (Artificial intelligence) can no longer be separated because the technologies behind them cooperate very closely. Artificial intelligence became known to the general population only in the last few years through many products and services that are extremely useful to the consumer. Essentially, AI represents computer technology that is constantly improving through self-learning activities and resembles humans to a certain extent. The enormous development in computing performance makes these steps possible, which is also considered as machine learning. The concept and elaboration of AI did exist in the past, but it did not become established because the technology was not yet ready due to the available computer technology. It has already penetrated many areas of life without people perhaps consciously noticing it (Soltanifar et al., 2021, p. 122). This technology, affecting all areas of life, has been able to achieve enormous growth in recent years. Growth markets are being opened up, among other things, through digital disruption of traditional products by start-ups, but also completely new business models have become possible only through AI. This allows new types of companies with entirely new business relationships, organisational structures and business processes (Soltanifar et al., 2021, p. 137).

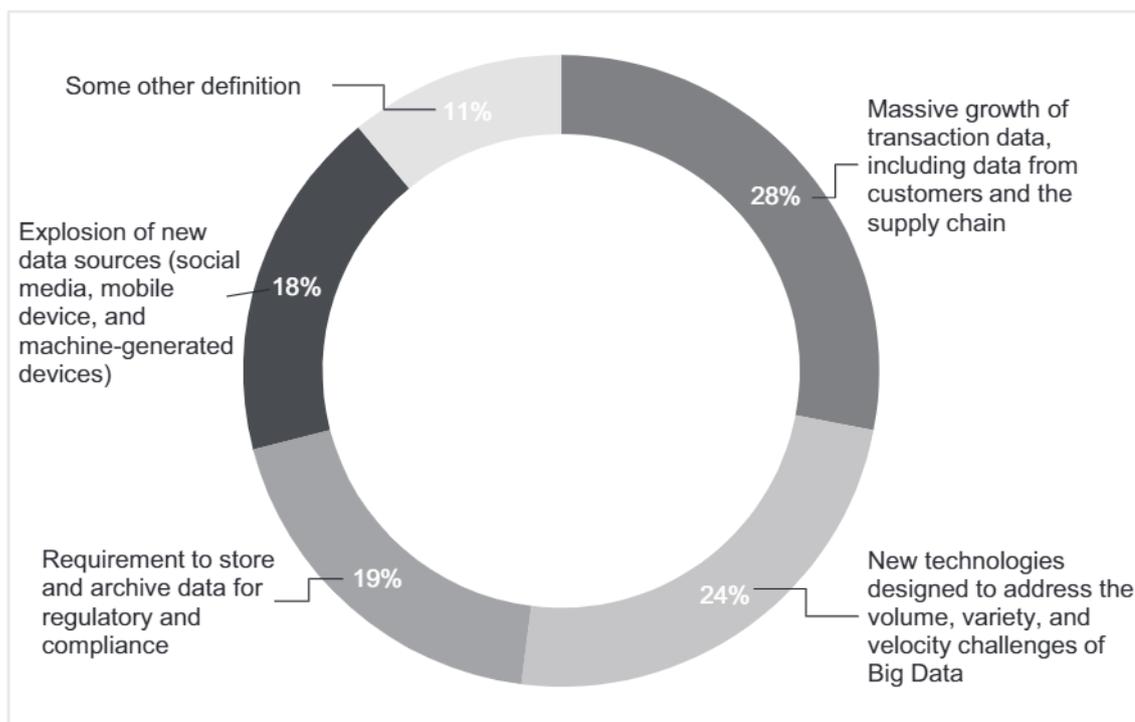


Figure 12 Definition of big data based on 154 global executives

Source: Gandomi & Haider, 2015

The technology of Big Data is described in the same way as AI. The technology has only been able to establish itself through the current computer technology. Big Data has been adopted in the corporate world for a few years with great success. The data analysis possibilities offer unimagined advantages and also completely new business models for the organisations. As a result, many corporations have started to renovate their structures and adapt them to Big Data (Wiener et al., 2020). In the case of Big Data, it is a matter of raw data volumes from various types of sources that are usually unmanageably large. Through the use of AI, these data are processed for practical conclusions, and the results are consequently interpreted (Gandomi & Haider, 2015).

Through this process, insights are gained that may not be apparent to the ordinary observer. The type of data is not precisely defined, nor is the size of the data; only the workaround can be clearly assigned to Big Data. Figure 12 gives an overview of the different interpretations of Big Data in the corporate environment.

Example from industry:

To better understand the effects, an example from industry with the application of AI and Big Data is explained here. The aircraft industry is defined with a very high safety standard and needs real-time data to monitor critical processes within the aircraft live. The data is transferred to the control centre to understand and pass on any deviating values. These immeasurable data sources provide new conclusions for development through intelligent analysis, which until now have not been the focus (Marr, 2016, p. 126).

2.3 Country specific aspects

The dimensions of new ventures or start-ups are in many aspects extensively studied but never compared in a specific framework in an international context. Further business strategies and business models need to adapt to country-specific set-ups and start-up conditions.

Much literature can be found about the start-up scene in North America (Agha, 2017), which describes and gives out a matrix in success, but not a guide on how culture and country-specific set-ups influence the success of it. Different research studies are existing about general influences and success factors. These studies are not covering all aspects, especially the cultural background and different specific country aspects.

It is not only the large countries and metropolitan areas that have the corresponding potential and attraction for start-ups. Smaller regions and economic agglomerations are also catching up when it comes to the settlement of start-ups. As described in the upper part, the American continent, especially California, is very dominant for the settlement of start-ups. This is undoubtedly due to the investors and technological power of the region and the local infrastructure. Compared to that, it is much less known about the start-up scene in the south-European region. Table 3 provides an overview of success factors in relation to location. This is very interesting for Spain and for this study, since the case studies examined later are distributed throughout the country. According to the table, location matters a substantial role in terms of entrepreneurial success, depending on the start-up.

Table 3 Success factors on location

Source: Fritsch, 2019, p. 136 (self-translation into English)

Overview 10.3 Hypotheses on the importance of location conditions and regional environment for start-up success		
<i>Sphere of influence</i>	<i>Expression(s)</i>	<i>Empirical findings</i>
<i>Level of regional start-up activity</i>	Foundation rate [-]	High regional start-up intensity leads to low survival probability.
<i>Size of a sealing area, degree of densification or urbanisation advantages</i>	Spatial proximity to customers and suppliers/service providers [+]; rich input markets [+].	Generally tends to have a positive effect, but is not decisive for start-up success; high prices for inputs in densely populated areas; the significance of the regional range of services questionable.
<i>Localisation advantages (Cluster)</i>	Spatial proximity to other companies in the sector [+].	Can have both positive and negative effects on success.
<i>High level of regional prosperity</i>	Gross domestic product per capita [+]	Statistical correlation between well-being level and qualification level of the population; causal relationship unclear.
<i>Future development of regional demand</i>	Forecast development of gross domestic product per capita [+]	May be more significant than the development of aggregate demand or the expected development of the industry.
<i>Notes: +: positive correlation expected; -: negative correlation expected</i>		

2.3.1 Spain general and economy

Spain is considered a troubled country in Europe, mainly due to the real estate and economic crisis in 2008. This crisis is still partly noticeable and had the consequence that many qualified workers migrated. As a result of the good economic development, some of these workers have migrated back in the last recent years. At present, the Spanish economy is the fifth-largest in the EU and the thirteenth-largest in the world, which is characterised by the large number of SMEs (Lazaro, 2017).

The global Covid-19 pandemic has set the country back in the economic growth of recent years. Spain is very dependent on international tourism, which has effectively ground to a complete stop due to the various lockdowns. The year 2020 was accordingly disastrous for the economy, with a minus of 11.4% in the first half of the year and an annualised minus of 22.2% in the second quarter (Kopp, 2020). Alongside tourism, Spain is in a strong position in the manufacturing sector and also in the software & IT sector. Spain has managed to achieve remarkable growth in the IT market in recent years, with large corporations such as HP, Microsoft and IBM setting up their R&D centres on-site (Kopp, 2020).

The IT market is particularly important for Spain, with a GDP of 4.3% (Kopp, 2020), which as a consequence leads to a large number of start-ups. The US entrepreneur Sam Altman, the founder of Open AI, explained the current location situation for start-ups as follows (*The Global Startup Ecosystem Report*, 2020):

"There will be no next Silicon Valley. There will be 30. Instead of one new centre or two new centres (of entrepreneurship, besides Silicon Valley), there will be 30, and there will be

clusters in different places that don't quite get to the density of the Bay Area but get beyond critical mass."

The Spanish country stands out in the international start-up sector thanks to Madrid and Barcelona's two major city centres. Both locations offer a high level of cost structure and infrastructure and are known for their pleasant Mediterranean quality of life. In the last survey, the city of Barcelona was ranked sixth and Madrid sixth as well in the so-called emerging markets (*The Global Startup Ecosystem Report, 2020, p. 43*). The total overview is shown in table 4 with all emerging markets. According to the Digital Economic and Society Indexes (DESI) of the European Union within the EU borders, there is an overall ranking of 10th for Spain, which represents a very significant step towards the top within the EU (*Startup Ecosystem Spanien, 2019*).

Table 4 Emerging Start-ups

Source: Start-up genom, 2020

Top 100 Emerging Ecosystem Ranking				Startup Genome			
	Rank	Country	Continent	Performance	Funding	Market Reach	Talent
Mumbai	1	India	Asia-Pacific	10	10	10	10
Jakarta	2	Indonesia	Asia-Pacific	10	10	10	9
Zurich	3	Switzerland	Europe	9	10	10	8
Greater Helsinki	4	Finland	Europe	8	10	10	9
Guangzhou	5	China	Asia-Pacific	10	9	4	10
Barcelona	6 (tie)	Spain	Europe	9	10	5	10
Madrid	6 (tie)	Spain	Europe	9	10	9	10
Philadelphia	8	United States	North America	9	10	8	9
Manchester-Liverpool	9	United Kingdom	Europe	10	9	8	10
Research Triangle	10	United States	North America	10	9	5	10
Kuala Lumpur	11	Malaysia	Asia-Pacific	10	8	10	9
Lisbon	12	Portugal	Europe	7	6	10	4
Bristol	13	United Kingdom	Europe	9	8	9	9
Estonia	14	Estonia	Europe	5	9	10	1
Portland	15	United States	North America	10	7	9	7
Istanbul	16	Turkey	Asia-Pacific	7	9	8	9
Detroit	17	United States	North America	10	8	4	8
Dubai	18	United Arab Emirates	Asia-Pacific	8	10	7	6
Minneapolis	19	United States	North America	8	7	9	8
Moscow	20	Russia	Europe	6	10	1	10
Taipei City	21-30	Taiwan	Asia-Pacific	8	8	3	10
Hamburg	21-30	Germany	Europe	8	8	9	6
Wuxi	21-30	China	Asia-Pacific	10	6	8	7
Tampa Bay	21-30	United States	North America	9	8	9	3
Brussels	21-30	Belgium	Europe	7	9	2	9
Hartford	21-30	United States	North America	9	4	9	7
Chengdu	21-30	China	Asia-Pacific	10	4	9	7
Pittsburgh	21-30	United States	North America	8	9	4	7
Phoenix	21-30	United States	North America	8	8	2	5
Milan	21-30	Italy	Europe	5	10	2	8
Manila	31-40	Philippines	Asia-Pacific	5	3	10	7
Houston	31-40	United States	North America	7	9	3	8
Mexico City	31-40	Mexico	South America	6	8	3	9
Lyon	31-40	France	Europe	7	6	5	9

Ecosystems classified in by scores from 10 (highest) to 1 (lowest)

2.3.2 Labour and income situation

Labour and unemployment

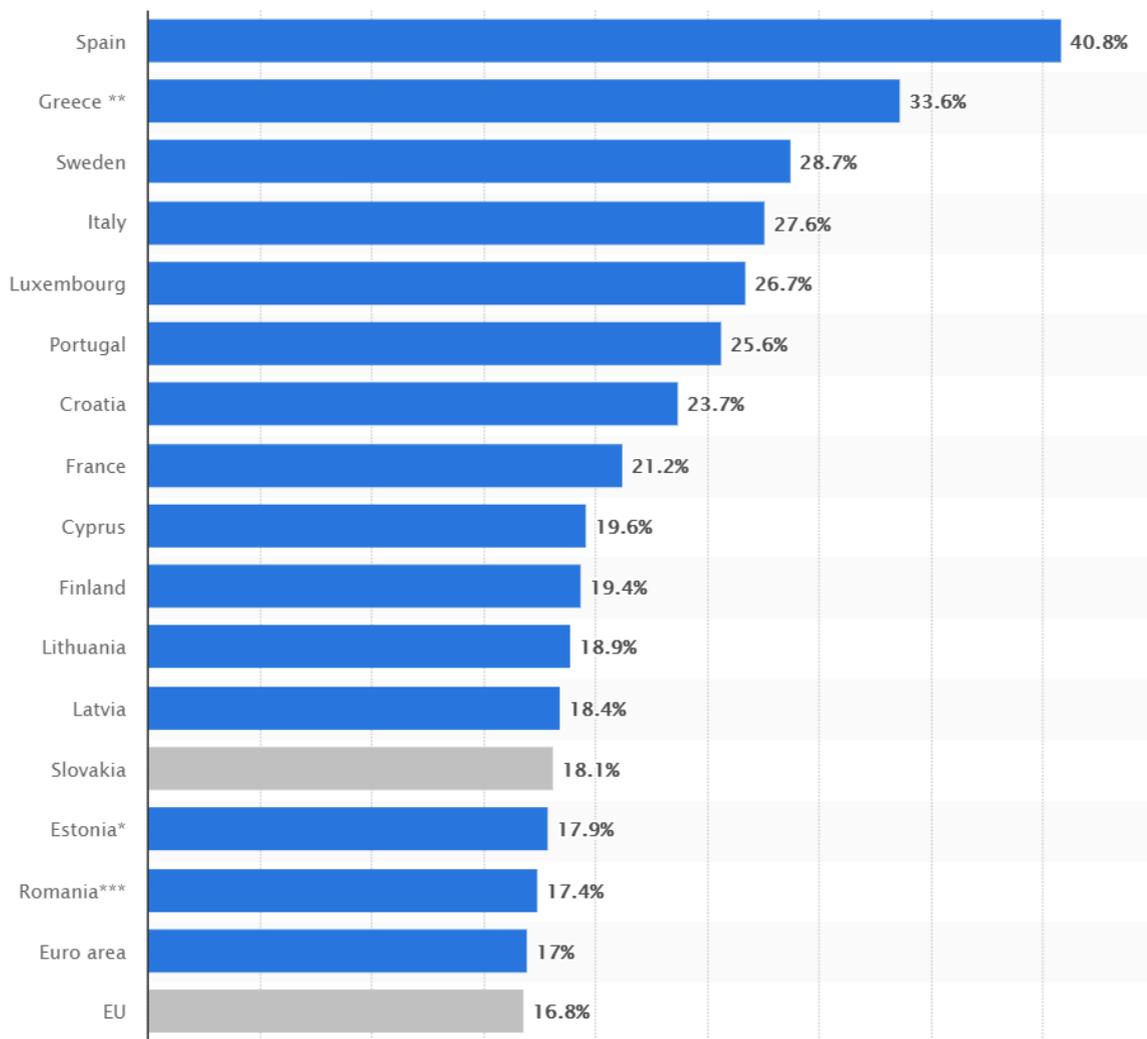
Spain is currently in a severe crisis due to the Covid-19 pandemic, mentioned in the upper part. This has severe consequences for the labour market. There are over 3.9 million workers in short-time work in 2020, and in addition, over 1.2 million additional jobs have been lost compared to the previous year (Kopp, 2020). Spain is known for its very high youth unemployment, particularly among the middle and lower classes, even more so because of the pandemic.

The table 2 shows the development of youth unemployment in Spain in comparison to other European countries. The current value, according to Plecher, 2020 was a massive 43.9 % in August 2020. The Covid-19 pandemic has further increased youth unemployment in 2020 and is currently three times higher than the average within the European Union. (Plecher, 2020)

The EU supports the countermeasures with strong subventions and funds to bring down unemployment in the long run.

Table 5 Youth unemployment rate Europe

Source: Plecher, 2020



Founding vs. Unemployment

The unemployment rate is obviously also related to the person and its development. It is not assumed that the unemployed are particularly active in setting up businesses because of their situation. According to the literature, the opposite is more likely to be the case. There is a correlation between the duration of unemployment. The long-term unemployed are less likely to start a business than the short-term unemployed who have been out of work for up to one year.

Statistics also show that the unemployed are generally less qualified in the labour market and therefore have less financial strength than other social groups. In summary, it can be concluded that unemployment is not used as an opportunity to start a business by many, precisely because of a lack of the right prerequisites. (Soltanifar et al., 2021, p. 71)

Income situation

The high unemployment figures result in a wage level that lags behind international comparisons. This is interesting for entrepreneurs to hire new people but very unfavourable for Spanish workers. To illustrate this, the average annual salary for a senior software developer in Spain is around 40,000 € (*Start-up Ecosystem Spanien*, 2019, p. 35). The comparison is illustrated in figure 13, showing the average salary in other countries. It is easy to see that Spain is clearly at the lower end.

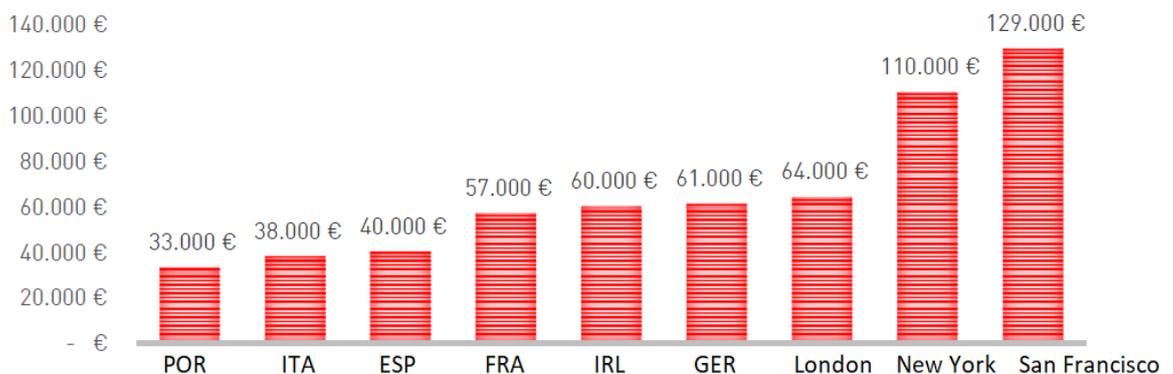


Figure 13 Average income senior software developer

Source: Start-up Ecosystem, 2019

2.3.3 Education system and talent attraction

Education

This section examines the education of potential talents in Spain. In principle, the Spanish school and education system differs from other European countries. It is based on a comprehensive school system, in which students decide for themselves what they would like to do for a school degree and consequently whether they would like to start a university

education. The dual-education with vocational training is very limited in Spain, the reason why many choose the university path after school. For this reason, the Spanish university system is very advanced and has a large number of universities. In Catalonia alone, there are 12 universities and 17 international schools (*Start-up Ecosystem Spanien*, 2019, p. 37).

These implications transfer to most of the population and generally claim a very high level of education. The public universities are not the only important protagonists; especially in the start-up sector, additional skills are required of the founders that business schools can cover. Three of the most important business schools of Europe are located in Spain:

- IESE Business School in Navarra
- IE Business School in Madrid
- ESADE in Barcelona (Business School and University Ranking Worldwide, 2020).

These elite programs offer students numerous chances and organizations to procure the best talents for Spain. The cities of Barcelona and Madrid are attracting a wide range of students and thus creating a very international environment.

Talent attraction

Spain is a properly-known country for the work-life balance and offers from the cultural point of view differences to many other European countries. This is reflected in the attractiveness of foreign people and experts to come to Spain and start working here. The mix out of the Mediterranean life and the opportunities of young and modern city hubs like Madrid and Barcelona appeals talents. The figure 14 below shows from which countries the most people are interested to come to Spain for work in the digital industry (Strack et al., 2020). The results reflect that digital experts are attracted to almost all sectors of the global world.



Figure 14 Top work destination for digital experts by geography

Source: Strack et al., 2019

Reducing the country situation to a city correlation, Barcelona has its attractiveness without uncertainty in the top ten of the most appealing cities for foreigners (see figure 15). Considering the corresponding low cost of living, Barcelona is undoubtedly the top hub in this perspective.

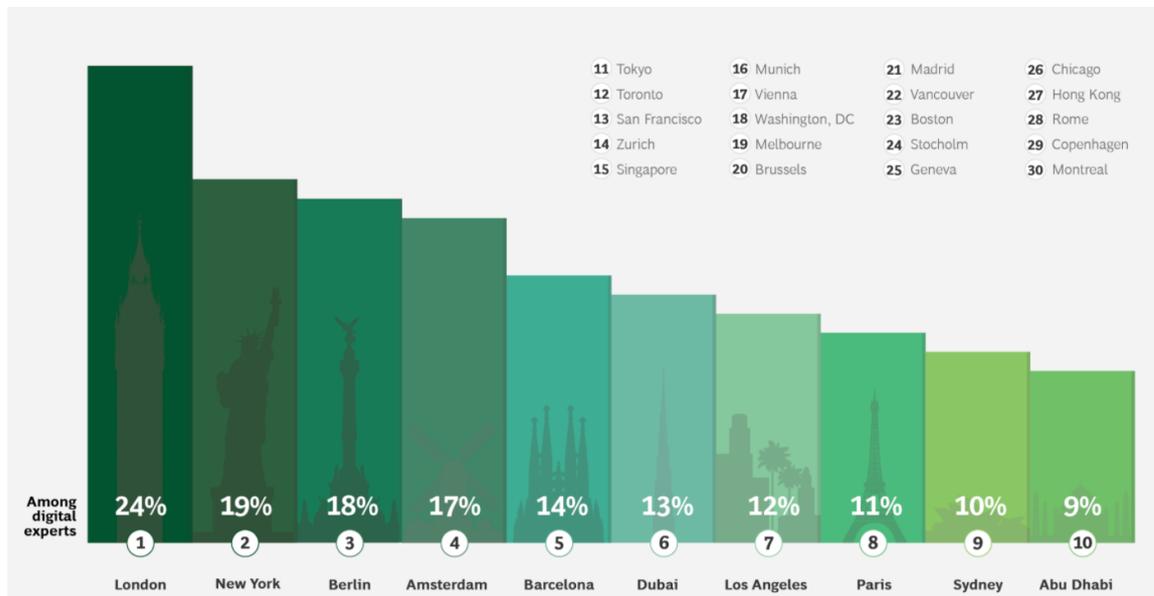


Figure 15 Top ten of most attractive cities for digital experts

Source: Strack et al., 2019

2.3.4 Government support

This capital describes the public support programs for founders and start-ups. It is centred on governmental institutions and not on private support organizations. The majority of the data was extracted from the public websites of the respective governmental institutions to obtain the most recent information possible.

ICEX

The Spanish Exports and Investments (ICEX) is an institution of the Spanish government to support Spanish organizations to expand their business abroad. The institution also has the task of attracting external investors to Spain. The entity is present in almost all countries with Spanish diplomatic representation.

Particular focus is placed on start-ups and new enterprises in Spain. In this regard, there are special support programs, and one of these is the so-called Rising Start-up Spain. The project offers broad support in all aspects to attract entrepreneurs and foreign start-ups. As well as so-called incubators from private hands, this support is directed in consulting services, initial financing and also workspace management within different start-up hubs in

Spain. ICEX has an excellent reputation abroad and is well connected internationally. (*ICEX España Exportación e Inversiones, 2021*)

ACCIÓ

The autonomous state of Catalonia, as in many areas in Spain, assumes a privileged position and also has its own internationally active regional government institutions in specific areas. The Acció is one of these institutions and is very similar to the ICEX in its functions. The agency addresses the competitiveness needs of Catalan companies and represents them on the international business front. The dedicated support of start-ups is also at the heart of Acció's mission. The agency provides support through financing and, in particular, through support for the international presence of the companies, such as at trade fairs. The essential element for start-ups is the funding by international investors. This is a core task of the agency. Acció is represented by more than 40 own international offices also outside Europe. Especially in Europe, the agency has been able to participate in various projects in recent years in collaboration with the EU and therefore also represent the interests of Catalan companies. In summary, Acció is very comparable to the national ICEX, with the difference that Acció has more influence on the companies through its proximity to them. (*Servicios para Startups, 2021*)

Barcelona Activa

The Barcelona Activa Agency, in contrast, is similar to the two institutions mentioned above in the manner in which it conducts its activities. The agency supports the economy in Greater Barcelona. There are various support activities for founders mainly through coworking space. Secondly, Barcelona Activa provides access to the agency's network, giving start-ups direct access to many customers and partners. In the area of consulting, joint workshops concerning all the important elements to start a business and to be successful in the market take place. (*Bcn.Cat/Emprenedoria - Programes, 2021*)

2.3.5 Liaison and opportunities with Latin America

A significant and essential difference to other countries is the Spanish relationship and close link to South America. The relationship was established in the late Middle Ages through the colonial rule of Spain in large parts of South America. This close partnership with most countries still exists today and is strengthened by the common language. There is a very cooperative relationship on an eye-level, both economically and culturally. Spain is considered one of the leading investors within South America in the various main sectors such as banking, construction of infrastructures, and the energy sector (Wang, 2016). Due to the high immigration of South Americans in Spain, this effect is even amplified. This collaboration is certainly an important, yet unnoticed, point in the start-up scene within Spain. Due to the close connection, there are opportunities on the economic side as well as on the recruiting side that other countries cannot take advantage of. This aspect will be explored more closely in the paper in order to gain an insight into the cross-contingent start-up scene.

The strategy of Spanish entrepreneurs in Latin America is preferably based on joint ventures. As a result, the Spanish companies are very determined to implement their working methods and values locally to establish long-term entrepreneurial success in that

region. The takeover of an entire company is quite frequently in the focus of Spanish companies. In the literature, this is called a reconquest of Latin America with the aim of re-establishing the old colonial dominations (Koch, 2010). In the long term, a win-win situation is to emerge from the still closer cooperation between both contingents, and an expected economic upswing should arise. Spain, with its over 47 million consumers, is considered here as a model and stepping stone for enterprises from Latin America and North Africa (*Start-up Ecosystem Spanien*, 2019).

Gateway to Latin America

Many companies use this stepping stone to gain a strong foothold in the EU over the former colonial state of Spain. The economy branches are positioned on a vast sector and include almost all areas. The main sectors are banks, communication service providers, the transport industry, and also the International air traffic (*Start-up Ecosystem Spanien*, 2019, p. 57). These business fields are governed and promoted by various joint economic agreements. In total, there are over 17 joint agreements that avoid double taxation between the states (*Start-up Ecosystem Spanien*, 2019, p. 57). These agreements include almost the entire Central and South American region. Numerous other joint agreements also exist from a cultural point of view to further develop a joint cooperation.

2.3.6 Start-up Ecosystem

The concept of a "start-up ecosystem" has been created to categorize countries and regions better. The Start-up Ecosystem compares important general factors such as the networking of the economy, the conditions and infrastructure of start-ups, and which subsidies the region offers. To compare the regions qualitatively and quantitatively, different companies offer online rankings based on different criteria's.

An excellent overview is offered by the service provider founded in 2013: "*Startupgenome*". The latest overview report: "The Global Startup Ecosystem Report GSER 2020," can be found on their homepage: <https://startupgenome.com/> (*The Global Startup Ecosystem Report*, 2020).

There are distinct surprises among others also in the European framework in the results of this report. Above all, the country Spain stands out, which is actually regarded as an economically unsuccessful country. Especially the economic crisis in 2008 has hit the country hard in all aspects, and Spain could not be caught up until today (Urnersbach, 2020).

However, in the Start-up Ecosystem, the two cities Madrid and Barcelona stand out particularly because of their outstanding performance in this area. I personally know myself the country Spain quite well from my own experience. I have spent over six years working in different industries in Madrid and Barcelona. It is particularly noticeable that there is a strong focus on the digitalisation industry regarding the settlement of start-ups in Spain (Zamora, 2017).

Expanding ecosystem

The whole start-up sector is growing in all sectors worldwide. The success stories are numerous and very positive, leading many founders to try their luck in start-ups. The various

industry reports indicate an overall growth in Spain of over 20% based on 2019 (*Start-up Ecosystem Spanien*, 2019). The focus is on the two cities of Barcelona (29%) and Madrid (30%), whereby Barcelona forms the most significant "hub" in Spain with over 1,197 emerging companies (*Start-up Ecosystem Spanien*, 2019). The very positive figures kept very constant over the last few years and could even increase.

Strengths of ecosystems

The Start-up Genome branch analyst has identified three key strengths for Barcelona as a start-up hub in relation to the ecosystem.

1. Networking. The start-ups based in Barcelona are significantly better interconnected internally than many other ecosystems.
2. Relocation: There is almost no migration of start-ups from Barcelona. This factor is commonly factored into the attractiveness of a hub.
3. Founder experience: The experience that the founders in Barcelona bring with them is significantly above the experience of founders in other ecosystems and may be evaluated as very positive (*Start-up Ecosystem Spanien*, 2019).

The Spanish founder and CEO of CINK, Sergio Cortés, sees the factors mentioned above 1 and 2 as very decisive. He relies on the experience of experienced founders who have already founded a company. He also observes the networking of companies and the mutual exchange of experience as equally essential. The inclusion of large companies in start-ups can have an exceptionally positive effect on their development. (*Start-up Ecosystem Spanien*, 2019)

Macro-environmental Framework: PESTLE analysis

PESTLE analysis (political, economic, socio-cultural and technological) describes a framework of macro-environmental factors used in the environmental scanning component of strategic management. It is part of an external analysis when conducting a strategic analysis or doing market research and gives an overview of the different macro-environmental factors to be taken into consideration. It is a strategic tool for understanding market growth or decline, business position, potential and direction for operations. (Perera, 2017)

The figure 16 shows all influencing external factors, which are considered within the evaluation.



Figure 16 PESTLE Analyze

Source: Perera, 2017

The PESTLE analysis of Spain, which is limited to external influences, is based on existing knowledge in the form of studies. The study by Rajat Sharma, 2016 is used, and summarizes the following statements:

Infrastructure: Spain has a wide range of high-quality infrastructures, such as the extensive high-speed rail network.

Politics: Spanish politics are in a state of constant upheaval due to internal conflicts, which portray the country as politically weak to the outside world. Overall, the situation is stable.

Economy: High-interest rates give Spain a weak international position overall. In addition, specific markets, such as the energy sector, are limited by a regulated market.

Social: The severely weakened labour market should experience a strong upswing again through reforms and more flexibility.

Technology: Spain generally has a lack of innovation. Conversely, Spain possesses one of the best mobile communications infrastructures in the world.

In summary, Spain has a relatively low economic growth rate caused by recurring crises and high unemployment. Its positive factors, in contrast, are its central geographic location, robust tourism industry and high level of foreign investment. (Rajat Sharma, 2016)

Start-up genome Analyze the Ecosystem on success factors

In chapter 2.1.4, it is described that the appropriate success factors and strategies are crucial for the long-term development of a company. The industry analyst Start-up Genome, 2020 has developed its own system to better define and uniformly analyse success factors. In total, it defined, recorded and evaluated over 100 different variables with the following result (*The Global Startup Ecosystem Report, 2020, p. 35*):

- Performance
- Financing
- Market Reach
- Talent
- Connectedness
- Knowledge
- Infrastructure (*The Global Startup Ecosystem Report, 2020, p. 35*).

The final results and comparison to real data are discussed further in the results section of the literature comparison of the paper in chapter 4.3.

Building ecosystems

The thriving and growing ecosystem is correlated to the economic growth of a country. In the digital field, the ecosystem attracts talent and businesses to be part of it. The start-ups are particularly important as the market is stimulated by the re-mixing of companies, and positive competition is generated (Kollmann, 2006).

The right incentives for companies to constantly improve can only exist if there is competition. The potential of the digital industry in particular demonstrates what it is capable of in the future. The active promotion of technologies is one of the core tasks of a government.

Technology transfer is facilitated by the establishment of national research centres, which in turn develop technologies and provide them for subsequent use as products or services. Overall, Spain disposes of universities and research centres which, unfortunately, have not yet nearly exploited their potential and, in particular, need to specialise more in the core topics of current technology trends. (Zamora, 2017, p. 68)

Barcelona Tech City

The best examples of building efficient ecosystems are private non-profit organisations that are independent of state funding. One of the most relevant in Spain is the organisation Barcelona Tech City. The organisation works with all institutions and companies that are crucial for the start-up industry, such as investors, incubators, accelerators, company

builders, universities, business schools, media companies and government agencies (Ohr, 2019).

The Barcelona Tech City organisation promotes and supports companies in the Barcelona metropolitan area through a variety of activities. In 2016, the organisation launched Pier01, a massive complex that hosts over 80 different tech companies with a total of over 1000 professionals (Zamora, 2017, p. 83). Starting bases like this can benefit from the fellowship and the mutual exchange of information. The exchange is facilitated by the allocation of shared workspace, so-called co-working space. The co-working concept is established on a broad level in Spain and ranks well compared to other countries. The growth of co-working space can be taken as an index of how far the start-up sector as a country is growing. With a number of 139 spaces, Spain is behind the UK, which has 319 co-working spaces, but in second place overall in Europe (*Start-up Ecosystem Spanien*, 2019).

These partly city-supported work environments and involved organisations are meant to be a counterpart to universities and concentrate entirely on the start-up needs of young entrepreneurs.

Funding

The term funding stands for the financing of companies. This terminology is used frequently, in particular during the start-up phase of a new company. Several different financing options are available, such as business angels, venture capitalists and traditional investors. This study does not address funding in depth as a key success factor due to its pervasive complexity.

The proper funding, nonetheless, is demonstrably significant for start-ups. In general, the entry of foreign funds into Spanish start-ups has resulted in a growth of over 60% in investments (*Start-up Ecosystem Spanien*, 2019). Figure 17 illustrates these tendencies from the two hubs Barcelona and Madrid. Barcelona in particular, showed an extraordinary development over the last few years.

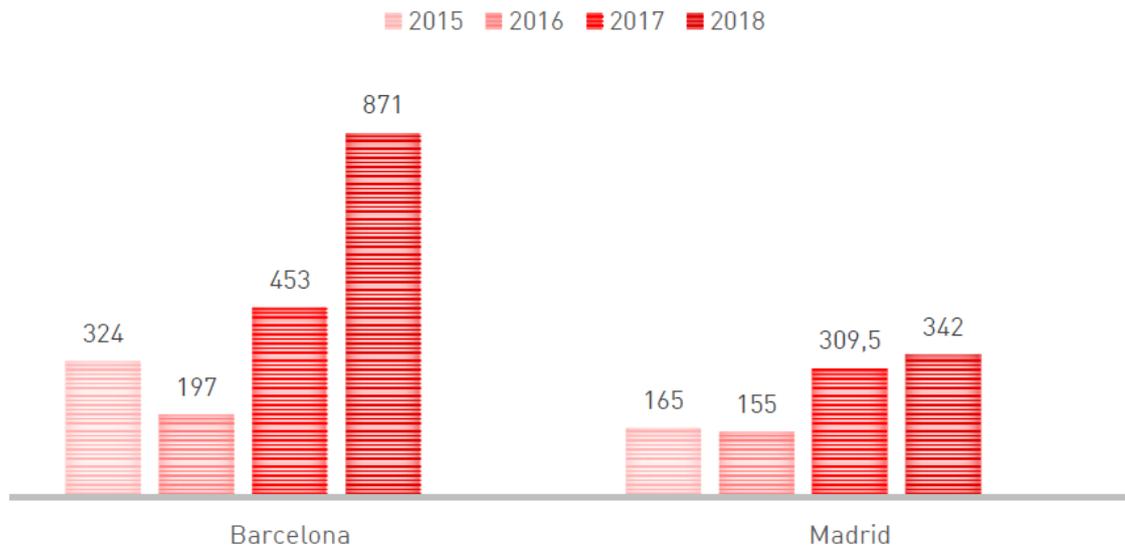


Figure 17 Invested capital in start-up hubs in Spain

Source: Start-up Ecosystem, 2019

3. Methodology

3.1 Methodologies in research: The Qualitative Research

This master thesis focuses on the empirical research method based on the hypothesis-driven entrepreneurship framework (Ries, 2011b). The qualitative research method is a solid basis related to previous studies in the field of success investigation. Qualitative research allows an insight into the subject area without preconceptions. Conclusions for the general public can thus be derived from the interviews through the inductive procedure. For the collection of primary data, this thesis uses the method of questioning, the technique of semi-structured interviews, for which questions from the presented theoretical part are extracted. The qualitative content analysis from Philipp Mayring has shown in the past the simplicity of his approach and was continually improved since the year 1990 (Mayring, 2015).

In the qualitative content analysis, a basic distinction is made between several sub-types of analysis. The two main types of analysis are:

1. Content-structuring qualitative content analysis
2. Evaluative qualitative content analysis (scaling necessary)

The first type of content-structuring analysis aims to explore themes and their mutual interaction. On the other hand, the evaluative qualitative analysis evaluates the topics or the categories according to different aspects and scales them. This scaling can be, among other things, questioning negative or positive aspects or making a classical ordinal evaluation (Kuckartz, 2018). The literature research has shown that in the area of success assessment, both types of analysis in a combination are the best approach. Success factors

can be categorized into themes and areas. In particular, when examining a specific country, these themes must also be categorized into positive and negative aspects. The content analysis is a well-established method in research and relies on the formation of hypotheses through individual factors and then summarises these as one hypothesis (Mayring, 2015).

Qualitative content analysis is based on standard rules and can consequently be briefly summarized as follows:

- Analyse communication
- Analyse fixed communication
- Proceed systematically
- Proceed in a rule-guided way
- Proceed theory-guided
- Pursuing the goal: To draw conclusions about certain aspects of communication (Mayring, 2015).

The Master Thesis will examine the holistic structure and use both primary and secondary data in order to get the most accurate representation possible.

3.2 Research design and data collection

The general approach of the master thesis is based on different sources: Primary research and secondary research. In addition, other scientific methods are applied to present a broad and deep picture of the overall situation. The following methods are applied:

1. Extended elaboration of a literature review based on studies from correlating topics or similar industries.

2. Qualitative research: The literature review showed off that measuring by having a specific scale by a questionnaire has reliable results in the recent past. This research method was empirically tested.

3. Mix methods: The mix methods refer to a research method in which quantitative data are included in the research combined with qualitative data. This approach is not new and has been used in social science research for many years (Baur et al., 2014). In this work, quantitative data is used and interrogated by counting the coding frequency. In addition, the integration of the expert interview focuses on data that can only be queried quantitatively. This makes the work more comprehensible and more lively for the reader. Due to the small number of cases, these qualitative data can only show tendencies and directions. The results cannot be generalized. This distinguishes this master thesis from a more general work, where the focus is on mixed methods and especially on a large amount of quantitative data. The quality of the data in general also depends strongly on the ability of the researcher to proceed empirically but at the same time to maintain the sensitivity to different interview situations and to make use of them (Patton, 2014). In Summary, the mix method approach is only applied on a minimal level within this work due to the small number of samples.

4. Investigate as well the negative point: It is observed that often in studies only the positive effects and backgrounds are highlighted (Anderson & Starnawska, 2008). In the field of start-ups and entrepreneurship, there are many risks and negative examples which are essential to understand and to find the reasons for them. In the chapter results, success factors are classified into positive and negative categories to reflect the complete picture.

Software support in the research part

The empirical research work is connected with much handling of different data materials. For that reason, in the field of qualitative research, particular software is used to support the researcher with the data and texts (Kuckartz, 2010).

Compared to the very time-consuming transcription of interviews, the analysis of interviews without the appropriate software is very laborious. This is supported by so-called QDA programs, which is MAXQDA in this study.

The program permits, besides the conventional text processing, many further functions within the range category formation and their evaluation. Consequently, significant texts can be worked through efficiently and divided into categories with codes. The graphics analysis functions are utilized in this work to get an immediate and straightforward overview of the results.

3.3 Qualitative content analysis

3.3.1 Sampling

The selection of appropriate sources and samples is fundamental in qualitative research. The crucial preliminary work consists of reading deeply into the matter to work accordingly. During this phase, thoughts are made about which persons or groups should be considered as secondary sources (Bogner et al., 2014).

Willingness to participate in research

For external participants, the question of why they should participate in a scientific study arises again and again. There can be various reasons why people participate nevertheless. It could be out of a particular curiosity or in the sense of supporting students (Bogner et al., 2014). In the case of this study, the expert respondents were guaranteed to receive the study's findings in a customized format after completion of the study. Experienced start-up founders should also be able to use these results for their future success.

Sampling selection

A cumulative total of eleven interview partners related to start-ups was examined. Previously, a personal approach was carried out to contact the companies and experts. The selection of the contact person is followed by selecting the specific responsible person within this company. If there is no assigned responsible person, the managing director (CEO or the founder) is approached. A total of over 27 companies were contacted. In the end, less than half of them decided to participate in the survey.

Sources of information:

- LinkedIn
- Barcelona Tech City (Start-up Base)
- Start-up Valencia (Start-up Base)
- Clutch.co (Global Firm database)

The companies have been selected by researching for their online presence by using standard online research based on the following keywords:

Start-up, Successful, Funding, Digitalisation, Spain

Further selection criteria are based on the company's main business numbers like:

- Size of company: Small and medium-sized enterprises (SMEs) and as well medium-sized businesses (SMBs) to have a broad information source over all kind of companies
- Multinational Enterprises (MNE) have been selected to see global and regional behaviour

The selection of the industries criterion is a diverse approach of industries represented in the following areas:

- IoT (Internet of things)
- Fourth Industrial Revolution
- Smart City Sector
- Big Data and AI (artificial intelligence)

The data analysis is executed via the qualitative content analysis (Mayring, 2015) with graphical charts to illustrate the results. The usage of the software MAXQDA supports this process.

3.3.2 Overview of involved companies in the study

All participating Spanish companies are briefly described in more detail in this chapter and their business area is discussed. The length of the interviews is based on relatively different factors and is justified by the very different involvement of start-ups. Table 6 gives a useful summary of the companies' main characteristics.

Table 6 Interviewed companies

Source: Self-creation, Hehle, 2021

ID	Founded	Location in Spain	# of Employees	Interviewed person	Business field	Interview date	# people interviewed	Interview Length min.
S1	2019	Madrid	25	Head of AI	Big Data	26.01.2021	1	22,51
S2	2018	Madrid	83	Co-Founder	AI and Big Data	02.02.2021	1	20,34
S3	2018	Madrid	9	CEO	Engineering Software for industry	02.02.2021	1	22,29
S4	2017	Barcelona	7	Founder	AI on Robotics	03.02.2021	1	26,19
S5	2011	Madrid	200	CEO	Data analytics	05.02.2021	1	37,13
S6	2018	Valencia	2	CEO and founder	Social media and data analytcs	08.02.2021	1	23,46
S7	1999	Valencia	18	CEO and founder	Industria 4.0	07.02.2021	1	37,15
S8	2018	Madrid	500	Technical Manager/ Head of AI	AI on robotics	09.02.2021	2	45,05
S9	2019	Barcelona	5	Co-Founder	Digital transformation	09.02.2021	1	37,19
S10	2018	Valencia	9	CEO and founder	Data analytics	10.02.2021	1	24,54
S11	2018	Barcelona	5	Co-Founder/Director	Robotics with AI and Industry 4.0	11.02.2021	1	34,56

Average time: 30,04

Company S1: The start-up is based in Madrid and is the outcome of a consulting group. The company sets a high focus on the international operation by opening different sides in Europe but so far, the turnover is on a low level as the profitability is not in focus yet. The main business is AI and cognitive services, which are customized for the customer's needs. The Head of Artificial Intelligence, responsible for the business development of AI, was selected for the interview due to his broad experience in different start-ups before, and his working experience of over ten years in this sector. The interview took place on the 26th of January 2021 via Microsoft Teams.

Company S2: The company is focusing on cloud computing and the linked data analytics of it. The start-up went from a fast growth within two years to close to 100 employees and covers a wide range of different customers from sectors and sizes of companies. The international expansion to gain market share is one of the strategic goals for the following years. The company works on a broad range remotely and has set up a central office in the city centre of Madrid. The chief marketing officer and co-founder was available for the interview. The interview took place on the 2nd of February 2021 via Microsoft Teams.

Company S3: The start-up is the outcome of two persons, which worked before in the electronic and software industry abroad. The motivation of founding the company was based on a back home settlement in Spain and the opportunity gap they have seen in Spain. The field of services is broad and covers IoT and cloud computing. The main success factor of the start-up is the international network to customers in different sectors, which were existing already on the starting point of the foundation. The interview took place on the 2nd of February 2021 via Microsoft Teams.

Company S4: The small and recently founded start-up is working in the field of robotics in the construction sector. The company was founded as an outcome of two people with the same idea on the disruptive digitalisation of the construction industry. The headquarter is based in the centre of Barcelona and is therefore very attractive for talents and especially in this case for international talents. A large number of technical universities close to Barcelona supports the company's success by having highly qualified people. The interview took place on the 3rd of February 2021 via Microsoft Teams.

Company S5: The start-up resulted from a new foundation by four former managers of a consultancy firm. The actual headquarters of the company is in Lisbon, but the main business is based in Madrid. The company is leader in digital transformation in the online banking sector, especially for data analytics. Customized data solutions is the key in the business of the digital consulting for this company. The annual growth in turnover and the steady expansion of branches abroad, clearly underlines the success of the business model and the managers' previous experience. The interview took place on the 5th of February 2021 via Microsoft Teams.

Company S6: The company is active in social media and has a comprehensive base of customers and their related data. The presence takes place via the largest social media platform in the world. The start-up was founded by one person and is based near Alicante. The founder of the company has solid basic knowledge and has also gained much experience in this business sector abroad. The business model is based on compact news and its promotion via social media. At the same time, customer data is used for further analytics to generate revenue. The interview took place on the 8th of February 2021 via Microsoft Teams.

Company S7: The company was a classic family business over 20 years ago and was transformed into a start-up through a generational change. The business was rebuilt from scratch using methods from start-up creation models. The company is located in Castellón and is continuously expanding its strength in the field of Industry 4.0. Compared to other start-ups, the business model is strongly oriented towards the regional customer base and thus pursues a different expansion strategy. The interview took place on the 7th of February 2021 via Skype.

Company S8: The organization is the result of a merger of two previous companies that were active in classical mechanical engineering. The company relies heavily on AI technologies to add value to its products and create an edge over the competition. The company is based in Barcelona and is active in the automotive supply sector, which makes it very international. The evaluation of big data from the manufactured machines is the core of the current development. The interview took place on the 9th of February 2021 via Microsoft Teams.

Company S9: The company is the outcome of an idea from the yachting industry to use digital products to manage yachting refits' daily management. This exceptional and unique market of digital transformation allows using customized software to support here the end-users. The critical success is based on the customer needs and the customized software approach. Additionally, the founder is having by his previous knowledge a vast network and deep knowledge. The Barcelona-based company uses the Barcelona Activa program actively, supporting the company in the beginning phase of the start-up. Within the next two

years, the corporation plans to expand its business to new sectors outside of the yachting industry. The interview took place on the 9th of February 2021 via Microsoft Teams.

Company S10: The organization was founded based on the ideas of the three founders in the field of data research. The company consists of two groups, the development department and the marketing of the product. The company's product uses machine learning and AI to automatically convert phone calls into text and then analyze the data. The company is specialized in this market but can also open up other markets through simple product adaptations. In particular, the Spanish-speaking market will be expanded in the future. The interview took place on the 10th of February 2021 via Microsoft Teams.

Company S11: The product idea originated from a project at the technical university was transformed into a start-up by founding the company. In addition to their teaching activities at the university, the two founders are working on the Industry 4.0 project in the field of autonomous logistics solutions through a specialized mobile platform. The Barcelona based start-up benefits from the support of Barcelona Activa in the area of start-up development and consulting. In the future, the start-up wants to serve as well other markets and sectors outside of Spain by expanding its portfolio. The interview took place on the 11th of February 2021 via Microsoft Teams.

3.3.3 Expert interviews

Semi-structured expert interviews were chosen as the secondary data source. To fill the research gap, external sources have to be consulted for building up the relevant background knowledge and closing possible hypotheses. Obtaining information in any other mode is certainly very difficult or even impossible to organise (Bogner et al., 2014). Related studies for success factors have shown that expert knowledge combined with current literature is particularly suitable for finding the correct conclusions (Kaiser, 2014).

Experts are people with a unique knowledge and therefore, their interview is the suitable method to fathom this knowledge (Gläser & Laudel, 2010). In the literature, experts are usually characterised as authorities, specialists or professionals (Bogner et al., 2014).

In relation to the start-up sector, this would mean that basically every founder could be considered an expert for the interviews. In the end, the experts must have the necessary knowledge, but what is even more important for social scientists is that they must be able to assess this knowledge for themselves. The semi-structured composition of the interview allows all participants to follow the same procedure. Of course, this limits the interview process, but at the same time, it enables an excellent structured evaluation of the interviews. Indeed, some adjustments of the guidelines are necessary during the interview to influence different persons to obtain the necessary answers (Bogner et al., 2014).

It can be relatively simple to focus on a specific context or to include certain terms in the interview (Baur et al., 2014). This influence should be avoided, as it can lead to a distorted picture in the results. Even with the semi-structured interview, the biggest mistake is that too make to strict guidelines, and thus no new insights emerge from the Master's thesis (Baur et al., 2014). For this reason, open questions should also be asked in the interview to obtain as much new information as possible from the interview partners.

Memos in interviews

It is essential to record first impressions as memos during or shortly after the interviews. This information is crucial because of the proximity to the interview; it can be used very well as input for the first insights (Kuckartz, 2010, p. 135).

3.3.4 Transcription process

All interviews were conducted and recorded using Microsoft Teams due to the Covid-19 pandemic. Following the interviews, the contents are transcribed without shortening this (Kaiser, 2014). This compliance with the rule guarantees a uniform quality of results. The transcription is done via a software tool and performed by the writer of this paper directly after the interviews. The researcher needs to transcribe the interviews personally in order to immerse himself once again in the conversational situation of the discussion.

3.3.5 Process sequence and coding of results

The coding of the content from the expert interviews is part of the core area within the qualitative content analysis. In this study, the categories are created through inductive research methods to be as open as possible to novel findings. Deductive category building already explores the categories in the literature review and consequently limits the research angle. It has to be mentioned that the questionnaire was created from a deductive approach as no secondary content was available at that time.

An essential part of coding is the creation of a rule-based category system. The continuous adherence to the procedure and the rules makes it possible for the analysis to be understood by external parties, especially with regard to the exact delimitation of the categories (Mayring, 2015).

The guideline shown in figure 18 below was applied for this study to guarantee a continuous process within the established rules according to Kuckartz, 2018, which are based on Mayring, 2015. The process describes exactly the main steps in the qualitative content analysis.

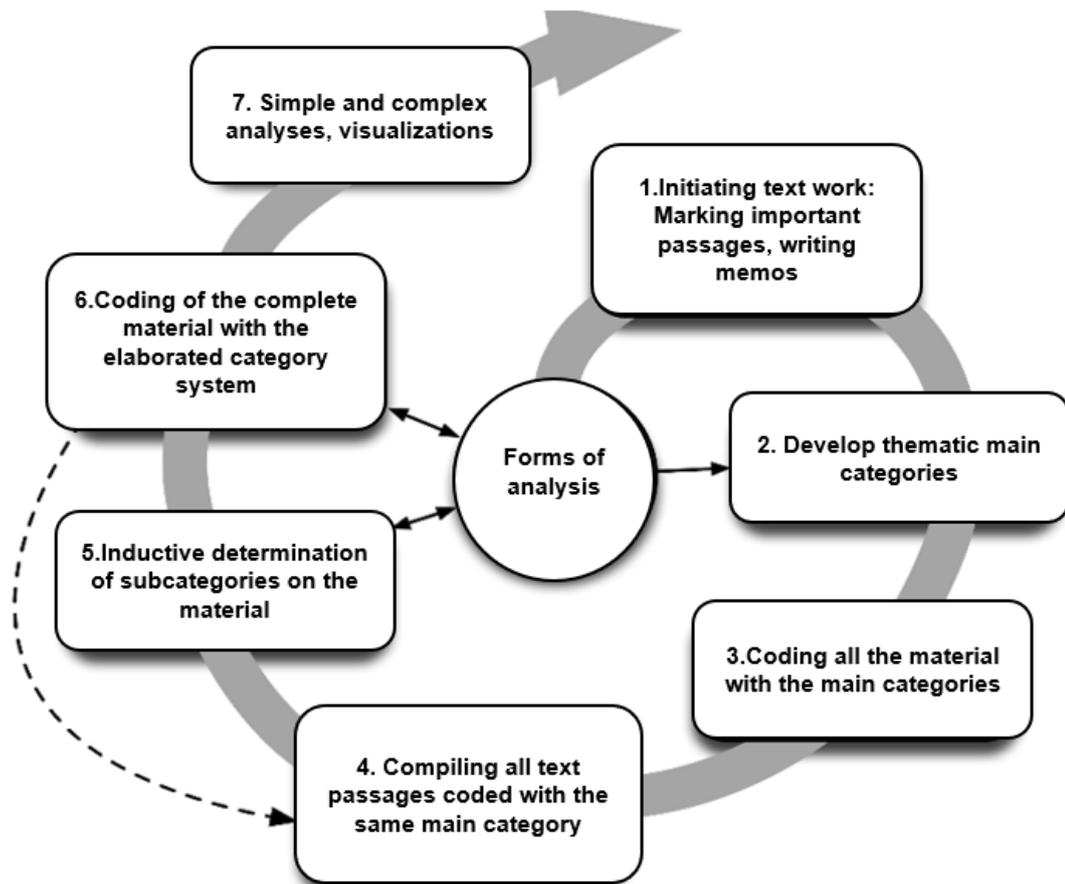


Figure 18 Sequence on content analysis

Source: Kuckartz, 2018, (self-translation into English)

In principle, coding is the assignment of a category to a text module and its interpretation in terms of content. The primary prerequisite for this is a detailed understanding of texts and their themes to summarize them. In principle, any kind of text passage or even a single word can be considered as a code (Kuckartz, 2010, p. 58). In addition, another approach is thematic categorization. In this case, the coding addresses a specific topic or a type of thinking that can be clearly differentiated from other topics (Kuckartz, 2018, p. 35). This work includes the thematic categorization of coding to make the experts' ways of thinking the subject of discussion.

Table 7 Inductive Coding according to Mayring

Source: Kuckartz, 2010, p.202 (self-translation into English)

Steps	Examples with Mayring
1 As precise a definition as the potential of the subject of the categorisation	The subjective meaning of the teaching profession is categorised, i.e. what the teaching profession means to the individual, why they took it up and what their self-image was like in GDR times.
2 Determine procedure in detail and selection rule	The interview texts are processed in a line-by-line analysis. The text passages that correspond to the above question are marked and an evaluation category is assigned to them.
3 New formation of categories	For relevant text passages, the categories are formed close to the text, e.g. the text passage "The joy in the profession came from many experiences of success" is assigned to the category "Joy in the teaching profession".
4 Creation of new categories or subsumption under an already existing category	For all other relevant text passages, it must be decided whether new categories are to be formed or whether an already defined category is to be assigned.
5 Forming supercategories	The resulting set of categories is ordered and supercategories are formed, in this case seven.
6 If necessary, formation of even higher aggregated main categories	In a further step, the 7 upper categories are combined into 2 main categories "teachers out of joy in their profession" and "teachers out of commitment to socialism".

Inductive categorization is an ongoing process that requires several steps of grinding and working through the material. Table 7 from Kuckartz, 2010 shows these steps with examples according to Mayring, 2015. In essence, the material is coded and re-coded until no new insights or summaries of codes are feasible (Kuckartz, 2010, p. 202). The final coding with sub-codes is attached in the appendix c.

The goal of the research is to provide content and findings that move from specific to general theory. The master thesis is also intended to provide a basic recommendation from the research for future entrepreneurs. Therefore, it is fundamental that the hypotheses established at the beginning of the thesis answer them at the end and compare them with the previous literature. (Kuckartz, 2010)

3.3.6 Elaboration of summary and theories

The final step of the content analysis is the summary of the results of the category system and the formulation of theories. In the closing part of this study, the results are interpreted. The category system requires an apparent reduction of the material based on fixed rules, which according to Mayring, 2015 are the following:

1. Delete all text components that are not substantive, such as embellishing, repeating and clarifying phrases.
2. Translate the meaningful text passages to a uniform language level.
3. Transform them into a short grammatical form (Mayring, 2015).

The strict adherence to these rules is considered the primary characteristic of content analysis according to Mayring, 2015 and differs significantly from the Grounded Theory. Furthermore, content analysis is much more descriptive in its form and much less fixated on theory (Kuckartz, 2010, p. 96). This is in the analysis part in the centre of the work.

An essential primary finding is that the success factors can always be derived from the interviews in the context of positive and negative perceptions. According to the analysis, the codes must then be divided into negative and positive aspects (Kuckartz, 2010, p. 114). This is represented by figure 19. Both aspects are important indicators, and the focus should clearly be on the factors that speak positively for Spain as a start-up country.

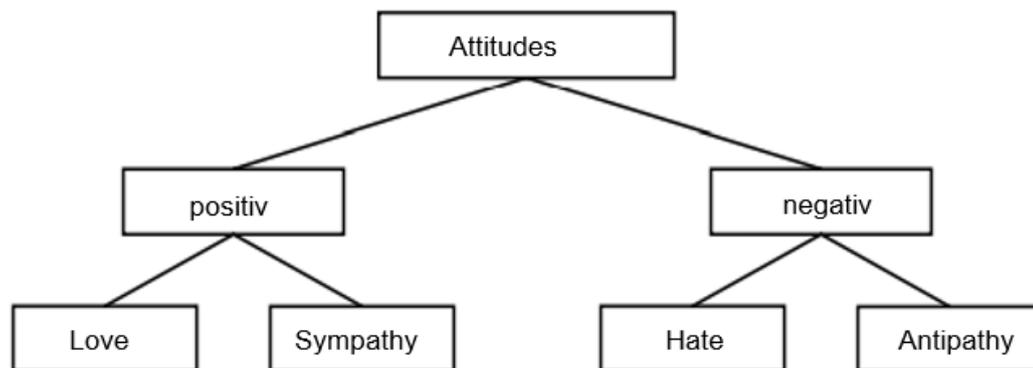


Figure 19 Code Hierarchies

Source: Kuckartz, 2010, p.115 (self-translation into English)

Two evaluation criteria were considered in the final formulation of the analysis: 1. Summary of material from the interviews and reduction of the material. Building a base image of the content through abstraction. 2. Structuring of the texts using the inductive system of categories. The objective is to obtain an organizing system that represents all the material. (Mayring, 2015)

3.3.7 Reliability and validity

Reliability

Scientific work is always subject to classical quality criteria in order to ensure objectivity, reliability and validity (Kuckartz, 2018, p. 202).

In this area, qualitative content analysis naturally allows a much more significant margin than is known from other methodologies, which are also easily comprehensible. The main criterion of science is to disclose as much transparency as possible about the work. This has been incorporated in this work by including a clear guideline for data collection and subsequent analysis. The entire project documentation can be found in the main part and additionally in the appendix.

In principle, the representativeness of qualitative work can always be questioned. It should be noted that the relatively small sample (eleven interview participants in total) can of course only represent the opinions expressed in this section. Therefore, the results obtained cannot be observed in a generalized way but can rather only be based on a tendency from a particular part of the entrepreneurial world (Kuckartz, 2018, p. 202).

In the qualitative field, the work attempts to formulate hypotheses, test them and evaluate them on the basis of the case selection. In more general terms, further studies must be conducted using quantitative research methods to obtain greater coverage of the results achieved.

Validity

Scientific character: Measuring the success criteria of start-ups is not new. However, the consideration of countries that are growing strongly in digitalisation and start-ups is partly unexplored.

Scientific analysis: The scientific work is structured with a conventional literature review followed by a scientific method. The literature analysis provides the scientist with the essential expertise needed for the scientific method. The expert interview was conducted using the deductive method. However, in the subsequent analysis, the inductive approach was also used to generate the requisite scientific perspective.

Scientific plan: For the scientific method, qualitative content analysis was chosen to assure that new fields could be investigated. The inclusion of as many and as varied case studies as possible is intended to guarantee the greatest possible diversity of results to consider new insights or marginal findings. The selection of the interviewed companies in different regions of Spain is also designed to establish a diverse result structure for the qualitative content analysis.

4. Evaluation of the results

4.1 Qualitative research

The following section shows the results from the qualitative content analysis based on the expert interviews conducted. The results are presented in order since some categories are scaled according to positive and negative aspects. Therefore, an exact weighting cannot be made and would possibly point the reader in the wrong direction: The three most frequently mentioned factors in both the positive and negative sense are (see annex: Coding table):

1.Organization factors	(52 quotes)
2.Education system	(40 quotes)
3.People in Spain	(37 quotes)

However, much more decisive than the general consideration is the consideration of the country-specific success factors. As clear success factors, which speak explicitly for the country Spain, the following factors are enumerated:

1.Organization: Customer focused /Specialization + Business relations: Closeness to city hubs and customers	(both 14 quotes)
2.Organization: Lean-Start-up; Continuous improving + Product and technology: Competitive Advantage and scalability of product	(both 12 quotes)
3.Organization: Strategy and predictability	(11 quotes)
4.Team: Mixed approach (take the best national and international) + Business relations: Networking Start-ups and Incubators support	(both 10 quotes)
5. Markets: All over the world	(9 quotes)

Under each main category, an overview graphic can be found at the end of the evaluation. The graphs are showing how often the subcategories (subcodes) appear in the eleven expert interviews. The illustration is intended to clarify and indicate how important the individual points are for the participants. Given the small sampling rate, it is not possible to speak of a definitive quantitative associated result here.

4.1.1 Team

The key findings on team success factors with the start-up sector are:

- Mixed team are more creative and inspiring in the field of disruptive technologies.
- Individual responsibility creates motivation and commitment for the company.
- Involvement and discussion achieve a common line within the employees and make real inclusion of each individual happen.

Mixed approach (take the best national and international):

Introductory quote:

"It's definitely international, it's about 40% or 60% women, 40 %women and men; I think at this point we've got guys from India and at least two people from India, people from Barcelona. We've got people from France, from Germany, from England, from Colombia, from the US, from Greece, Albania." (S4 Interview: 28 - 28)

Multicultural teams provide a great and open-minded diversity for organizations that are working on a global level. Of course, the diversified team also could have issues at the beginning on the onboarding of people and the acceptance of local people. However, the advantages are clearly beneficial to build a creative workspace within the different departments of a start-up. Two participants stated a different way of approaching the team set-up. They were focusing on the expansion and hiring in the corresponding country the equivalent people in order to be international and also focused on the local needs of the target market. (S2 Interview; Position: 34 – 34, S8 Interview; Position: 38 – 38)

Also, a different aspect is mentioned by one other expert, which is working as Head of AI, to describe the challenge of the digital business opportunities and the involved digital disruption of it:

"So, if we have a mixed team, possibly that is the great challenge of being able to carry out that definition of a disruptive product to the market, isn't it?" (S1 Interview: 38 - 38)

This would mean that the challenge of changing business models and going a different way than traditional companies also is reflected on the team set-up. In concise, it can be said that the mixed approach, a team of international employees and local employees, was explicitly mentioned in 7 of 11 documents (table 8) and can clearly contribute positively to the company's success.

Spirit and Commitment:

Introductory quote:

"People! It's all about people and finding the right person for the right job, yeah, it is a people, people's business because we are in the services business. So, finding the right talent, growing the right talent, it's all talent based. So, the critical success factor in our business by definition would be talent and is still talent." (S5 Interview: 43)

The terms Spirit and Commitment generally refer to the team spirit and the bond with the company. In principle, this factor is seen as very decisive in driving products and projects forward:

“I’m very proud of the quality of the team that we’ve managed to build, the dedication, the intelligence, the, the hard work, the team responsibility, the team that we’ve developed has been amazing.” (S4 Interview: 48 - 48)

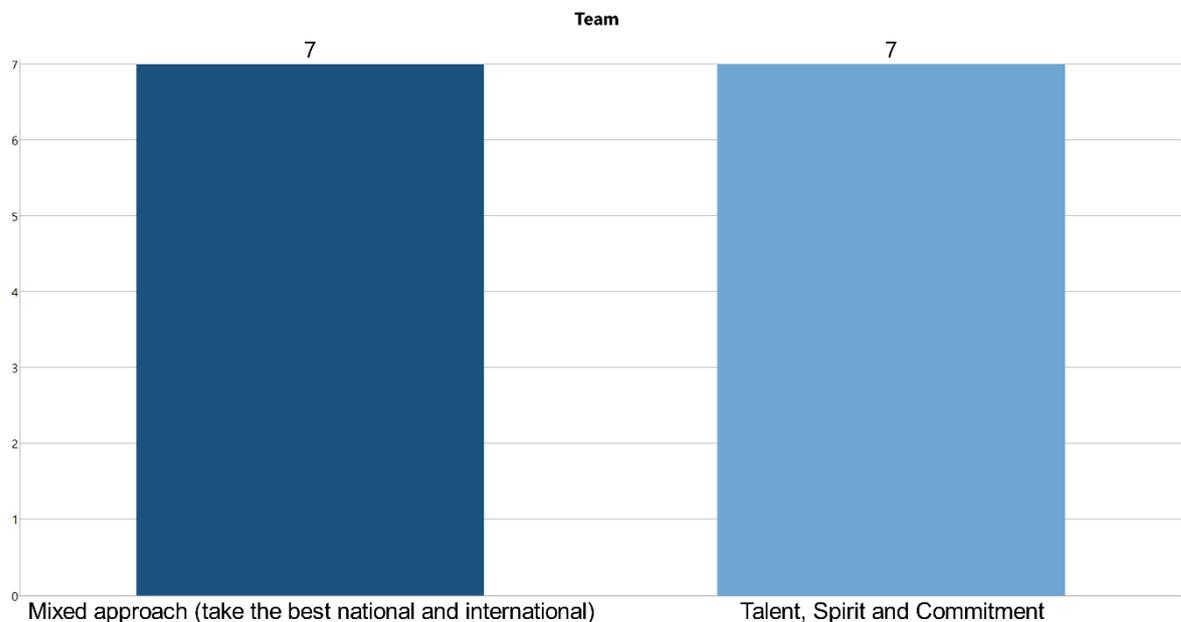
However, not only the commitment is mentioned by most interview participants but also the passion and motivation in general in their job area. This motivation is already present during the training and is further developed and promoted by the personal responsibility in start-ups. This factor is also related to the leadership of superiors and can best be described by the statement of a company founder in the software industry:

“Passion. And yeah, all the team is especially going for that. I mean, it is not. We all work for money, OK, but to make money. But the thing is that if you are looking only for money, then you will never success. I mean, unless you have passion for what you are doing. You have to, as a leader or as a leader or a part of the team, you have to, to make them love what they are doing. I mean, it’s not my software anymore. It’s our software.” (S9 Interview: 34 - 34)

As a summary it can be said that about 7 out of 11 participants (see table 8) see the commitment and ownership in the team as a motivator and are crucial for the company's success.

Table 8 Team quotes document overview

Source: Self-creation, Hehle, 2021



Statement 1: A diverse and international team guarantees a very creative working environment and can react very well to a global company orientation.

4.1.2 Education System

The key findings on education for the success factors are the following:

- Practical experience for graduates is key for the start-ups.
- Foreign language knowhow is necessary to work and make business on a global and fast evolving organization.
- Giving fair opportunities for young Spanish graduate's support to keep people in Spain and make them accessible for the talent pool of the start-ups.

Education is the key and the starting point for the success of any society. Only through an adequate school and university system, this can also be implemented. Accordingly, future experts can be recruited from this education system and successfully used to build new companies and start-ups. However, not only the theoretical education is crucial but also the necessary practical experience. The main category: "Education", is composed as follows in figure 20 according to the general coding.

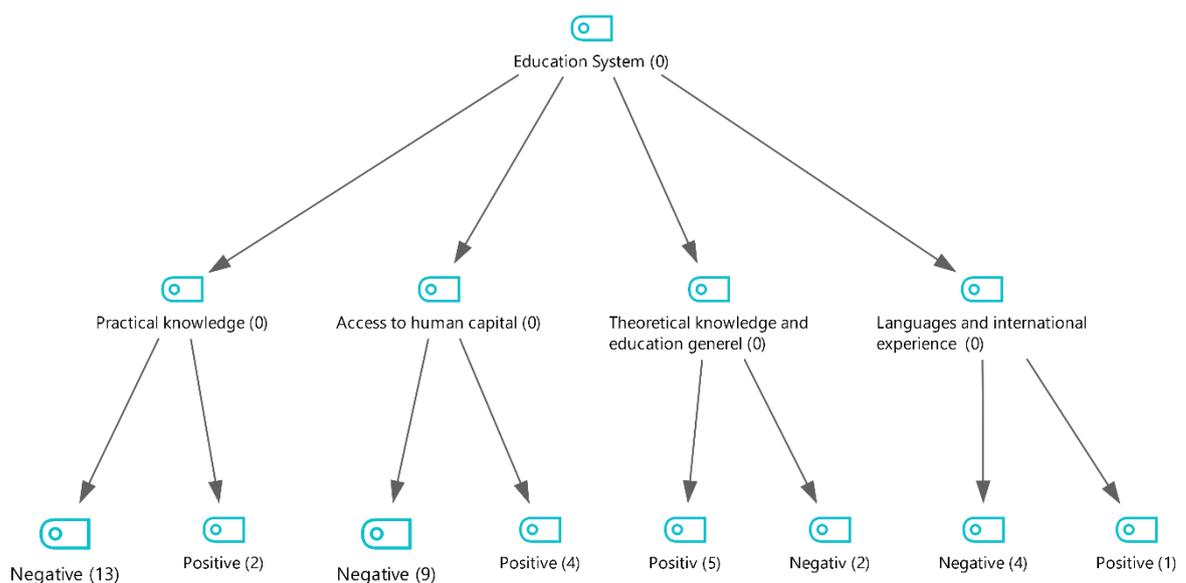


Figure 20 Hierarchical Code-Subcodes Model Education System

Source: Self-creation, Hehle, 2021

Theoretical knowledge and education general:

Introductory quote:

"The Spanish education, the educational system is good and bad at the same time, I think that Spanish people, they are very well prepared before they go to university. So, the education is, is quite good." (S5 Interview: 37 - 37)

The general opinion about the theoretical knowledge and the educational system are partly very different among the participants. While one part (Experts: S4, S5, S8, S10, S11) describes the Spanish system as solid with some weaknesses in detail:

"I have the vision of the university. Let's see, I think it's fine. That is to say, it can be. It can be improved." (S11 Interview: 32 - 32)

Nonetheless, other participants (S6, S7) in the interviews describe the system as outdated and too focused on theory. The lack of scientific research organizations that cooperate with the universities is also described as a fundamental shortcoming:

"I want to mention that our research institutions are not that big enough to go as deep as necessary into the research of specific areas. This is a lack of our system." (S7 Interview: 43 - 43)

In general, the majority of participants are very positive about the Spanish education system, which can be seen as a success factor. In principle, every system can be improved and is subject to a continuous improvement process. What particularly stands out in the Q&A sessions is the high regard for the technical universities (UPC and UPM) at both hubs in Madrid and Barcelona.

Practical knowledge:

The practical knowledge and experience, which is acquired during the training and study activities, is considered crucial among young entrepreneurs to work as efficiently as possible from the very beginning. However, many Spanish graduates lack this experience:

"I think we have a big gap to other European countries when we focus on practical training during university. In addition, we don't have the practical training besides the university like in Germany." (S7 Interview: 43 - 43)

The expert interviews give a clear statement about the practical knowledge of Spanish university graduates, which is very negative (S1, S2, S3, S5 - S11). In principle, a student does not complete any practical semesters at university:

"But maybe the approach is too theoretical, and it should be a bit more practical. If we talk about engineering, that would be the criticism I see now. Students don't know anything physical. Everything is virtual. You know, they have to watch them to do things with machines and fight with the hardware." (S11 Interview: 32 - 32)

Other participants (S2, S5, S8, S10, S11) explicitly address the situation between the transition from university education to start working. This is not always very easy and sometimes requires a lot of support from the companies or, in this case, the start-ups:

"The software engineers that we are hiring, they come with a very old-fashioned preparation to, to our companies, to our interviews. They don't; they are not prepared. They lacked this practical working experience before they even start. So, the whole like, like I am used to, and I think that in England and Germany and Holland, it's very normal that you do it as a thesis, you know. [...] So, you see the people are very, very theoretical and very little pragmatic." (S5 Interview: 37 - 37)

In the last quote, it can be seen that in many European countries, there is a clearly better situation in the area of practical training. In Germany, in particular, two practical semesters are part of a regular course of study. Nevertheless, many Spanish start-ups are willing to train their theoretically highly educated graduates in a practical manner (S2, S8, S9). There is also controversy about how much practical preparation is really necessary and whether "learning on the job" would not be a better way to start:

"Things, that you don't see when you do an internship in a company either, because in the end what you see is how the company works. And the world of work. But when you are working as an engineer, yes, you are alone in front of the problems, that's where all this assimilation and competition between the theoretical part and the practical part really comes in." (S8 Interview: 45 - 45)

In summary, it can be said that the practical experience of newcomers or graduates can be classified as very low in Spain. However, this is compensated by the very good theoretical knowledge.

Access to human capital:

Introductory quote:

"Whatever we have around us, there is enough talent to do well, well or very well. At the moment, we are covered in terms of talent." (S11 Interview: 24)

This initial quote comes from a founder who works in the university environment. He has direct access to the resources; the future graduates. To successfully start a business, it is essential to focus on growth from the beginning. Of course, this is just possible if appropriately skilled personnel is available. In Spain, there are several technical universities that provide these resources.

However, the demand for these resources is very high and therefore, this crucial success factor is seen as very negative (S1, S2, S4, S5, S9), i.e., the resources are not available or are migrating abroad:

"You have a lot of well-educated people here without maybe the same opportunities you would have in London. A lot of those talents are being poached out of the country, but a lot of those people want to stay in Spain." (S4 Interview: 38 - 38)

The difficult situation for young graduates, especially in terms of salaries, has led them to move abroad and eventually come back when the situation in Spain improves. Nevertheless, there is severe competition for talents, and often the experts from the fields of study data science or software development can choose their jobs themselves:

"I mean, I would say that the people that has knowledge has already, they are already employed, so they are not available in the market." (Interview: 18 - 18)

Therefore, many founders are forced to reconsider their decision due to the lack of available talent and outsource certain activities abroad. Also, in principle, this has led founders to ask themselves whether Spain is currently the right place for a start-up:

"I would start my company in the place where most easily I would access talent, and so if I would start a company right now, I would not even consider Portugal or Europe in our

business. The talent pool is very limited in the mature markets. So, I would, if I start, would start over again, I would start my company in Latin America or in Africa where you have incredibly well-prepared people, experienced young people and that are available in the market.” (S5 Interview: 45)

In summary, due to the high number of graduates in the technology courses of the digital field, there are enough resources available. The problem is that the demand for these graduates comes from abroad, where the salaries are much higher, and the companies are very appealing. Spanish start-ups are at a disadvantage here. Nevertheless, many Spaniards are very attached to their home country and come back over time, with the advantage of having made an international experience.

Languages and international experience:

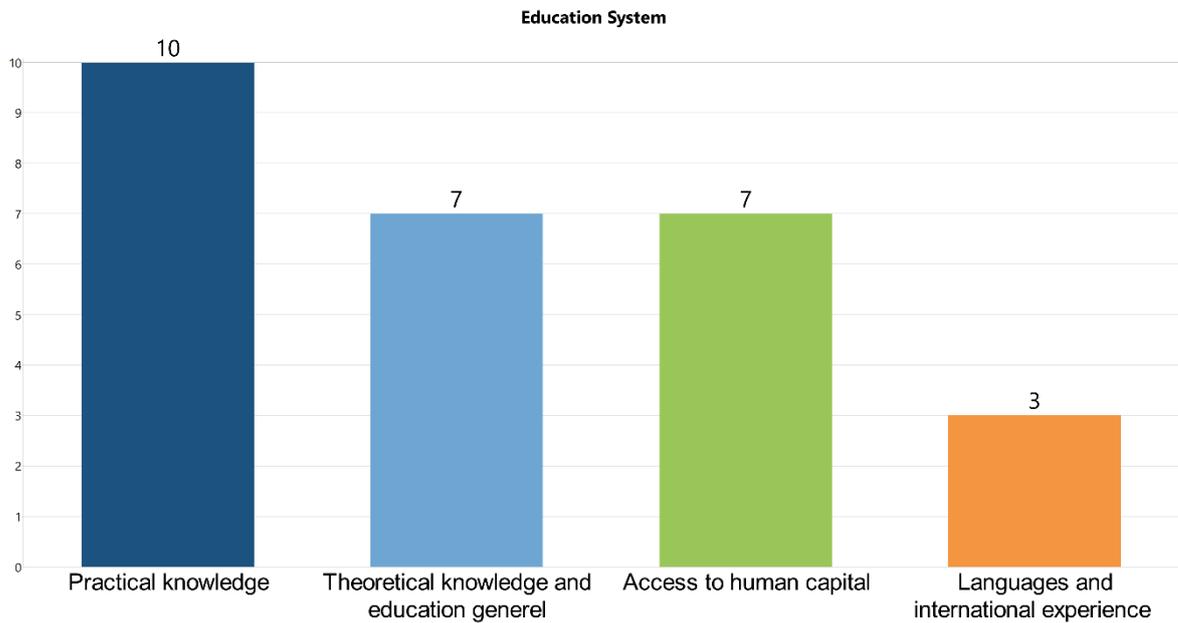
Introductory quote:

“And at the university level, in the end, the people who are most valuable to hire, because we will be hiring more people in the near future. They are the ones with an international background because in Spain things are limited both in terms of languages and training.” (S6 Interview: 30 - 30)

Language skills and international experience are essential today, especially if organizations want to operate in the international field. The survey of the participants gave a clear indication that this is currently the case in Spain only to a very limited extent (S5, S6, S10). One entrepreneur (S10 Interview: 62 - 62) even exploits the language barrier for himself and argues that the non-existent English of many graduates is to his advantage, as this forces them to concentrate on the Spanish labour market. This interviewed company works primarily in the Spanish-speaking region, which is why English skills are of secondary importance.

Table 9 Education System quotes overview

Source: Self-creation, Hehle, 2021



Statement 2: The theoretical knowledge level in Spain is very advanced, but on the practical side, it still needs to be expanded significantly in order to guarantee a timely business success.

4.1.3 Business relations

The key findings on business relations for the success factors are the following:

- Closeness to city hubs is getting more essential for start-ups as bigger their customers are.
- The incubators support is vital for the start-ups by using their experience and the proper networking during the different seeding stages.
- The Spanish open mind, the culture of the people and the general community are good prerequisites for establishing customer contacts.

Business relationships lay the foundation within a company's sales force. This requires an existing network and the expansion of this. External "start-up assistance" is also a very supportive measure. This is done through government or private support through so-called business incubators.

Closeness to city hubs and customers

Introductory quote:

“We have to access to big companies this is very important and the location that we have to be where big companies are. I don't know what is going to happen in the following years with the remote and digitalisation and all of that; maybe the location will be less relevant. But, in the normal circumstances, when we, when we start, we think that it is important.” (S2 Interview: 54 - 54)

The selection of the different start-ups for the interviews was done based on research. The intention was to find a diversified field of different start-ups as possible. Although, simply because of the number of companies located in the three hubs: Barcelona, Valencia and Madrid - a pre-selection was automatically made. In simpler terms, the start-ups are concentrated in metropolitan regions. The majority of experts consider proximity or even location in the city centre to be very critical to success in order to maintain proximity to customers (S1 - S7, S9 - S11). Similarly, many participants also speak of the future of remote working. However, many are unsure whether this type of collaboration will replace direct customer contact (S2, S6). One other expert, who has built up his start-up outside the metropolis of Valencia, sees his regional location as an advantage over others:

“As we are not close to the two big-city hubs from Spain, our rural location is key for our business; thus we could be close to our customers and therefore get the contracts easier than any not local company gets. Of course, on the other side, this is also a huge disadvantage as we are totally deepening on the local sector and our growth is limited.” (S7 Interview : 56 - 56)

In conclusion, it can be said that nearly all participants see the importance of choosing the right location to have direct and close customer contact. The prestige factor is still not to be underestimated as a generator of success for the companies:

“It is important, on the one hand, because of the prestige it gives you. It's not the same to be based in Paris as in Alicante, because a capital city gives prestige and practicality.” (S6 Interview: 38 - 38)

Networking Start-ups and Incubators support

Introductory quote:

“I tell you, I was suspicious at the beginning because I had not a good experience and so on, and it seemed very bureaucratic, didn't it? But no, it did go very well because it trained the partner in the more entrepreneurial aspect and in fact we won a prize. Let's say, they run a competition for the best start-up in the programme and we won the first prize.” (S11 Interview: 28 - 28)

Collaboration among start-ups is often more diverse than among traditional companies. Collaboration is even sought here to learn from each other (S4, S9, S11). However, there are individual companies, especially larger ones, that prefer to work alone to protect their business ideas (S8). The networking and support of incubators is additionally supported by the provision of infrastructures and also office space at a very attractive price in the first start-up years (S9, S11):

“Ok, we are in the university campus. They have the university building and then they have some buildings. So, we are in the incubator right now. So, we are in the in the, in that process of incubation of the software. So, we have three years to be here. So, we started last year in July, and we still have 2.5, a little bit more than two years to be here.” (S9 Interview: 10 - 10)

In summary, in Spain, there is a high level of collaboration among start-up entrepreneurs. This collaboration shapes the start-ups and spreads a very positive spirit. In particular, the experts from Barcelona gave highly positive feedback on their experience and they are convinced that this supports the company's success from the very beginning.

Customer networking

As previously mentioned in the upper part, direct customer contact is the first priority in the sales channels of a start-up. For this reason, not only proximity but also networking with the customer is very decisive for success. The Southern European culture is generally considered to be very open and exceptionally social. These characteristics in Spain creates very fast business connections on a personal level:

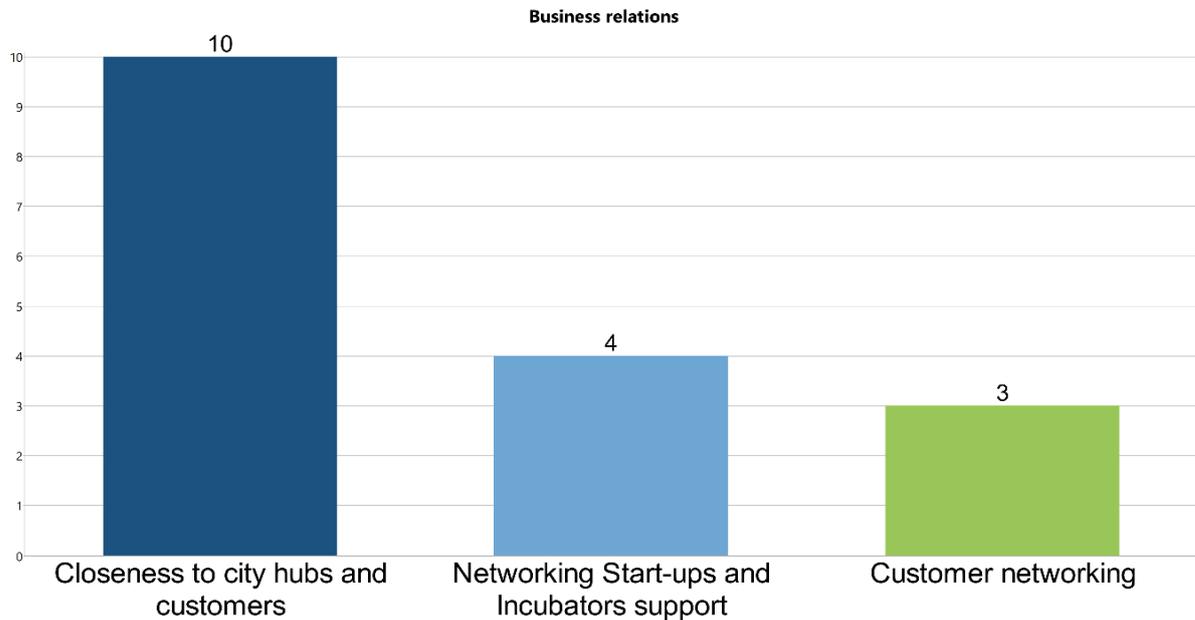
“And the truth is that word of mouth is very good in Spain. It can be a virtue or a weakness depending on how we do it. But it is very important to be introduced to someone else, to be introduced, to be referred to that kind of thing.” (S10 Interview: 50 - 50)

The participants (S3, S4, S10) are positively confident that only the appropriate and extended network can assure long-term business success. This basic idea is very much in favour of Spain due to its very distinctive culture of social interaction:

“You can start a company without a network, but you're not going to make it, it is going to be almost impossible for you to continue it without a network.” (S4 Interview: 62 - 62)

Table 10 Business relations quotes overview

Source: Self-creation, Hehle, 2021



Statement 3: Incubator assistance and a central location in one of Spain's metropolitan hubs are marked for a successful customer-focused organization.

4.1.4 Markets

The key findings on markets for the success factors are the following:

- The rapid global expansion is targeted for being successful on a global level.
- Spanish speaking countries are more convenient to do business based on the same language and similar cultures.
- Lead customers support to develop a product in a fast way in the start-up phase and simultaneously guarantee a fixed first sales market.

The vast proportion of products that are available today are designed in such a way that they can be described as global products. This means that the products are designed in one way or another so that they can be sold in almost all countries with only minor customization. Digital products and services are even easier to adapt because partially only the language or the legal requirements must be adapted. To become profitable as quickly as possible, the start-ups must expand. For Spain, this can happen in some cases only in Europe but can also extend across the entire Spanish-speaking world for linguistic reasons.

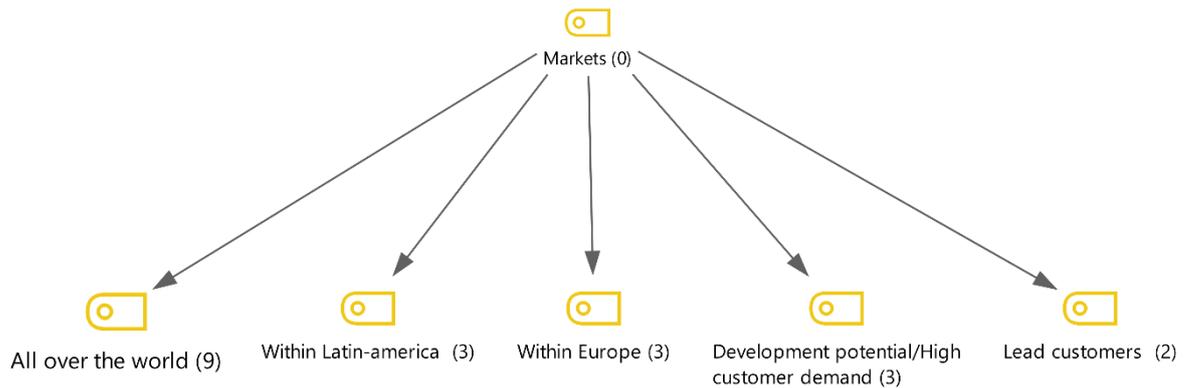


Figure 21 Hierarchical Code-Subcodes Model Markets

Source: Self-creation, Hehle, 2021

All over the world

Introductory quote:

“The entire Spanish-speaking world. As of today. Specifically, although our main market and our clients are generally from Spain. We are in more than 45 countries. But generally, all Spanish-speaking countries and others such as the United States or India.” (S6 Interview: 12 - 12)

Even one participant was more accurate in numbers about the global business they have from their start-up based within the automotive industry of factory machinery:

“No, no, only Spain. In fact, as I was telling you before, you could say that 98 per cent of our turnover is outside Spain. And 85 per cent of our turnover is outside Europe.” (S8 Interview: 18 - 18)

Spanish start-ups mainly exploit their linguistic background and expand their business to Spanish speaking countries and continents such as South America and Central America (S6, S8, S9). As described in the introduction, digital products are much easier to roll out globally, so entrepreneurs focus on extensive global expansion to almost all countries (S2, S4, S5, S8, S9). These global success factors in Spain are supported by Spanish conglomerates such as Repsol and Telefonica, which often include the products in their network and enable the start-ups to benefit directly from their global market (S2, S5, S9):

“We do a lot of projects also in countries where we are not established, and we do that together with partners.” (S5 Interview: 18 - 18)

In summary, Spanish start-ups are leveraging their language advantages in the Hispanic world and relying on large Spanish corporations for support in their global expansion.

Within Latin-america

Expansion into South and Central America is part of the strategy in many companies. Based on the expert interviews, very few start-ups rely exclusively on expansion into this Spanish-

speaking group of countries (S1, S2, S10). Due to the partly uncertain economic situation, this strategy is also associated with moderate risk. Nevertheless, Spanish companies trust and rely on these business relationships. Often the common culture and language connect over economic concerns:

"Latin America or maybe other countries with Latin culture like Italy or whatever." (S2 Interview: 42 - 42)

South and Central America cannot be seen as a clear advantage and success factor but can be supportive to participate more easily in global markets.

Within Europe

Introductory quote:

"In Spain? We are opening in Paris and in London. In late summer it we will open in Germany, in Berlin." (S1 Interview: 12 - 12)

The business expansion within Europe is meanwhile already part of the standard path. Numerous start-up founders have gained European and international experience either through Erasmus studies or through a work-stay abroad (S3, S4, S6). Significant opportunities or risks are not described in detail here. It is much more the search for suitable locations or local partners.

Specific guarantees of success associated with only European business expansion are not directly derivable from the interviews. Despite this, as already described in the introduction, almost all participants are convinced that only expansion will secure the business in the long run (S1 - S6, S8 - S11).

Lead customers

Lead customer involvement was not an issue in all interviews, but when it was mentioned, it was even more important to the experts (S8, S10). In these cases, there is a shortage of financial resources or even liquidity at the beginning of the start-up phase. These financial obstacles can be overcome by a lead customer, who possibly also participates in a close partnership in the development of the products:

"The idea came up to make a product at the same time, we were collaborating very closely, very, very closely with a very large company here in Valencia that had an Open Innovation environment and they told us, hey, this is Open Innovation, we want to make it an innovation, acceleration and investment app." (S10 Interview: 28 - 28)

A lead customer, especially in Spain, which has a very distinctive social community and close business relationship, is important and has an influence on the success of the company.

Development potential/High customer demand

Introductory quote:

"That we really saw, that there was a market for this kind of service, very specialized." (S2 Interview: 30 - 30)

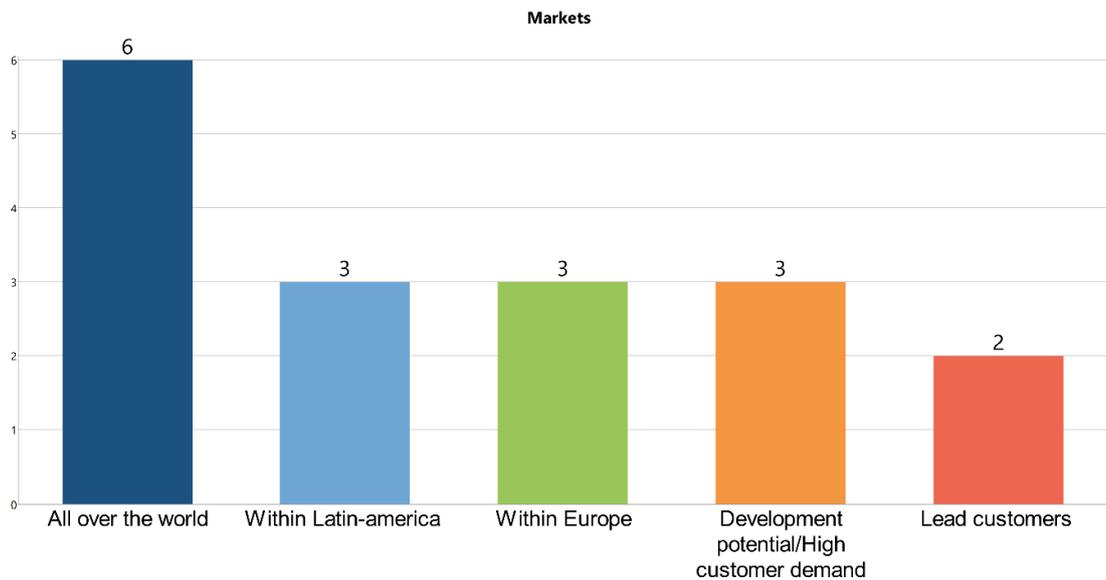
New markets (see chapter Blue oceans) or existing markets are always related to customer demand. Particularly in the area of new digital technologies, new opportunities or even completely new markets are opening up continuously. This is the opportunity and prospect of success for start-ups to secure these markets and, through rapid growth, to protect them in the long term (S1, S2, S11):

"But I would say that the important thing is to have a market and we are creating the market; we are already opening it with the product." (Interview: 48 - 48)

New markets must be identified quickly, and an assessment of the potential needs be made within the companies. In general, start-ups take the risk of aggressively entering these markets and can expect great success, if the potential is confirmed.

Table 11 Markets quotes overview

Source: Self-creation, Hehle, 2021



Statement 4: Growth and the rapid development of new markets are the basis for the success of start-ups. The common language and culture can be extremely helpful in expanding markets.

4.1.5 People

The key findings on people for the success factors are the following:

- The traditional Spanish work culture and attitude towards self-employment prevent the country from occupying an important position in the international start-up ranking.
- Labour costs in Spain are relatively low, which makes Spain a very attractive location for young companies.
- Entrepreneurship in Spain is very much dependent on the founder person; a fundamental entrepreneurship culture is not established.

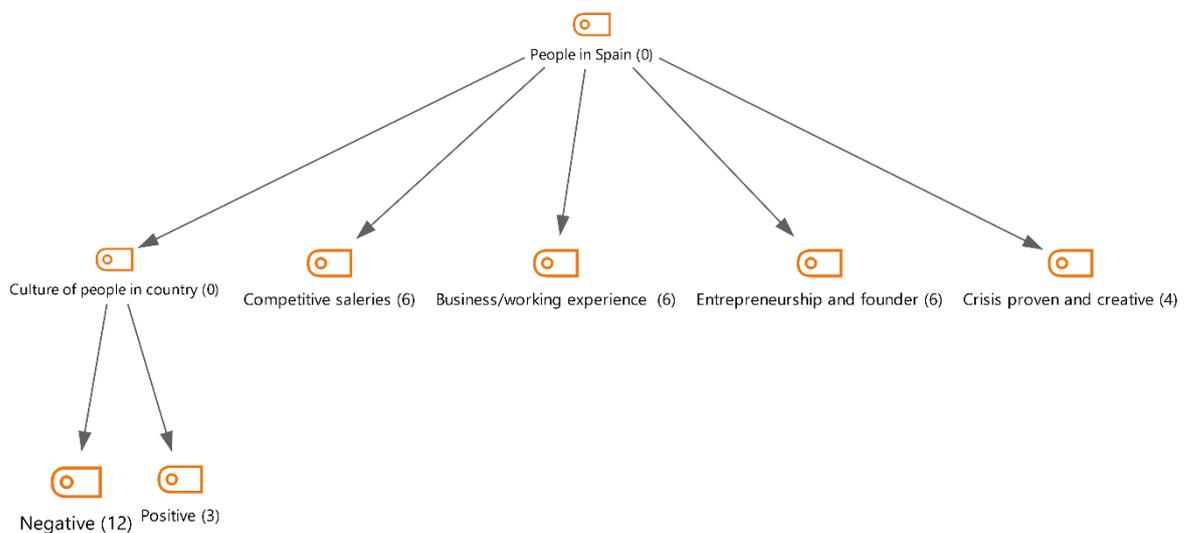


Figure 22 Hierarchical Code-Subcodes Model People

Source: Self-creation, Hehle, 2021

The southern character of the people cannot be ignored when examining Spain as an economy. The majority of the experts in the interview had a mixed opinion on the work attitude of Spanish graduates in particular. The so-called work-life balance is extremely important for many Spaniards and can also be partially transferred to work performance.

Culture of people in country

Introductory quote:

“You either, you either live to work or work to live. Right. I think in Spain, people are working to live, which is completely fine. But in places like London, for example, if you break your back for your career, you work, you can work stupid hours.” (S4 Interview: 42 - 42)

The Spanish culture and especially the general working culture is seen negatively in the evaluation with 12 quotes compared to 3 positive quotes. Various reasons play a role here,

especially the traditional Spanish family image which generates a very late independence of the young generation (S5). In addition, the mostly young university graduates are not very interested in giving up their place of residence (S5). The young generation aspires to a civil service career because of the job security and the good working hours. There is very little risk-taking in terms of job selection (S4, S6, S9, S10). Basically, all participants could confirm that in Spain, the problem is a matter of attitude, which is linked to the culture:

"I think Spaniards are quite backwards. In terms of work and money they don't like to take risks and prefer, and in fact, there was the typical thing that many people want to be civil servants." (S10 Interview: 44 - 44)

Some other participants suggest that the issue is more related to the size of the country and the opportunities within the country, which culturally limits people more in terms of work. Spaniards focus too much on their own country (S5, S7, S9). A very widespread point that is not to be despised, however, is the positive social attitude of the people. This mindset definitely helps beyond certain work attitudes:

"It is true that the Spanish people, well, they are very sociable." (S3 Interview: 38 - 38)

Competitive salaries

Introductory quote:

"It also has to do with salaries. So, the entry salary of, of a student that has a first job is incredibly low and the salaries in many sectors are, are still after. Even when you have working experience, they are they are quite low." (S5 Interview: 39 - 39)

As stated in the above quote, in Spain the general population and academics (S1, S4, S5, S10) earn significantly less than in other Central European countries. This attracts start-ups to keep their fixed costs low. They also benefit from the nevertheless highly educated graduates. This is a clear success factor for Spain as a technology hub. For the future and the associated demand for experts, however, this may also be negative for the country. A sell-out of employees may occur:

"I think. It is also true that now with the issue of remote work, many companies are starting to hire people here remotely and with salaries from Ireland, Holland, etc." (S10 Interview: 60 - 60)

The salary structure in Spain is undoubtedly very favourable to companies, but it is also associated with emigration of skilled workers out of Spain.

Crisis proven and creative

Introductory quote:

"This could be one of the key points, because people can easily adapt to different, different approaches." (S1 Interview : 34 - 34)

In the past, Spain has had to struggle repeatedly with severe economic crises and has been hit more severely than other European countries. Unemployment among young people has been very high for years. Several experts could confirm (S1, S3, S8) that these crises have shaped the generation and have produced positive characteristics. The young generation

is exceptionally adaptable and creative in all matters. These characteristics are very useful in the constant change management process or the lean method of start-ups.

Business/working experience

Introductory quote:

"I think the biggest value has been to perfectly understand the ecosystem in which you are going to spend your business. Because when you go out and you want to dedicate yourself to the digital world and you don't know how the digital world works, you're sold." (S6 Interview: 36 - 36)

Not only practical experience during studies is important, but also professional experience. Several experts were able to confirm that, due to the crisis, Spaniards, in particular, have gained professional experience abroad (S4, S6, S10). Without initial professional experience, founders are usually overwhelmed with all the work required in a start-up (S6). Another participant stated that it was his professional experience that first motivated him to become self-employed and that in the second step, professional experience was decisive in successfully implementing this:

"We did the consultancy and from working for a couple of years as data consultants. And then from seeing the project, we did for a company that was patrolling with AI Analytics technology. We did start our business." (S10 Interview: 28 - 28)

Professional experience in the field of technologies is a success factor for start-ups. Especially the combination of a business idea in the previous professional field is an ideal prerequisite (S10).

Entrepreneurship and founder

Introductory quote:

"If you have these lofty ambitions or these ideological beliefs, you still have to work within this capitalist framework, the world that we live in. So, a start-up is a mechanism to be able to deliver that change. I don't want you to take from this that I'm super naive, or I did the whole thing is done purely on ideological grounds, but the real driving force behind it is to build a company that delivers genuine change to the industry. I think if I just wanted to make money, I could have gone a different route." (S4 Interview: 26 - 26)

The core of every start-up is the founder or the founders. Without the right motivation and passion for the company and the product, nothing works (S3, S4, S5, S6, S9). The decisive factor is the entrepreneurship of each individual to take responsibility and to drive their own projects forward. The motivation very often comes from the desire for personal change (S4, S5, S6):

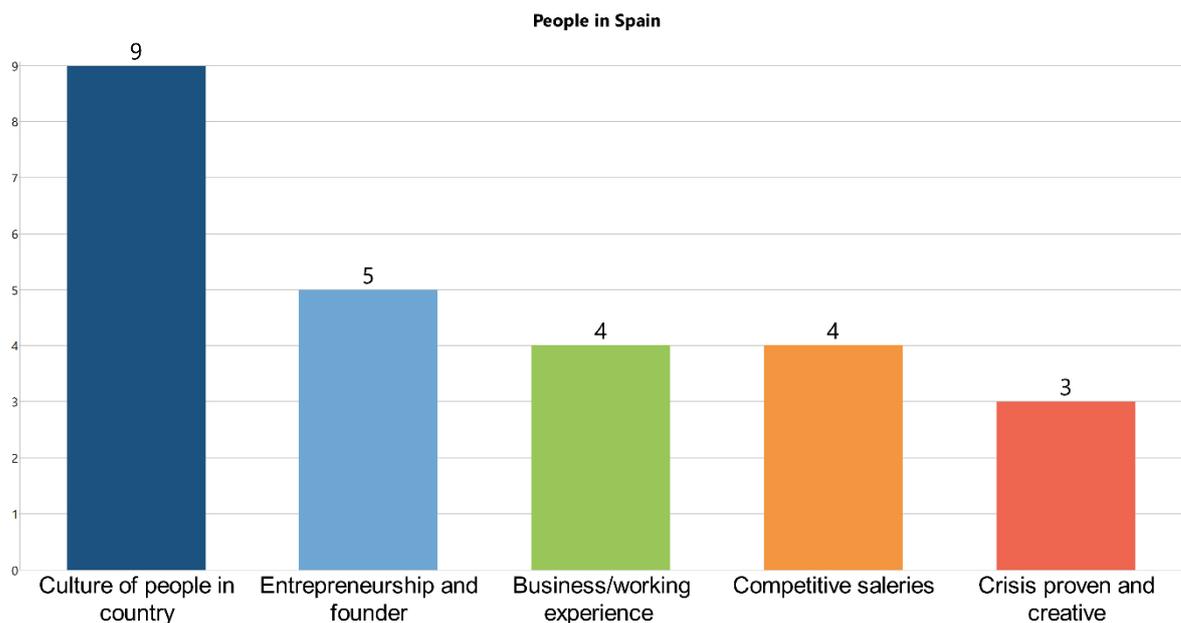
"But the, the main driver was, after so many corporate experiences that you are, your kind of saturation that I came to. I want to wake up in the morning being my own boss and be motivated by something that I drive alone or together more than hands-on things. No, you want to touch and create things really yourself with the help of others, driving it yourself and being the initiator and the, and the owner of it is completely different than being just a piece

or a number in a company, a big company where, Yeah, a lot of processes play at the same time.” (S5 Interview: 29 - 29)

Entrepreneurship is one of the key success factors for entrepreneurs. In Spain, entrepreneurship is only moderately developed, but in recent times it is becoming more and more critical and is spreading throughout society (S5).

Table 12 People quotes overview

Source: Self-creation, Hehle, 2021



Statement 5: Spanish society is undergoing a transformation towards more entrepreneurship and from a Southern European to a Central European attitude towards work.

4.1.6 Location

The key findings on location for the success factors are the following:

- Spain can show itself positively as a location due to a large number of resident industries, such as automobile manufacturing and logistics.
- State support for start-ups in Spain is very limited and complex to administer.
- The general infrastructure in Spain is very well developed compared to other European countries.

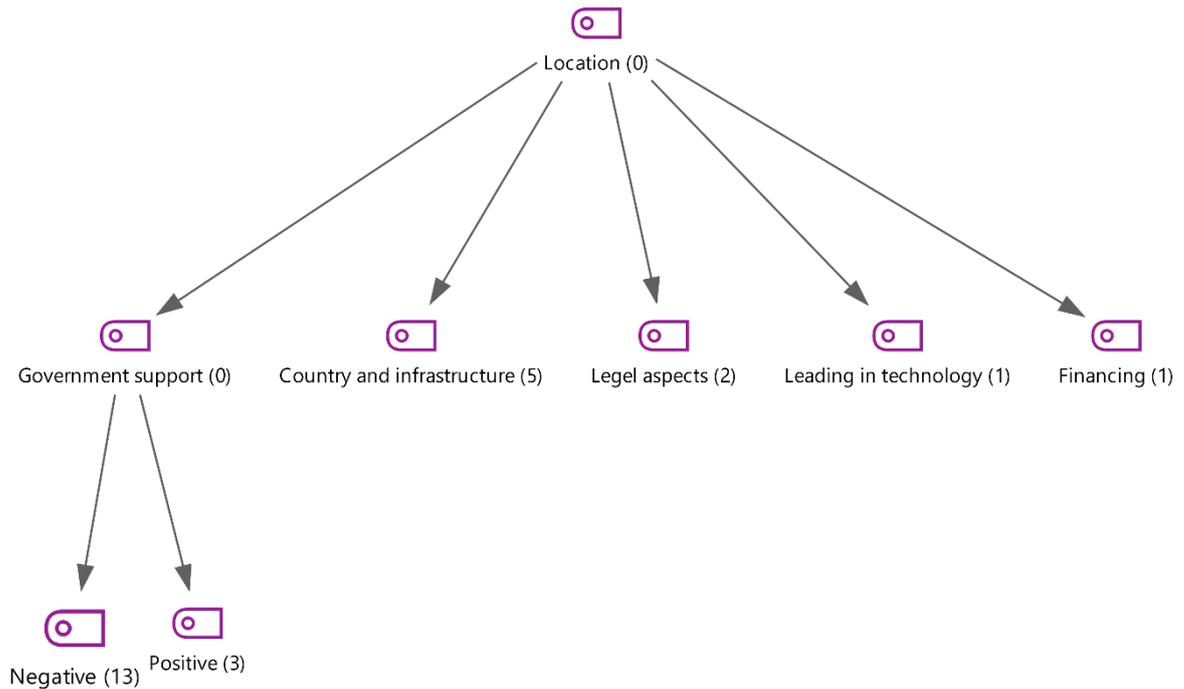


Figure 23 Hierarchical Code-Subcodes Model Location

Source: Self-creation, Hehle, 2021

The site and the associated country are an essential part of the investigation of this thesis. In conclusion, it will be presented how the government creates an attraction to found a start-up in Spain. The main results discussed were the Spanish government's support and various individual factors to attract foreign founders. A more extensive and additional relevant aspect is the infrastructure that Spain provides in all areas.

Leading in technology

Introductory quote:

"But it is true that it has certain sectors within industry that are making rapid progress. In Spain, for example, logistics and the car industry are sectors within industry that are making some progress in terms of industrial transformation." (S1 Interview: 36 - 36)

Spain is known as an attractive industrial location in Europe, but for foreign companies only in the area of manufacturing (S1) of products and not in their development. Nevertheless, Spain's very well-developed technical university system at many locations in the country can increase its attractiveness in the future in the area of R&D as well. Through this investment, the state wants to create more opportunities for technological leadership in the future.

Financing

Introductory quote:

"If I would do this again, I would incorporate the company in Delaware/US and then I would set up a hub in Barcelona for development if I could go back in time. And if I would have been a little bit smarter and raise all my money in the US, but I do all my development in Spain." (S4 Interview: 50 - 50)

Financing start-ups is essential and fundamental in any business start-up. Nevertheless, the topic is not at the forefront of many experts opinions in the interviews. The majority of the interviewees finance their companies through private investors. In Spain, the financing situation is not optimal (S4), and state support is very limited on this point. The financing of start-ups is not the focus of this thesis.

Government support

Introductory quote:

"Has been terrible, awful. I don't think the government has done a good job and support they, they reach out. They reach out a lot to say, hey, how can we help you? But if you look like really material support of what they actually really contributed, no, they haven't really contributed, which is a shame because I look at how the UK supports smaller companies and they do a better job." (S4 Interview: 44 - 44)

The Spanish government's support for business start-ups is discussed very controversially among the interview participants. Nevertheless, most participants rated the support as non-existent or very negative (S3, S4, S5, S7, S9, S10, S11). Especially the little information available is seen negatively:

"But the truth is that no, as far as I know, there is no environment, programme or whatever, where they give you more than money." (S10 Interview: 46 - 46)

In particular, many interview participants (S2, S5, S9, S11) perceive high levels of bureaucracy as a major obstacle to accessing government support programmes. This is why many entrepreneurs do not even bother to go through the arduous process of applying for support:

"Reality is that the processes to get to those funding and those incentives, they are so complex that while you are starting your company and being an entrepreneur, you can't find the time to even understand all those complexities, to get to those funding's." (S5 Interview: 41 - 41)

Two participants were nonetheless able to evaluate the category "government support" as positive in Spain (S1, S8). In their assessment, the government support programmes exist, but respondents are not aware of them or have not applied for them. In summary, it can be said that government support in the start-up phase is predominantly non-existent. For this reason, this factor cannot be considered as consistently positive in the area of success factors for Spain as a business location.

Country and infrastructure

Introductory quote:

“In Spain, they have done a good job in terms of digitalisation, they have done a great job with the creation of Internet infrastructure, for example, and Internet access by fibre, and also 4G and 5G, that is to say, by mobile. This was something, for example, that really struck me when I was in Germany. The communication infrastructure was much better in Spain, which really struck me. With such a strong industry that Germany has, it had such a weak digital infrastructure.” (S3 Interview: 40 - 40)

The Spanish infrastructure, which is essential in particular for the digital industry sector, is seen as excellent by almost all participants (S1, S3, S4, S11). One participant even considers it to be better than in Germany as an example (S3). The internet infrastructure above all is a key factor in this regard, and the internet base itself in Spain is considered as very good (S1, S3). In addition, Spain is seen as a very favourable location in terms of costs compared to other countries (S4). The country itself is an important success factor for the participants with regard to the start-up ecosystem, such as the mild Mediterranean climate, the central geographical location in Europe and the citizens of Spain (S11).

In retrospect, Spain offers optimal conditions for a start-up in terms of infrastructure.

Legal aspects

Introductory quote:

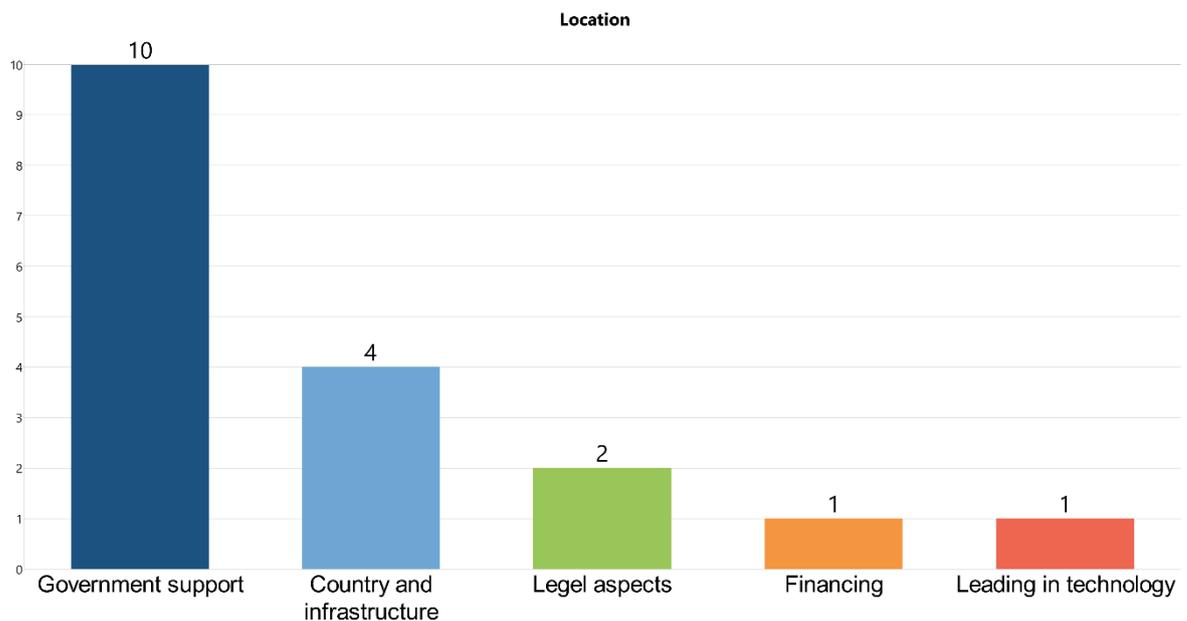
“The problem in Spain is that it is very bureaucratic. And it is not at all adapted to create companies, nor to help technology entrepreneurs, well, for entrepreneurs in general and in particular for technology companies. Fiscally it is a horror for today from day one. You have to pay a fixed amount that is not defined according to your income, which, well, that is already a barrier. It costs quite a lot to set up a company.” (S10 Interview: 78 - 78)

The legal requirements for establishing a company are essential to ensure that it is as easy as possible to set up a business and to have simple legal security in the further process of operating a business. This area is rated negatively by several participants (S10, S11). Above all, the bureaucracy and the high costs associated with it argue against founding a company in Spain. One participant even goes further and relates that the state system is more against a foundation than for it (S10).

The legal aspects are not designed in such a way in Spain that they represent a success factor for founding a company there, according to this thesis.

Table 13 Location quotes overview

Source: Self-creation, Hehle, 2021



Statement 6: Spain is seen as an attractive business location in Europe, but the start-ups there receive very little support from the state.

4.1.7 Organization

The key findings on the organization for the success factors are the following:

- Spanish start-ups exploit niche markets and focus on customer-focused solutions.
- The constant change and adaptation of the products according to the Lean Start-up method ensure long-term success.
- The Spanish organizations rely on strict planning in advance and base their strategy on this fact.

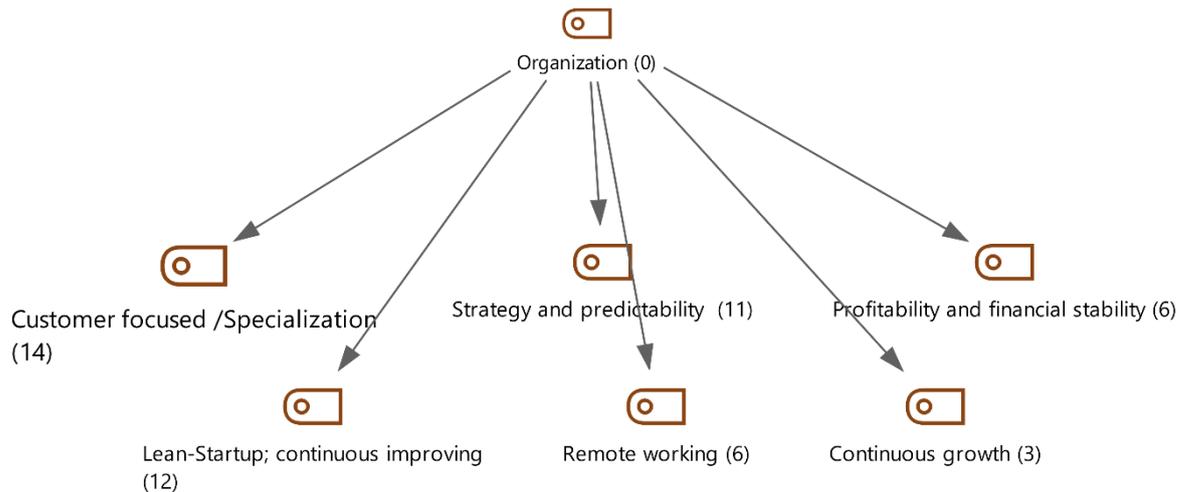


Figure 24 Hierarchical Code-Subcodes Model Organization

Source: Self-creation, Hehle, 2021

The organizational structure and the company's strategy influence the result of a venture in a very considerable manner. The interviews provide very positive information on how the company structure and organization are adapted for success in Spain. Stability and financial security are essential for the founders. The part of the enterprise strategy is set at least initially on the specialization of products for specific applications or as well on customer groups.

Remote working

Introductory quote:

“You can live in the mountains, in the Alps, or you can live wherever you want and thanks to Telegram, or Skype or this Microsoft Teams application and all that, you can have meetings with everybody. So, they are less and less important in the digital world. The location is simply the prestige and the practicality of being able to do interviews and things like that in the future, which is much more practical if you are in a capital city.” (S6 Interview: 38 - 38)

Remote working has become the default inevitability for many workers since the Covid-19 crisis in 2020. The majority of the interview partners confirmed this fact and rated remote work or home office as positive (S5, S6, S10). Another finding was that many entrepreneurs are no longer fixated on the location of the employees and make remote working the general standard (S5, S10):

“And well, and the new incorporations we are looking for, we don't care where they are, honestly.” (S10 Interview: 30 - 30)

Remote working sets very positive accents among the experts and can generally be considered a success factor among Spanish start-ups. The flexibility of employees is promoted and not restricted. This enormously increases the attractiveness of companies that are committed to home office.

Profitability and financial stability

Introductory quote:

"So, so, only now we have that economic, financial stability. And I would call that, let's say, organizational stability to make this company a success." (S5 Interview: 47 - 47)

Profitability and financial solidity in a start-up are seen as one of the most important pillars for long-term success (S4, S5, S6, S7, S10). It is generally considered that as soon as the company makes a profit over a more extended period of time, a so-called breakeven arises (S6). The generation of turnover as such also serves as a further positive guarantee of success. Turnover secures the liquidity of a company and is therefore jointly responsible for its stability.

Continuous growth

Introductory quote:

"What I want is to invest all the profit on creating more software, having more people, I mean, growing up the community of our company. So that's the reason why I say probably, usually the first three years, the profit is very low because you have credits. You, you have to pay back to the, to the administration or maybe your investor doesn't want to make to put more money on that." (S9 Interview: 42 - 42)

Constant growth is part of the nature of all entrepreneurs and also of start-ups. This growth reinforces success and gives the right signals that the business strategy is appropriate (S2, S5, S9). Growth includes not only the expansion of the market share of a product, but also the growth in turnover and the increase in the number of employees (S2). The growth target is a significant success factor in the achievement of Spanish start-ups in the digital industry.

Customer focused /Specialization

Introductory quote:

"As I say, we are consultants and we are very, very specialized." (S2 Interview: 52 - 52)

Additional similar quote:

"That ambitious idea, that is very important, that you have industry knowledge and especially when you compete against the big consultancy firms, because our competition typically is the big five. And the typical thing that you, especially in mature markets, you need to know about what you're talking about. OK. Right. And if you are in too many sectors, you, you never get, never can achieve that." (S5 Interview: 26 - 26)

In the early phase, start-ups try to cover niche markets or even new product markets. They do this by initially specialising in one type of product or service (S1, S2, S3, S5, S11). The customer is the main target and products are developed around the customer's needs (S3, S5, S7, S8):

“We have our clear vision and the corresponding strategy, which we trust in, this, gives us the possibility to continuously work and getting better, our customer focus is the clear key.”
(S7 Interview: 64 - 64)

Customer focus and specialisation in products and services are clearly high on the list of priorities for the success of start-ups. Spanish start-ups, in particular, benefit from the very social and collaborative environment of the country and its population. This helps and supports the adaptation and development of the final product together with the customer.

Lean-Start-up; continuous improving

Introductory quote:

“The idea is continuously changing. There's a never-ending story. One of the things, especially now that you see what happens during the Corona period, is that you better be adaptable, flexible in your model. You have to continuously engage in different ways with customers, improvise in markets where you are. That, that's changing. We have a mix of stable, mature markets.” (S5 Interview: 26 - 26)

The Lean Start-up method is a rule-based business model to improve the testing and adaptation of products to customer needs. Almost all companies in the interview round use this model in the initial phase. In addition, many use this lean approach to continuously adapt the products in the later phase (S1, S3, S4, S5, S7, S8, S9).

The general opinion of the experts is, that only by constantly adapting the business long-term stability can be obtained in the organisation (S6, S8):

“It has not changed, and it has changed. I think we adapt to what the customer requires at the end. We give a solution to the client, but we also adapt to their requirements. If they ask us for something new, we investigate what the client wants, and we see if we can apply it.”
(S8 Interview: 30 - 30)

The Lean method has established itself internationally without a doubt if applied appropriately and continuously. This method is clearly a crucial factor in the success of Spanish company founders.

Strategy and predictability

Introductory quote:

“A successful start-up needs this. Initially, in the vast majority of start-ups that have a product but do not know how to position it, they do not have an identified business model and lack of financial capacity. Then, in the end, these start-ups are not successful.” (S1 Interview: 42 - 42)

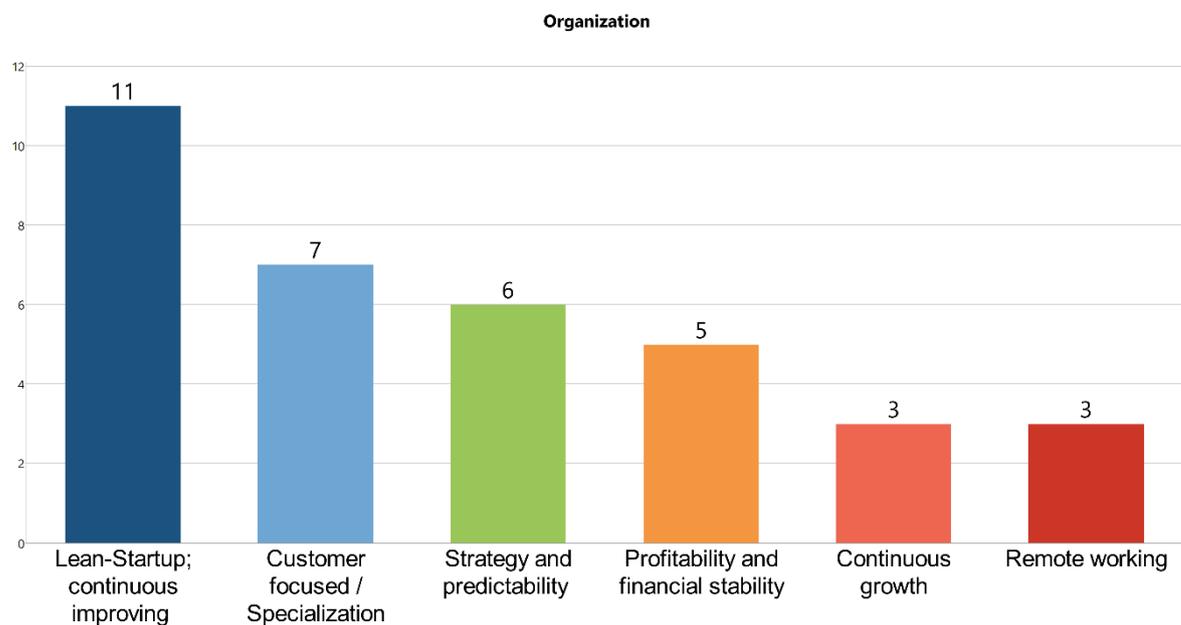
The subcategory strategy and predictability sets important accents for success in the particular start-up business of start-ups. For almost all experts, the business plan also includes the development of a corporate strategy (S1, S2, S5, S6, S8, S11). Of course, the strategies vary among these. However, one point stands out from the general points. The plannability of the business (S5, S6, S11):

“A company, in my opinion, is stable. When you in January know more or less where you’re going to end in December, you can end 20 percent higher, 20 percent lower. But that predictability of, of where you end when you begin a year is very important for your, for your stability to call something stable.” (Interview: 47 - 47)

This plannability is to be set in correlation to the strategy. In this context, the targeted selling price and the product advantage in the technology also make a decisive contribution (S11). The strategy, adapted to the continuous change management of start-ups, is a critical success factor for the rapid business of the digital start-up industry.

Table 14 Organization quotes overview

Source: Self-creation, Hehle, 2021



Statement 7: Long-term stability through product and market specialization are the key points in the strategy of Spanish start-ups.

4.1.8 Product

The key findings on product for the success factors are the following:

- The digital industry offers numerous new opportunities to make old products very attractive through digital technologies.
- European businesses need to gain a competitive advantage to match “low-wage” countries .

The product is at the centre of every organization. The same applies to the start-up sector. However, many customers do not only see the product; they also focus on the service around the product and the company itself. The interviews prove that the product alone is not decisive for the company's success, but the overall structure around the product.

New products based on the digitalisation /market gap

Introductory quote:

"It is a component that after connecting, it can also connect to the network, to the Internet and to the cloud and manage the data, etc. It is a complex new component." (S11 Interview: 20 - 20)

New products are not only created by new requirements or circumstances; they also emerge from old products. This is actually what most start-ups manage to do, and they implement digital technologies in old existing technology. Almost all experts in the thesis successfully implement this "digital disruption" in their products (S5, S9, S11). It is not always the new idea, but rather the concept of improving something through technology.

In general, this innovative spirit in the product can be evaluated as a significant and decisive success factor through successful digital transformation.

Competitive Advantage and scalability of product

Introductory quote:

"Yes, scalability is important, I think, within the sector that you're looking at, which is big data, A.I., robotics, any of those, those things, scalability is one of the number one things that will determine how successful you will be, because if you can do something valuable at scale, then you will inherently become valuable." (S4 Interview: 68 - 68)

To many companies, it is crucial to increase market share in their business. Start-ups often go a different way; they want to directly break and take over the market in their domain. To do this, the product needs to be scalable or have certain features that differentiate it from the competition (S1, S3, S4, S8, S9, S11). This is already anchored in the strategy of most start-ups:

„I mean, we don't want to end up being a workshop that we've never been. No? I mean, but that is just basic engineering. OK. However, we really want to accompany you and extend the life cycle. Therefore, we see equipment that we sell." (S8 Interview: 33 - 33)

Additional similar quote:

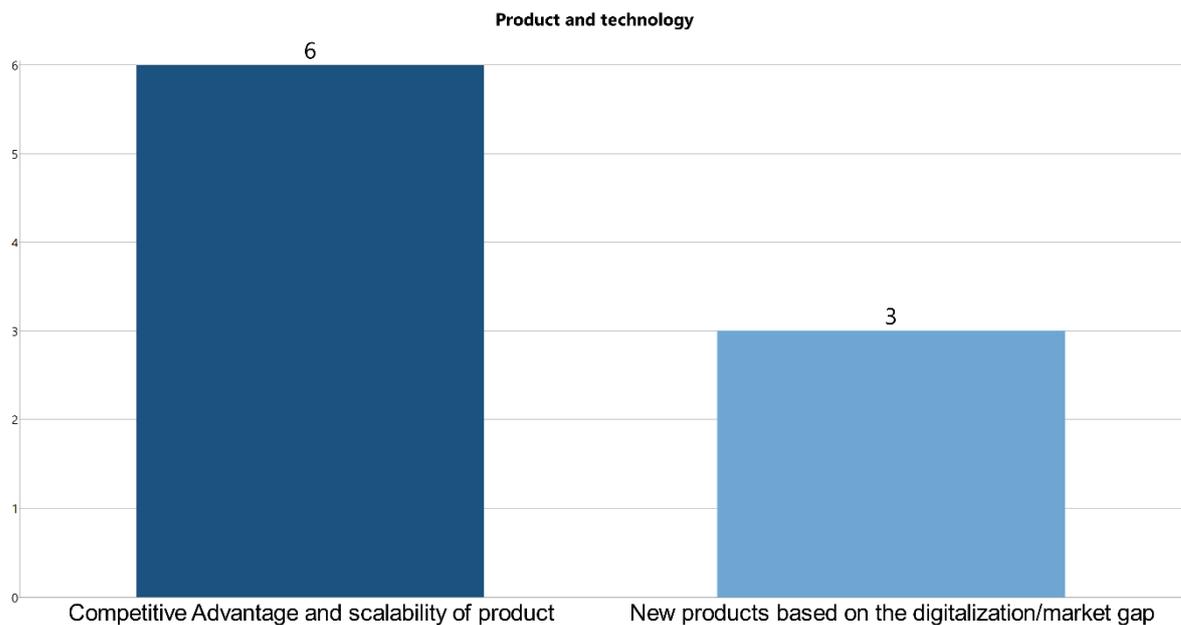
"The Big Challenge is to be different from others. To be different from the others is to have a product, a solution that is completely disruptive and that can help our customers in that digital transformation." (S1 Interview: 38 - 38)

The start-ups rely on the scalability of their products to make the market entry as successful as possible (S1, S4, S9). Obviously, scalability also means high development costs for the products involved. The ambition is to design an unrivalled product that is very close to the customer's needs (S9). At the same time, it should be as flexible as possible to make it available to other customer groups through adaptation (S9).

In summary, the scaling of a product and the competitive advantage are focus topics for start-ups to penetrate markets. These are important success factors and the priority for most Spanish start-ups.

Table 15 Product quotes overview

Source: Self-creation, Hehle, 2021



Statement 8: The competitive advantage and scalability of a product as a measure of progress are decisive for the chances of success in the market entry of a start-up in Spain.

4.2 Quantitative research

The questionnaire asked within the expert interviews specific quantitative data to verify the personal perception of success and the involved factors. The author Nikras Agha, 2017 described this approach within his book to get a deeper understating what people out of their own company think to be important to be successful (Agha, 2017).

For the evaluation, an Excel table is used, which assesses the mean values of the individual categories. This is sufficient and simplifies the presentation of the results. Due to the small number of participants, based on a basic qualitative study, the sample size is too small to generalize the results.

The question was: ***Can you please rate the following aspects and rate how important they are for the success of start-ups (1 is not important and 5 is very important):***

Table 16 Quantitative results of expert interviews

Source: Self-creation, Hehle, 2021

Company	Lean startup/ change of model	# founders	Revenue	Success factors						
				Entrepreneur/ Team	Product	Business Model	Network	Culture and country	Copy/Legal aspects	Scalability of the product
S1	x	Consulting group	none	5	4	4	5	5	4	5
S2		5	growing	5	4	4	5	4	5	4
S3	x	2	growing	5	4	2	3	1	1	2
S4	x	2	flat	5	4	4	4	3	4	5
S5	x	4	growing	5	4	5	4	3	2	5
S6	x	1	growing	5	4	4	5	3	4	4
S7	x	1	growing	5	5	5	5	3	3	4
S8	x	Group association	flat	5	3	4	4	4	5	5
S9	x	1	growing	5	5	5	5	3	3	5
S10	x	3	none	5	4	5	5	3	2	5
S11	x	2	none	5	4	5	3	4	4	5
Average				5,0	4,1	4,3	4,4	3,3	3,4	4,5

The table 16 shows a clear tendency toward soft factors such as the team and entrepreneurship (all at 5 points). All experts clearly came to the same conclusion that no entrepreneurial success is possible without an appropriate team. The product or the scalability is not so valuable, i.e. even a less suitable product can be sold and marketed well with the appropriate team. The country factors such as culture and the country and people of Spain are less important (3.3 points). They form the lowest category. The second most insignificant point seems to be for all the legal aspects of a country (3.4 points).

4.3 Comparison of results to the literature

In this chapter, all sources and results are summarized and compared with each other. The study works with primary data, secondary data and the resulting own personal expertise. The analysis is based on quantitative comparative methods as well as on content comparisons.

4.3.1 Quantitative evaluation of the comparison

The different data sources are prepared in a graphically comparable way to provide a first overview of the results obtained for the success factors. The following three comparable sources are presented. The factors were attempted to be summarised in the eight common denominators out of the coding system of the qualitative research. The conversion of the different factors to the eight master factors is stored in appendix C. For this purpose, the following three comparable sources are presented:

1. Table with results from literature and their weighting.
2. Table with results from qualitative research and their self-assessment of the success factors in their business.
3. Table with results from quantitative research and their assessment of the success factors of an external business.

The data sources were consequently sorted by rules and quantitatively considered converted to the eight master factors (see appendix: C. Code System) according to the following principle:

1. Assignment to master factors from the main categories with consideration of the allocation also of the subcategories.
2. Frequency analysis of the occurring factors.
3. Assumption that the most mentioned factor represents 100%, then conversion by a gradient of the other factors in relation to the master factor.
4. Graphical illustration and comparison in the octagon.
5. Interpretation.

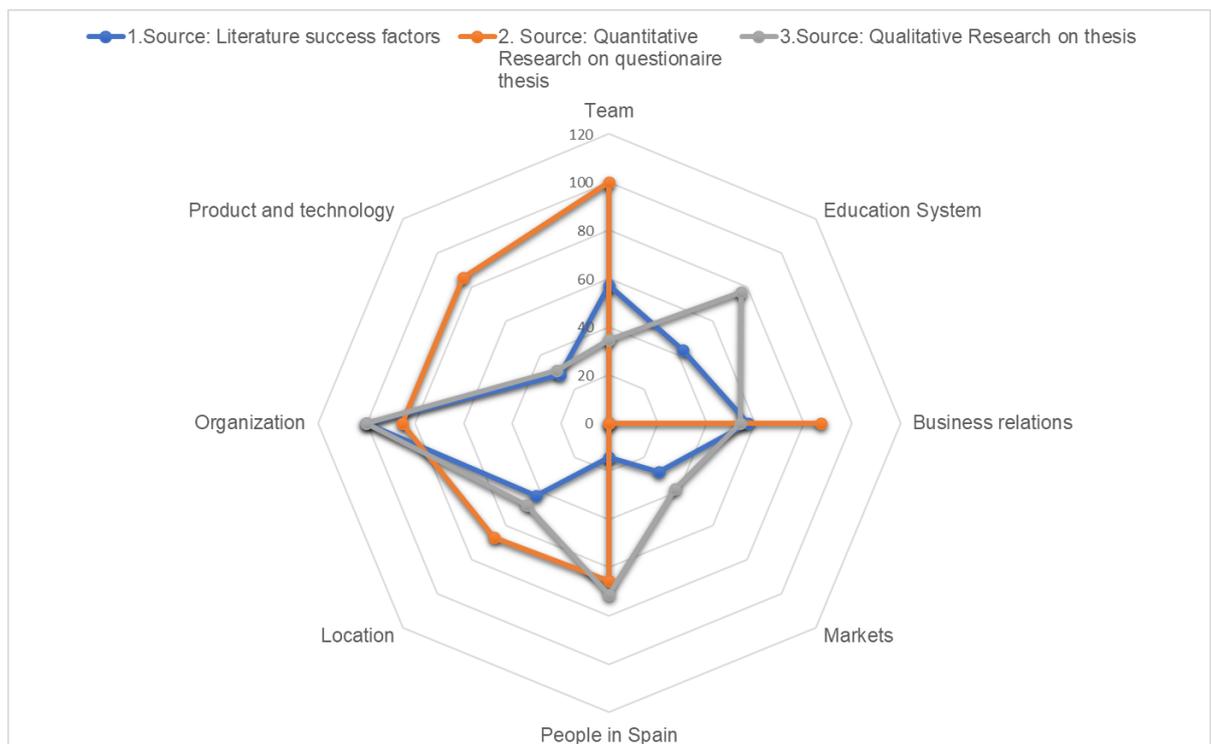


Figure 25 Literature comparison by quantitative approach

Source: Self-creation, Hehle, 2021

Conclusion: The graphical representation of data generally helps to rapidly capture the main findings of a study. In this case, a different approach was taken to quantify the data in

order to compare them. The broad range of data collected from a wide variety of views and sources means that a large number of factors are taken into account. The view of the entrepreneur is examined from both sides. The first one is related to their companies and in the other case, what they think about general success factors.

Limitations:

- The questionnaire evaluation does not ask about the Education System. Thus, there is no comparison.
- The small sample number means that at most, a trend can be identified, and no generalization can be made.
- The topic of teams was only mentioned in passing in the qualitative survey, so its importance is relatively low compared to reality.
- The literature studied is not explicitly focused only on Spain.

Interpretation: The figure 25 indicates that the factors organization, people in Spain and team (taking into account the limitations mentioned above) have significant importance. Above all, the sources agree that a good team is a decisive factor for success. This factor goes together with the factor organization, which also has a high value. The location and networking is a rather averagely important factor for all three sources. This speaks in favor of Spain as a start-up location, but at the same time, the location should not be overestimated. The unimportant factors are the product, the markets in general and the educational level of the graduates. As far as the level of education is concerned, it can nevertheless be said that this is important, particularly in relation to Spain, and that the high level of education is part of the success of start-ups.

4.3.2 Standard literature comparison

That part of the thesis compares the different main themes of the thesis and puts them to the relation between the different sources mentioned in the upper part:

Start-up system and entrepreneurship: There are various definitions and approaches for start-ups in the literature sources examined. In the interviews, the participants described it very similarly that every start-up has its own unique story outside of the theory. The constant change as it is described in the Lean Start-up method is successfully implemented in almost all companies. The future trends coincide with those of Spanish company founders. The founders are very aware of this and set their sights on these technologies. Entrepreneurship, as well as the team, are in the literature an indispensable factor, to operate a company successfully. In the interview phase, however, entrepreneurship in Spain did not particularly stand out due to the characteristics of the local population, which does not strive for self-reliance and risk. Rather, mostly the founder is with the right entrepreneurship people with experience abroad, who now want to resettle in Spain through their own company.

The digital innovation is formed continuously by the will and the desire for change of individuals generally. For Spain, this point is clearly taken from the literature. In fact, all interviewees were able to confirm that entrepreneurship is their driving reason to move their

ideas and their company forward. The founder person is the centre of every start-up and on this person and its characteristics depends the progression of the company. Being a good inventor does not make a good founder. It takes a variety of qualities to be successful. The interview partners present the same impression in Spain. In general, all of them have had prior study experience and have usually had several professional experiences. From this situation, the founder will usually arise to the personal change.

According to the majority of the interview partners, the younger generation lacks the willingness to take risks. The literature analysis gives a different picture of the success factors, which are very industry-related and certainly country-related. The results can be compared with those from the Spanish digital economy, although there is definitely a greater deviation in terms of culture and country. The SWOT analysis for Spain shows, that Spain has a very good infrastructure and is very preferred and attractive destination for tourists. The data found are entirely consistent with those of the experts. Spain stands as an attractive tourist destination and residential area, but at the same time has an excellent infrastructure. The ultimate measurement of success is a rather insignificant point. It gives only very limited clear information on how success can be measured unambiguously in enterprises. The same statement applies to the experts. All see corporate success differently, but all agree on one point. Financial success is the most crucial objective.

Technology in the digitalisation industries: The literature provides a very sharp view of the major digital trends of the future. Spain is particularly well-positioned in terms of infrastructure and as a popular venue for trade fairs in the digital sector. The companies surveyed are active across all the digital industries presented. All participants are enthusiastic about Spain as a testing environment for new technologies and partly confirm that large corporations like to use the country as a testing ground for new technologies. This influence encourages companies to locate in Spain to take advantage of this existing global network.

Country-specific aspects: According to the literature, Spain is fundamentally a strong and vast industrial region. The country has been heavily impacted by the various economic crises of recent years, however. All experts rate Spain as a very favourable business location. The word crisis is basically not mentioned, but rather reference is made to grow in the coming years.

According to the latest statistics, the Spanish labour market is in a crisis in the last decade, similar to the whole country. For the entrepreneurs in the expert round tables, this fact also allows opportunities to easily get well-educated personnel through the numerous graduates of the Spanish universities.

The Spanish educational system and the talent attraction are significant sources of young talent. The analysis of the relevant literature shows that the Spanish system has its strengths in the theoretical training of its professionals. The practical general education e.g. at the university, are not well developed. The same picture is reflected by the experts, namely the lack of practical experience of young university graduates. Even so, the experts are very satisfied with the general education and consider the education in overall terms to be very high. The government support information is made by examining government websites in the literature review. There are different public institutions ranging from the state level to the city level, but this support is only partially received by the start-ups. There are

different reports of disinterest on the part of those authorities or of bureaucratic barriers that are too high.

The relationships and opportunities with Latin America are an interesting point to investigate if there is a connection within the establishment of start-ups in Spain. The strong and interrelated activities between Latin American companies and the Spanish footprint indicated in the literature are not relevant in practice. Nearly no interviewee mentioned Latin America as a specific opportunity or as a partner, which indicates that there is not much collaboration. In summary, language and cultural connections are secondary for Spain in today's world.

Start-up Ecosystem: Based on the literature, the start-up ecosystem is considered to be one of the most influential factors in the selection of a start-up location. In fact, a PESTLE study came to the following conclusion about Spain:

The weak economy and high unemployment are more of an opportunity than a barrier for many founders to invest in Spain. The advantages, such as a very good geographical location, are more evident to them than the obstacles. The ecosystem of Barcelona and Madrid offers an excellent foundation for many start-ups; this is also almost entirely confirmed by the interview participants. The correct location is still essential in times of online work based on location advantages that only the big hubs offer. In this case, great value is placed on networking between the customer and the company. Similarly, the work-life balance and the attractiveness of the two cities have a significant influence.

The success factors: Networking, migration and founder experience: All three terms mentioned in the literature are also confirmed in the interviews and are essential for long-term success at a location.

The success factors that emerged from the literature analysis are largely congruent with those from the interviews. Solely the topic of funding was mentioned significantly more in the literature than by the experts. This definitely has to do with the fact that most of the start-ups investigated in this study are privately financed.

The ecosystems are primarily dependent on the national interests of their respective countries, which must introduce the proper funding at an early stage. This is the best approach to achieve the balancing act between researchers and the business community. The interview participants see this point still very expandable in Spain, because of the lack of resources in research and development. In most cases, it relies on private institutions to achieve success here. Many large global corporations rely on this. Examples include the supermarket group Lidl, setting up its digital research centre in Barcelona, and Amazon, which is currently setting up its machine learning centre in Barcelona.

The incubator Barcelona Tech City is a strong supporter of this start-ups initiatives. The interview section, however, only mentions the organization among the companies involved. Indeed, for other start-ups, it prefers to focus on government agencies. Consequently, Barcelona Tech City is only relevant if the entrepreneurs are also fully affiliated with the institution.

The unemployment caused by the crisis is, according to the literature, a serious problem, especially for the Spanish youth. The comparison of the topic with the interviews gives

information that a part of the interviewees sees the young people thereby more independently, another part of the interviewees however it rather controversially sees. The respondents describe the young people as inflexible, and these are only eager for a permanent position with the state. In essence, the qualifications are in place; unfortunately, the practical experience is lacking due to unemployment.

4.4 Discussion and interpretation

The conclusions reached cannot be summarized in a precise guideline for company founders or young entrepreneurs as such. However, the three initial hypotheses could basically be answered very well for Spain.

The first hypotheses: Investigate and define further the characteristics of a successful start-up in the digitalisation industry, based on culture, on the country infrastructure, and on people in Spain?

Conclusion: Spain offers a lot in terms of culture and people. The very strong cohesion of society is also reflected in the entrepreneurs. The controversial opinions regarding the young generation, which is not willing to take risks, cannot really be answered unequivocally. The literature and the interviewees were also able to identify a general shift in Spanish society towards more entrepreneurship and from a Southern European to a Central European attitude towards work. Numerous founders and employees have had to leave the country for several years due to the various economic crises. However, this foreign experience is now very useful in the start-up sector. The general university education with its weaknesses in practical areas can also be very advantageous for founders who are dependent on the resources in Spain. In particular, the large number of specialised technical universities are valuable and bring out a number of highly qualified graduates every year. The substantial growth opportunities in the digital industry reinforce this trend and allow universities to offer more and more courses in the field. The Spanish labour market always poses excellent opportunities for highly qualified personnel, while at the same time companies take advantage of this due to the relatively low wages. The wage level is not comparable to Central Europe. Despite this, the country offers more than just work for many specialists, such as the family environment and the unique lifestyle of the southern Europe. Global corporations take full exploitation of this labour potential and in the same part, start-ups are emerging.

The second hypothesis: What are the trials facing digitalisation start-ups in Spain in each process-step of the hypothesis-driven entrepreneurship approach?

Conclusion: The lean start-up method described in detail in the literature section is used by almost all the start-up companies that have been analysed. The method is not applied according to the very precise rules but situationally. In combination with change management, the products and services are continuously adapted to the market conditions and always further developed. These steps involve the adaptation to the business model as well. The rapid development in the digital industry requires constant adaptation of the

business model in order to be successful. The entrepreneurs interviewed confirmed this strongly and rated proactive change management as a success factor. The crucial element within the hypothesis-driven entrepreneurship approach is the transition from the testing phase to the serial model for the purpose of profiting. The competitive advantage and scalability of a product as a measure of progress are the decisive factors for the business model.

These points set the chances of success for the market entry of a start-up in Spain substantially in the right direction, according to the literature and the interviews. To assist in this process, external support is necessary. In Spain, government support for start-ups is very constrained. There is, however, a broad incubator support in all big hubs that encourages and advises young start-ups.

The third hypothesis: What are the general and/or additional requirements of being successful or is the location the most crucial part for the Spanish-based start-ups?

Conclusion: After a comprehensive investigation, there is no one single factor that is decisive for the success of a company. In this analysis, it has been observed that the factors often occur in combination or are very evident only for Spain. The arguably most significant factor, despite this, is the team, including the founder. A very skilled team can achieve almost anything, which is the core statement from the interviews. The product is only a secondary protagonist. A diverse and international team guarantees a very creative working environment and can react well to the global corporate direction. In particular, diversity releases new ideas and can generate excellent performance in the appropriate and decent working environment. The common language and culture are very supportive and reflects the inclusive social behaviour of Spaniards. This opinion was confirmed by all entrepreneurs interviewed.

The appropriate market entry, in addition to the digital disruption strategy, has been mentioned as an essential point by the various sources. The competitive advantage and scalability of a product assume a significant role here. Successful entry can only be ensured through these benefits and the expandability of the product from a technical or portfolio point of view. Both aspects of progress and the superiority of the company's progress are crucial for the chances of success when a start-up enters the Spanish market.

Furthermore, the companies believe that only through growth and the rapid development of new markets a broad basis will be created for the success of a start-up company. Consequently, the entrepreneurs must grow very quickly at the beginning and distribute fixed costs as large as possible over the turnover. This growth strategy in turn, is only possible with the help of external investors. Basically, none of the interview participants mentioned the topic of financing or even presented it as a problem.

The strategy of the start-up companies is focused on the digital disruption of the markets or the products. Nevertheless, the companies strive to grow as quickly as possible to particular company size, as it is basically the case with traditional business forms. Long-term stability through product and market specialization are the key points in the strategy of Spanish start-ups.

5. Closing Chapter

5.1 General results

Recommendations for founders in Spain

The continuous development of digital technology is the current trend of the future. This trend allows exceptional opportunities for established companies but especially for start-ups to transform this trend into products and services. The study has shown that Spain offers an immense amount of opportunities in this area and many recently founded companies have taken this path to success. Basically, this work confirms the initial hypotheses that Spain is a particularly suitable location. This confirmation provides evidence from secondary sources in the form of current literature from business and research. In general, this data was confirmed by the primary sources of over eleven different start-up companies in Spain. Spain primarily offers very well-educated talent and very competitive prices in labour wages and infrastructures. Having all this in a very central environment on the edge of Central Europe.

It is not only the quantitative values that speak for a positive image of Spain; even the non-measurable factors present a very positive picture of Spain. In the qualitative research, it was promising to analyse a very positive attitude of the interviewees with regard to the country and the culture. There was also criticism of the workers' attitude to work and flexibility. These criticisms were very generalised, not directly related to the teams in the companies. As already mentioned in the general part, the team structure in the companies was the dominant and most decisive point for all entrepreneurs. This is where the very social and open way of interacting with the Spaniards comes into consideration.

Interviews

The expert interviews provided a very insightful and remarkable view into the world of start-ups. The founders in Spain are profoundly convinced of their companies and the prospects for their products. This entrepreneurial spirit of permanent change and adaptation of the business is strongly noticeable in the examples of Spain.

The relationship to successful cooperation and expansion of business in connection with Latin America could not be significantly confirmed. Large conglomerates use the advantages of the common language and culture to expand their business there. Spanish start-ups, however, see their future in the digital industry more globally and use English as their language platform in almost all cases. The concentration is on expanding the business fields in all countries since the products are mainly based on software, and only minor country-specific adaptations are required. The incubators, generally located in the major metropolises, similarly have a substantial role. These institutions, partly state-supported, help decisively in the challenging early phase as well as in the establishment of international contacts.

The internationality of both the founders and the employees is leading the way for Spanish start-ups to pursue global business. The crisis experience and the resulting migration to other countries support the business. Most of the experts have had at least one international experience either during their education or in a company abroad due to the crisis. These

crisis-experienced Spanish founders bring a considerable degree of commitment and initiative to their companies. This self-initiative of the Spanish founders is probably the aspect with the highest impact on a company's successful founding and management. The conclusion here leads to the realisation that phases of economic weakness in a given country allow skilled workers to grow in personality and initiative. This evidential fact speaks for the case of Spain and the path of many founders there.

Final words

In summary, the hypothesis from the literature that Spain is adequate as a start-up location is validated. In the survey, only two of the interviewees subsequently decided against founding a company in Spain if they had the choice again. The reasons for this are somewhat specific in both cases and relate to even lower wage costs and tax advantages in other countries. The connection between a modern infrastructure in Spain and highly qualified people probably best describes the success story of the country. It is a combination of this drivers rather than one or two decisive factors.

From a deeper perspective, it can be summarised that the following characteristics speak for the Spanish start-up sector:

1. Spain basically has a high proportion of technical universities with a correspondingly large number of IT graduates.
2. The country has a broad and well developed internet infrastructure.
3. Spain offers a low cost of living and attractive living conditions.
4. There is strong internal economic competition between the autonomous provinces of Madrid and Barcelona, especially through the promotion of incubators.
5. The state of the art infrastructure attracts large international tech fairs, especially in the Barcelona region.
6. The start-up scene often consists of former returnees from the economic crisis eager to work in Spain again with a strong international background.

Overall, Spain offers favourable success factors for business start-ups and can demonstrate these very well through the rapidly increasing number of start-ups each year, especially in Barcelona and Madrid. This trend is well reflected in the various international evaluations of the quantity and turnover of start-ups, with Spain ascending in the rankings every year.

Spain is and remains a very promising location for start-ups and their successful development into established companies. The country and its people have a positive impact on entrepreneurship, in addition to the economic and technological aspects.

5.2 Future research and limitation

Future research

The conclusions from the research are very promising and particularly interesting in terms of the different findings that have been observed. The qualitative research method has the advantage that it is open to new, unknown findings. It is also very limiting, as it can only analyse a fraction of the totality. The foundations of this research should be used to start extensive qualitative research with the involvement of a variety of companies. In addition, intra-European benchmarking of the most essential success factors shall be carried out. It is certainly conceivable to include other continents such as Asia. This comparative

qualitative research is once again a consolidation of the current findings and can provide new knowledge also outside our European framework.

Limitations of the research

Qualitative research may only explore a part of the investigated set, from which the hypotheses are then subsequently validated. This limits the overall results, although it is acceptable due to the effort expended. The term "start-up" is a further significant aspect of the definition of a business and limits the thesis. There are different descriptions of what exactly is to be understood by it and which characteristics are decisive. Consequently, it was sought to use the literature to define the criteria to provide as transparent as possible a description of the start-ups.

Further limitations occur with the research of success factors, as only companies that still exist are considered. As mentioned in the literature part of the study; there are a vast number of start-ups that go insolvent after a relatively short period of time. It is not possible to take a closer look at these start-ups or to look specifically at the causes of their failure. Contacting failed entrepreneurs is extremely a challenge. The factors that led to the failure can definitely be a learning process to use them and transfer them into a company's success. As a conclusion, this work is solely focused on the still existing companies and their view of the success factors is restricted to this.

References

- Agha, N. (2017). *Success Factors of Startup Companies. An Empirical Analysis of E-Business Startups in North America* (1. Edition). GRIN Verlag.
- Anderson, A. R., & Starnawska, M. (2008). Research Practices in Entrepreneurship: Problems of Definition, Description and Meaning. *The International Journal of Entrepreneurship and Innovation*, 9(4), 221–230.
<https://doi.org/10.5367/000000008786208731>
- Baur, N., Blasius, J., & SpringerLink (Online service). (2014). *Handbuch Methoden der empirischen Sozialforschung*. Springer Fachmedien Wiesbaden.
<https://doi.org/10.1007/978-3-531-18939-0>
- bcn.cat/emprenedoria—Programes. (2021).
<https://emprenedoria.barcelonactiva.cat/emprenedoria/en/incubacio/programa/index.jsp>
- Berte, D.-R. (2018). Defining the IoT. *Proceedings of the International Conference on Business Excellence*, 12(1), 118–128. <https://doi.org/10.2478/picbe-2018-0013>
- Bogner, A., Littig, B., & Menz, W. (2014). *Interviews mit Experten*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-531-19416-5>
- Böing, C. (2001). *Erfolgsfaktoren Im Business-To-Consumer-e-Commerce* (Vol. 38). Springer Gabler. Springer Fachmedien Wiesbaden GmbH.
<https://doi.org/10.1007/978-3-322-96453-3>
- Bush, T. (2019). *SWOT Analysis of Spain: Threatening Brexit and Catalonia*.
<https://pestleanalysis.com/swot-analysis-of-spain/>
- Business school and university ranking worldwide*. (2020). <https://www.eduniversal-ranking.com/business-school-university-ranking-in-spain.html>
- Carbone, P. (2011). Acquisition Integration Models: How Large Companies Successfully Integrate Startups. *Technology Innovation Management Review*, 1(1), 26–31.
<https://doi.org/10.22215/timreview/490>

- Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 43(2), 354–363. <https://doi.org/10.1016/j.lrp.2009.07.010>
- Chesbrough, H. W. (2003). *Open Innovation: The New Imperative for Creating and Profiting from Technology* (First Trade Paper Edition). Harvard Business Review Press.
- De, P. D. D. (2005). *Entrepreneurship: Gründung und Wachstum von kleinen und mittleren Unternehmen* (1. Edition). Pearson Studium.
- Erevelles, S., Fukawa, N., & Swayne, L. (2016). Big Data consumer analytics and the transformation of marketing. *Journal of Business Research*, 69(2), 897–904. <https://doi.org/10.1016/j.jbusres.2015.07.001>
- Frederiksen, D. L., & Brem, A. (2017). How do entrepreneurs think they create value? A scientific reflection of Eric Ries' Lean Startup approach. *International Entrepreneurship and Management Journal*, 13(1), 169–189. <https://doi.org/10.1007/s11365-016-0411-x>
- Fritsch, M. (2019). *Entrepreneurship: Theorie, Empirie, Politik* (2. Auflage 2019;2. Aufl. 2019;). Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-662-57984-8>
- Gandomi, A., & Haider, M. (2015). Beyond the hype: Big data concepts, methods, and analytics. *International Journal of Information Management*, 35(2), 137–144. <https://doi.org/10.1016/j.ijinfomgt.2014.10.007>
- Gatterer, H. (2021, January 7). *Die 5 wichtigsten Megatrends für Unternehmen in den 2020ern*. <https://www.zukunftsinstitut.de/artikel/die-5-wichtigsten-megatrends-fuer-unternehmern-in-den-2020ern/>
- Gläser, J., & Laudel, G. (2010). *Experteninterviews und qualitative Inhaltsanalyse als Instrumente rekonstruierender Untersuchungen* (4. Auflage). VS Verlag.
- Granig, P., Hartlieb, E., Heiden, B., & SpringerLink (Online service). (2018). *Mit Innovationsmanagement zu Industrie 4.0: Grundlagen, Strategien, Erfolgsfaktoren und Praxisbeispiele*. Springer Fachmedien Wiesbaden.
- ICEX España Exportación e Inversiones. (2021). <https://www.icex.es/icex/es/index.html>

- Kaiser, R. (2014). *Qualitative Experteninterviews*. Springer Fachmedien Wiesbaden.
<https://doi.org/10.1007/978-3-658-02479-6>
- Kim, T., Ramos, C., & Mohammed, S. (2017). Smart City and IoT. *Future Generation Computer Systems*, 76, 159–162. <https://doi.org/10.1016/j.future.2017.03.034>
- Kim, W. C., & Mauborgne, R. (2009). Blue Ocean Strategy: From Theory to Practice. *California Management Review*, 47(3), 105–121. <https://doi.org/10.2307/41166308>
- Koch, D. (2010). La Reconquista: Spain's New Relationship with Latin America," *Global Business Languages. Obal Business Languages:., Vol.7(Article 10)*.
<https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1093&context=gbl>
- Kollmann, T. (2006). What is e-entrepreneurship? Fundamentals of company founding in the net economy. *International Journal of Technology Management*, 33(4), 322.
<https://doi.org/10.1504/IJTM.2006.009247>
- Kopp, E. (2020). *Die spanische Wirtschaft*.
<https://www.wko.at/service/aussenwirtschaft/die-spanische-wirtschaft.html>
- Kotler, P., Kotler, F., Kotler, P., Ketele, F., Ketele, F., K'ot'üllö, P., Kotler, P. A., 科特勒菲利普, 科特勒菲利普, Armstrong, G., Opresnik, M. O., Armstrong, G. M., Amusitelang, J., 阿姆斯特朗加里, 阿姆斯特朗加里, Amusitelang, J., Opresnik, M. O., & Opresnik, M. (2021). *Principles of marketing* (18., global). Pearson.
- Kuckartz, U. (2010). *Einführung in die computergestützte Analyse qualitativer Daten* (3., aktualisierte Auflage). VS Verlag für Sozialwissenschaften.
<https://doi.org/10.1007/978-3-531-92126-6>
- Kuckartz, U. (2018). *Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung*. Beltz Verlagsgruppe.
- Lazaro, O. (2017). *Expert: Oscar Lazaro Final Version: 30/10/2017*. 31.
- Luger, M. I., & Koo, J. (2005). Defining and Tracking Business Start-Ups. *Small Business Economics*, 24(1), 17. <https://doi.org/10.1007/s11187-005-8598-1>
- Mansoori, Y. (2017). Enacting the lean startup methodology. *International Journal of Entrepreneurial Behaviour & Research*, 23(5), 812–838.
<https://doi.org/10.1108/IJEER-06-2016-0195>

- Marr, B. (2016). *Big Data in Practice: How 45 Successful Companies Used Big Data Analytics to Deliver Extraordinary Results*. John Wiley & Sons, Incorporated.
- Mayring, P. (2015). *Qualitative Inhaltsanalyse: Grundlagen und Techniken* (12., überarbeitete Auflage). Beltz.
- Ohr, T. (2019, May 22). *Barcelona Tech City opens it's brand new technology hub Pier03*. EU-Startups. <https://www.eu-startups.com/2019/05/barcelona-tech-city-opens-its-brand-new-technology-hub-pier03/>
- O'Toole, J. J. (2017). *Futurology | social science*. Encyclopedia Britannica. <https://www.britannica.com/topic/futurology>
- Patel, K. K., Patel, S. M., & Scholar, P. (2016). *Internet of Things-IOT: Definition, Characteristics, Architecture, Enabling Technologies, Application & Future Challenges*. 10.
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage Publications.
- Perera, R. (2017). *The PESTLE Analysis*. Nerdynaut.
- Piccarozzi, M., Aquilani, B., & Gatti, C. (2018). Industry 4.0 in Management Studies: A Systematic Literature Review. *Sustainability*, 10(10), 3821. <https://doi.org/10.3390/su10103821>
- Plecher, H. (2020). *EU: Youth unemployment rate by country 2019*. Statista. <https://www.statista.com/statistics/266228/youth-unemployment-rate-in-eu-countries/>
- Rajat Sharma. (2016). *Pest analysis spain* [Regierungs- und gemeinnützige Organisationen]. <https://de.slideshare.net/RajatSharma390/pest-analysis-spain>
- Ramge, T. (2017). *Verdrängen digitale Start-ups wirklich Traditionskonzerne? - Brand eins online*. <https://www.brandeins.de/magazine/brand-eins-wirtschaftsmagazin/2017/fortschritt/verdraengen-digitale-start-ups-wirklich-traditionskonzerne>

- Rasmussen, E. S., & Tanev, S. (2015). The Emergence of the Lean Global Startup as a New Type of Firm. *Technology Innovation Management Review*, 5, 12–19.
<https://doi.org/10.22215/timreview/941>
- Ries, E. (2011a). *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses* (1. Edition). Currency.
- Ries, E. (2011b). *The Lean Startup: How Constant Innovation Creates Radically Successful Businesses* (1st edition). Portfolio Penguin.
- Rimol, M. (2021). *Gartner Forecasts Global Spending on Wearable Devices to Total \$81.5 Billion in 2021*. Gartner. <https://www.gartner.com/en/newsroom/press-releases/2021-01-11-gartner-forecasts-global-spending-on-wearable-devices-to-total-81-5-billion-in-2021>
- Rohrer, J. (2018). *Erfolgsanalyse von Start-up-Unternehmen: Die Bedeutung der Erfolgsfaktoren Gründerperson und Marketing / Julia Rohrer, BSc*.
<http://unipub.uni-graz.at/obvugr/3284385>
- Rusnjak, A. (2014). *Entrepreneurial Business Modeling: Definitionen—Vorgehensmodell—Framework—Werkzeuge—Perspektiven*. Springer Fachmedien Wiesbaden.
- SEAT:CODE debuts new headquarters and celebrates its first year as SEAT's digital machine*. (n.d.). Retrieved 21 January 2021, from <https://www.seat-mediacycenter.com/newspage/allnews/company/2020/SEATCODE-debuts-new-headquarters-and-celebrates-its-first-year.html>
- Servicios para Startups*. (2021). ACCIÓ - Agencia para la Competitividad de la Empresa.
<http://www.accio.gencat.cat/es/serveis/innovacio/startups-i-innovacio-disruptiva/>
- Skawińska, E., & Zalewski, R. I. (2020). Success Factors of Startups in the EU—A Comparative Study. *Sustainability (Basel, Switzerland)*, 12(8200), 8200.
<https://doi.org/10.3390/su12198200>
- Soltanifar, M., Hughes, M., Göcke, L., & SpringerLink (Online service). (2021). *Digital Entrepreneurship: Impact on Business and Society* (1st 2021). Springer International Publishing.

- Start-up Ecosystem Spanien*. (2019). <https://www.wko.at/service/aussenwirtschaft/start-up-ecosystem-spanien.html>
- Strack, R., Antebi, P., & Kataeva, N. (2020, July 18). *Decoding Digital Talent*. BCG Global. <https://www.bcg.com/publications/2019/decoding-digital-talent>
- The Global Startup Ecosystem Report*. (2020). Startup Genome. <https://startupgenome.com/reports/gser2020>
- Urmersbach, B. (2020). *Spanien—Bruttoinlandsprodukt (BIP) bis 2025*. Statista. <https://de.statista.com/statistik/daten/studie/19358/umfrage/bruttoinlandsprodukt-in-spanien/>
- Valacich, J., & Schneider, C. (2017). *Information Systems Today: Managing the Digital World* (8th edition). Pearson.
- Wang, S. (2016). *A Familial Relation? Spain and Latin America in the 21st Century*. <https://www.coha.org/a-familial-relation-spain-and-latin-america-in-the-21st-century/>
- Wiener, M., Saunders, C., & Marabelli, M. (2020). Big-data business models: A critical literature review and multiperspective research framework. *Journal of Information Technology*, 35(1), 66–91. <https://doi.org/10.1177/0268396219896811>
- Wolf, J., Bergschneider, B., Paul, H., Zipse, T., & SpringerLink (Online service). (2019). *Erfolg im Mittelstand: Tipps für die Praxis* (2. Auflage 2019; 2. Aufl. 2019;). Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-22763-0>
- Wu, Y., Yan, Z., Choo, K.-K. R., & Yang, L. T. (2019). IEEE Access Special Section Editorial: Internet-of-Things Big Data Trust Management. *IEEE Access*, 7, 65223–65227. <https://doi.org/10.1109/ACCESS.2019.2915489>
- Zamora, A. (2017). *Digital Economic Opportunity in Spain, How digitalization may boost the Spanish Economy*. Accenture. https://www.accenture.com/t00010101t000000z__w__/_es-es/_acnmedia/pdf-59/accenture-strategy-digital-transformation.pdf

Appendix

Appendix: A. Interview Guideline (English)

INTERVIEW GUIDELINE

Research question:

„ Success factors of Start-up companies in the digital industry. An empirical investigation of success factors in an international context within Spain.“

I. Introduction and guidance

- Brief introduction of myself and my position.
- Further explanation of the master thesis.
- Interview process description: 30 min time (confidentiality + record of it).

>>>We are interested in the way of the creation of your start-up and the success factors of it.

>>> Please feel free to speak; we are interested in any relevant information.

>>> The results of the research projects will be used only within this paper and shared with the interview partners after the official approval of it (autumn 2021).

II. General information

1. What is your current position within the company/business?

2. Company description?

- Founded in which year?
- Was the start-up founded as a team or alone?
- Where is it based?
- In which market(s)/regions are you delivering now/in future?

3. Further company details?

- How was the revenue development over the past year?
- Development of employees/current number of employees?

4. What is your business about (service, product, target group, key customers, etc.)?

Select one industry in case

- IoT
- Industry 4.0
- Big Data
- Smart City
- AI (artificial intelligence)

5. Did the Idea change over-time? Can you describe the reason for it (question for usage of the lean-start-up method)?

III. Success in relation to company and founder?

6. What was your motivation to create a start-up, and what was your role before (unemployed, self employed..etc)?

IV. Team, culture and location (first research question)

7. How does your team look like (mixed, international), and why did you choose this set-up of people?

8. How was the process to find the right location for the start-up?

>> Why did you choose Spain and no other?

9. What do you think about the Spanish education system and the related education level from the people? Has it an advantage over other countries?

10. Do you think from the cultural background (people; culture), Spain has advantages over other countries to create a start-up?

>> If yes, which ones?

11. Does Spain offer any certain advantage in relation to the digitalisation industry?

V. Question regarding the process of start-ups (second research question)

12. Which were your biggest success factors in creating a Start-up in each step of it?

- a. **(Pre-) Seed-Phase** (Idea, preparation and founding the start-up)
- b. **Seed-Phase** (Business plan; topics of location, legal form and financing options)
- c. **Start-up-Phase** (production and personnel capacities, implementation of the idea)
- d. **Growth Phase**

>> Do you think these factors are related to Spain? If yes, why and which ones?

VI. Location and summary of it related to Spain (third research question)

13. After your experience of founding a start-up in Spain, how crucial do you think is finally the location?

VII. General summary questions (optional questions)

14. At which point you would state that the start-up achieved being an „established“ company and why?

15. In which moment you would assume that the start-up is successful and why?

16. Quantitative question: Can you please rate the following aspects and rate the in how important they are for the success of start-ups:
(1 is not important and 5 is very important)

	1	2	3	4	5
a. Entrepreneur/Team	<input type="radio"/>				
b. Product	<input type="radio"/>				
c. Business Model	<input type="radio"/>				
e. Network	<input type="radio"/>				
f. Culture and country	<input type="radio"/>				
g. Copy/Legal aspects	<input type="radio"/>				
h. Scalability of the product	<input type="radio"/>				

IX. Closing

17. Are there any question you would like to add?

X. Adoption

Acknowledgement

Appendix: B. Interview Guideline (Spanish)

GUÍA PARA LA ENTREVISTA

Pregunta de investigación:

**„ Factores de éxito de las empresas de nueva creación en la industria digital.
Una investigación empírica de los factores de éxito en un contexto internacional
dentro de España.”**

I. Introducción y orientación

- Breve presentación de mi persona y de mi cargo.
- Explicación adicional de la tesis.
- Descripción del proceso de entrevista: 30 minutos de tiempo (confidencialidad + registro de la misma).

>>> Nos interesa la forma de creación de su start-up y los factores de éxito de la misma.

>>> Por favor, siéntase libre de hablar, estamos interesados en cualquier información relevante.

>>> Los resultados de los proyectos de investigación se utilizarán únicamente dentro de este documento y se compartirán con los socios de la entrevista tras la aprobación oficial del mismo (otoño de 2021).

II. Información general

1. ¿Cuál es su posición actual dentro de la empresa/negocio?

2. ¿Descripción de la empresa?

- ¿En qué año se fundó?
- ¿La empresa se fundó en equipo o en solitario?
- ¿Dónde se encuentra la start-up?
- ¿En qué mercado(s)/región(es) va a realizar entregas ahora/en el futuro?

3. ¿Más datos de la empresa?

- ¿Cómo fue la evolución de los ingresos en el último año?
- ¿Desarrollo de los empleados/número actual de empleados?

4. ¿De qué trata su negocio (servicio, producto, grupo objetivo, clientes clave, etc.)?

Seleccione un sector

- IoT
- Industria 4.0
- Datos masivos (Big data)
- Ciudad inteligente (smart city)
- IA (inteligencia artificial), AI

5. ¿Ha cambiado la idea con el tiempo? ¿Puede describir la razón de ello (pregunta para el uso del método lean-start-up)?

III. ¿El éxito en relación con la empresa y el fundador?

6. ¿Cuál fue su motivación para crear una start-up y cuál era su función antes (desempleado, autónomo, etc.)?

IV. Equipo, cultura y ubicación (primera pregunta de investigación)

7. ¿Cómo es tu equipo (mixto, internacional) y por qué has elegido esta composición de personas?

8. ¿Cómo fue el proceso para encontrar el lugar adecuado para la empresa?

>>¿Por qué eligió España y no otro país?

9. ¿Qué opinas del sistema educativo español y del nivel de formación de la población? ¿Tiene ventajas sobre otros países?

10. ¿Crees que desde el punto de vista cultural (personas; cultura), España tiene ventajas sobre otros países para crear una start-up?

En caso afirmativo, ¿cuáles?

11. ¿Ofrece España alguna ventaja en relación con la industria de la digitalización?

V. Pregunta sobre el proceso de creación de empresas (segunda pregunta de investigación)

12. ¿Cuáles fueron sus mayores factores de éxito en la creación de una Start-up en cada una de sus etapas?

- a. **(Pre-) Fase Semilla** (Idea, preparación y fundación de la start-up)
- b. **Fase inicial** (plan de negocio; temas de ubicación, forma jurídica y opciones de financiación)
- c. **Fase de puesta en marcha** (capacidades de producción y de personal, aplicación de la idea)
- d. **Fase de crecimiento**

¿Cree que estos factores están relacionados con España, en caso afirmativo por qué y cuáles?

VI. Localización y resumen de la misma en relación con España (tercera pregunta de investigación)

13. Después de su experiencia de fundar una start-up en España, ¿Qué importancia cree que tiene finalmente la ubicación?

VII. Preguntas de resumen en general (preguntas opcionales)

14. ¿En qué momento afirmarías que la start-up logró afianzarse en el mercado y por qué?

15. ¿En qué momento asumirías que la start-up es exitosa y por qué?

16. Pregunta cuantitativa: Por favor, califique los siguientes aspectos y puntúe la importancia que tienen para el éxito de las empresas de nueva creación: (1 no es importante y 5 es muy importante)

	1	2	3	4	5
a. Empresario/Equipo	<input type="radio"/>				
b. Producto	<input type="radio"/>				
c. Modelo de negocio	<input type="radio"/>				
e. Red (networking)	<input type="radio"/>				
f. Cultura y país	<input type="radio"/>				
g. Propiedad/Aspectos legales	<input type="radio"/>				
h. Escalabilidad del producto	<input type="radio"/>				

IX. Clausura

17. ¿Hay algo que quiera añadir?

X. Adopción

Agradecimientos

Appendix: C. Code System

List of codes	Frequency	Ranking count absolut
Codesystem	237	
Team	18	
Mixed approach (take the best national and international)	10	4
Talent, Spirit and Commitment	8	
Education System	0	
Theoretical knowledge and education general	0	
Negativ	2	
Positiv	5	
Languages and international experience	5	
Positive	1	
Negative	4	
Practical knowledge	0	
Positive	2	
Negative	13	
Access to human capital	0	
Positive	4	
Negative	9	
Business relations	0	
Closeness to city hubs and customers	14	1
Networking Start-ups and Incubators support	10	4
Customer networking	4	
Markets	0	
All over the world	9	5
Within Latin-america	3	
Within Europe	3	
Lead customers	2	
Development potential/High customer demand	3	
People in Spain	0	
Culture of people in country	0	
Positive	3	
Negative	12	
Competitive saleries	6	
Crisis proven and creative	4	
Business/working experience	6	
Entrepreneurship and founder	6	
Location	0	
Leading in technology	1	
Financing	1	
Government support	0	
Positive	3	
Negative	13	
Country and infrastructure	5	
Legel aspects	2	
Organization	0	
Remote working	6	
Profitability and financial stability	6	
Continuous growth	3	
Customer focused /Specialization	14	1
Lean-Startup; continious improving	12	2
Strategy and predictability	11	3
Product and technology	0	
New products based on the digitalization/market gap	4	
Competitive Advantage and scalability of product	12	2

Appendix: D. Transcription of Interview (Example: Interview S5)

Interviewer: Let's start. Let's start. Well, I already did a quick introduction of myself and I'm working currently as a project manager for digital products because our company is called We are in the semiconductor industry. Right. We're doing the machining of them. We're not producing semi conductors. OK, that means there's a high demand and we're looking forward to making some new products which are smarter. And therefore, we're also looking to topics like IoT, Big data, all this upcoming trends.

Representative5: I am very familiar with it. Yes. What I do for my business, for my living.

Interviewer: So, so but besides that, I do this MBA degree, which I now in the last three months, and I have to write this thesis. My thesis topic is what are the success factors of Spanish companies in Brackett's start-ups? I'm not sure you'd consider your company still as a start-up. And especially I want to have a look for Spain. Why are successful they in Spain and why are they growing, somehow? OK, and I come to the first question. So, what is your current position within your company?

Representative5: Yeah, I am besides being the co-founder of this company, I am responsible for the digital business that we have globally and that is basically oriented towards omni channel digitalizing banking channels. OK, that is what we do. That is the largest business unit that we have, and I am overall for the group responsible for sales. So, I have two roles, let's say.

Interviewer: In which year your company was founded?

Representative5: That was in, that was nine years ago, so that would be in 2012.

Interviewer: Yes. Was it founded as a team or was it one person?

Representative5: It was a, you could call it a spinoff of a Portuguese company system integrator. This was hostile, so it was totally hostile.

Interviewer: And you were one of the co-founders?

Representative5: I was one of the co-founders, together with four other partners, four Portuguese persons that also came from the old company and currently we are three. So, two of them already left the company over the years as shareholders.

Interviewer: The company is based where?

Representative5: We are headquartered in Lisbon. And we have a company in Spain, we have a company in Kenya, we have a company in Nigeria, we have a company in Santiago, Chile, we have a company in Mexico, we have a company in Colombia, and we have a company in Dubai.

Interviewer: And you are based in Madrid, right?

Representative5: I am based in Madrid. But from Spain, I do the global business. So basically, the concept of where you live and where you work in our company is completely blurry now.

Interviewer: So, it's all about remote somehow?

Representative5: It is not only all about remote, it is about traveling a lot. So, before Covid19, it was very intensive travelling, because obviously you have, to you have a lot of companies, you have a lot of cultures, you have a lot of people. And above all, you have a lot of different customers in different countries that you have to see that seeing has changed. So, we manage a lot now by, by remotely and also the delivery of our projects, which was already very much remotely and is now 100 percent remote. So it has changed a little bit.

Interviewer: Ok, in which markets, regions are you delivering your service or your product?

Representative5: So, we basically are all over the world. So, besides the countries that I just mentioned to you, where we have offices, we do a lot of projects also in countries where we are not established, and we do that together with partners. One of our main partners is Company C, a Dutch company that is the number one digital banking. And they help us, and they bring us, and they demand us services. For example, in the UK, we are in in Austria, in Vienna. Exactly with a lovely project there. We are in the US doing projects. We are doing some small things in Asia. So, it is a little bit everywhere. The difference is there in those countries where we are not established ourselves, we depend more on, on a partner, a partner that introduces us to customers in the countries where we are established, we normally control and run the projects on ourselves. Ok, so that is a little bit the model. And the sectors to give you that answer, the second, the second part of your question, we buy exception, do projects outside the banking and the telco sector. So, we are really focused on the banking and telco.

Interviewer: Ok, and one of this part is data analytics. Right?

Representative5: We have two business lines. One is the only general business that we do that is digitalizing the banking channels and unifying the banking channels and the transformation. It is digital transformation and banks, they basically are now trying to move away from a legacy bank that they were towards the digital world, and it means that you have to digitalize a lot of banking processes to make that possible. OK, so we all know that we can open a banking account with a mobile app. But if you are a SME customer, you're in a small business customer. You still have to do a lot of physical things in branch offices. There are agents. You have to identify yourself. If you open an account, you have to show your face. Basically, there's a lot of human interaction on the business side of banks still and that is something that now, especially with COVID-19, is even accelerating. A lot of digital digitalizing processes is happening in that part of the banks. OK, that is what we do on the other side. That is our second business line, this data and integration. We call that data solutions and the data solutions we touch everything from traditional business intelligence to the most sophisticated analysis of business processes, identifying their bottlenecks and improving them and where we can digitalizing them also.

Interviewer: Great. One indiscreet question is how was the revenue development over the past years? You don't have to respond if you don't want.

Representative5: You know, I can do that to be honest. As an entrepreneur, as a start-up, the typical thing is that nothing goes as planned. So, you, we started with a very small set of customers that we were very depending on, basically in in Kenya and in Spain. That was

good. So, we started very well. Then you realize as an entrepreneur that you are too dependent on just a few customers. So, the risk is too high. You want to grow; you start to invest in growth. When you start to invest in growth, you get to new markets and to new customers. The new industries where you basically find out by learned by, by trial and error how to do business. It means tough times. It means a lot of costs and the revenue is not always coming. Sometimes you do a large project that finishes and suddenly you're still looking for the for the next one while you're already out of the other one. So basically, I can tell you that we started from the first year, that we started in our company. We went to like a million euro, more or less of revenue. That was nine years ago, I think, in 2000. So, for three years ago, I would say. So that is in 2018, we were getting to the 18 million of revenue that was steady growth, not, not always smooth, but we got there. Then we restructured the business. We closed some regions because we were not at all convinced about what we are doing. And we went last year to a 13 million revenue. And this year we predicted to go to the 22. So, you see that it is quite, quite going up and down. I think that we have now passed a phase where we really are having a pipeline of opportunities. We have mature markets; we have stable teams and partnerships in place that we really are now only after nine years a start-up in the phase where we can really predict the revenue growth that we are having in the coming years. So only now I have the feeling that we have that that say that's under control, takes a long time.

Interviewer: Ok, and how was the involved development of employees? The number of employees?

Representative5: So, we are also a little bit in line with the revenue that I just gave you. So, we in 2000 that was eighteen, we got up to 350 people. Then we basically by closing an operation that we had in Chile with more than a hundred people employed, we went to the two fifty and now we are getting close to the 350 again. And with the projects that we have signed already for this year, I would say that this year we would end up with four hundred, four hundred thirty employees. So also, that with the predictability of our business and what we have signed already, we know that we need those people to execute our projects now. So that is in line with the stability that I just mentioned. Now we know what we need.

Interviewer: Did the idea change over time, the idea of your business?

Representative5: The idea is continuously changing? There's a never-ending story. One of the things, especially now that you see what happens during the corona period, is that you better be adaptable, flexible in your model. You have to continuously engage in different ways with customers, improvise in markets where you are. That that's changing. We have a mix of stable, mature markets. And in mature markets, in mature markets, I would call them Africa, Middle East and, and Latin, Latin America. The stable markets, obviously, Europe, US. That is the main, the main areas where we work, where we work. Yeah, it is. Let's say we were, the main the main idea, I would say that has changed is that we all by design, we, we decided to be a global company. And that has a lot of implications. It means that you want to go for geographies, with offerings, with, with go to market models that that are particular for markets. But, but still, they have a very corporate character that is driven from the headquarters. The, the problem is that we were too ambitious, in my opinion, in with the idea of doing multi-sector. So, in the beginning, we were working in the utilities. We

were doing automotive. Company C was one of our customers in the beginning of our company. We have been in retail. We are back in retail now. Company D is one of our customers right now, as an exception. But we forgot to add that ambitious idea that is very important, that you have industry knowledge and especially when you compete against the big consultancy firms, because our competition typically is the big five. And the typical thing that you, especially in mature markets, you need to know about what you're talking about. OK. Right. And if you are in too many sectors, you, you never get you never can achieve that. So, we radically changed our idea, that sense that we reduced our presence by one day to the other. We closed all the business that we did in sectors that are not strategic for us and our strategic ones, our banking and telco.

Interviewer: Ok, great.

Representative5: What was the motivation to create this company?

Interviewer: Yeah, well, I, I come from a corporate world and I have been working in Company D. I was there for many years, working internationally. There's a good, good place for a big corporation. That is a good place to learn and to to, to, to get your first experience. But my main driver was that I became very allergic of all those corporate layers and management layers, people that look over your shoulder, how you do your job. I was in sales, so I was doing how I was doing my numbers, very process-oriented company. So, my main driver was I want to start for myself and I want to, to wake up in the morning knowing that I'm fighting for something that is mine, partially because we have 33 percent of the company right now. So, I'm happy that I have a two, two partners there to shareholders, co-founders there. But the, the main driver was, after so many corporate experiences that you are, your kind of saturation that I came to. I want to wake up in the morning being my own boss and be motivated by something that I drive alone or together more than hands on things. No, you want to touch and create things really yourself with the help of others, driving it yourself and being the initiator and the, and the owner of it is completely different than being just a piece or a number in a company, a big company where, Yeah, a lot of processes play at the same time. That was my drive. Is that an answer to your question?

Interviewer: I fully understand. Yeah, I can. OK, I know what you mean. Yes. OK, exactly. How does your team look like? Is it a mixed approach like really international?

Representative5: Fully international.

Interviewer: In Spain, how does it look like in Spain in general?

Representative5: Well, and in the Spanish office, we have people so a typical team in the country, you have they're a very strong. So, the managing director of the country has a commercial role. So, he's is responsible for the business development and the relationship with the customers. Yeah. So he is number driven, sales driven, and he is supported by the two partners. And those are partners, our managing directors. They are shareholders of the company, what they work for. And then we have the business lines we call the long lines of businesses, the two partners, because we have to, we have a digital culture and we have a data solutions. Those two local partners, together with the managing director of the country, that the sales oriented, they run the country. OK, because you need to have

presales and delivery capability, and that is guaranteed by the lines of businesses and their respective partners. And then you have to have obviously the customer relationship and the, the go to market strategy that is in the hands of the, the partner that has the commercial responsibility. And what we do is that local teams that are in delivery and pre-sales, they are always supported by the corporation because not all the expertise that we that we would like to have on the on the on the country basis is available in the country. And we supplemented that by our cooperation in Portugal, where we have that specific expertise to do certain things. OK. That is how we are organized.

Interviewer: And how was the process to find the right location for your company? Why did you choose in this case, Portugal and not Spain?

Representative5: Yeah, it is because the Spanish people have a tremendous problem in our company. This is a global company. And by definition, it means that you need to be mobile. You need to be traveling, you need to speak your languages, English is our main, main language that we speak in Spain two main blockers for, for, for our, let's say, company one is Spanish people they are not willing to travel and they prefer to stick to the basically to the cities where they were born or the bigger cities where they work and they speak the languages very badly. It is not easy to find people that find themselves. Yeah, easy and a common way, engaging with international customers in English, it was in such a way that even our Latin, Latin America operation and the people that were responsible for Latin America, they were not Spanish people, but Portuguese, because for Portuguese people, small country like, like the Dutch, small home market used to do the business abroad, international orientation that completely different than, than, I would say the Spanish. So that was our main reason. This is in reality. And based on the experience thing, I do a project in the north of Spain, a huge project with Company C, Spanish customer. Well, we have 25 people working there. There is not one person that we had in Madrid that was willing to work in that area. So, we have 25 Portuguese people from Oporto supporting our project there because we have not been able to find the one person that was willing to leave Madrid and to go to the project there, just to give you an example about how difficult it is. But it also is so it's not only about the culture and mentality, it is also because in Madrid there's so much demands on resources that people say, OK, I can be somewhere but for, for more money or the same money, I have a work life balance that there's a lot better. And I live in Madrid because the demands on good resources in our sector in Madrid is so high that why should people. So, it also has that that element and it's also a market competition kind of thing. It's not only culture or so. So, I have to add that to the equation. It's not only a cultural thing, it has to do with the market dynamics of Spain. OK, same, same thing, by the way, that we have we are facing right now the problem that five, six years ago, it was an absolute incentive for people from Madrid to do a project in Barcelona. And now if you ask an employee to do a project in Barcelona, they can even go back and forth with the high-speed train. And in one day, they would perceive it as an invitation to leave the company, because with all the political turmoil that we have in Catalonia, people really don't feel comfortable anymore to work there. So, yeah, that is then the political context behind what I would call the mobility problem.

Interviewer: What do you think about the Spanish education system? Well, it's Portuguese, but let's talk about the Spanish education system.

Representative5: Yeah, the Spanish education, educational system is good and bad at the same time, I think that Spanish people, they are very well prepared before they go to university. So, the education is, is quite good. And I compare it obviously I can compare it with, with, with Holland. So, so I think that standard is high. I don't say that there is a difference, that it's a different system also. But for me, I think that my perception is that the standard is high. But where it becomes worse is when you get to, you know, after so you go to the university, you go to a professional education. What I think that Spain is lacking totally in their educational system is the link between education and, and the companies, the pragmatic, practical link between studying and working. It is too theoretical universities and education in general is very classic. I miss, for example, and I realized that when we interview people, is that still studies like industrial engineer, the engineers that we are looking for, the software engineers that we are hiring, they come with a very old-fashioned preparation to, to our companies, to our interviews. They don't, they are not prepared. They lacked this practical working experience before they even start. So, the whole like, like I am used to and I think that in England and Germany and Holland, it's very normal that you do it a thesis, you know, not postgraduation MBA. But when you study, you work. And you're write a thesis, about the subject and you're already in touch with, with the real world, I would say. Now well, that is that link is missing here. So, you see the people are very, very theoretical and very little pragmatic. They get to their first job interview and they are quite lost, and that is so I would say good into basis even in the languages, is so people are well prepared. The problem is they don't speak it because that's the only thing that they forgot that you also have to speak to a language. So, they are very well prepared in grammar and in writing and reading. But when it comes to speaking it, that is lacking part that is a little bit because the pragmatic element is missing in many educational directions. That is my experience.

Interviewer: Quick question. Do you think from cultural background, you already talked about this. Spain has any advantages about other countries in creating a company?

Representative5: There is a lot of studies done also that confirm this. What I'm going to say that the there is a a large quantity of young people they aspire to, to work for the government, to have a nine to two in the afternoon kind of job, entrepreneurial wise. So cultural wise, being an entrepreneur, taking risk, going abroad, abroad, being very young, self-supportive, self-sufficient, not depending on your parents, something that is not Spanish. In Spain, you see a culture where that is. Yeah, it is absolutely not entrepreneurial, and it is the younger people, they really start slowly in that sense, starting to work looking for the first job, but very depending still on being supported by by, by family. It also has to do with salaries. So the entry salary of of a student that has a first job is incredibly low and the salaries in many sectors are, are still after. Even when you have working experience, they are they are quite low. So, so people on one hand, they have difficulties in taking that risk of going abroad and, and taking taking risks. Being an entrepreneur is difficult for them because the financial situation for them is also where in many cases it depends still on the, on the family now. So, I hope that this partially answered your question.

Interviewer: Next question is about does Spain offer you any advantage or support in relation to the digitalisation industry? I mean, for example, from the government, they support you, as a company?

Representative5: You know, now we have been very disappointed in that sense, especially when you start you look for a lot of incentives. There are a lot of European programs that, that you try to access to. Reality is that the processes to get to those funding and those incentives, they are so complex that while you are starting your company and being an entrepreneur, you can't find the time to even understand all those complexities, to get to those funding's. There is a lot of available. It is hardly it can be called Spanish. It normally it's access to the European funds that are there. I think that that, by the way, is very common in many countries. So, I think the European community, the countries decided that it should be that way. No. So less local and more organized in a structured way over Europe. But you have to do a master's degree yourself to understand how to get to that funding. You wouldn't have one hour to, to dedicate to your own your own business if you want to have access to it so in theory, everything is available in practice. Impossible to get there.

Interviewer: What do you think is the biggest success factor or was the biggest success factor in the last eight years?

Representative5: People! It's all about people and finding the right person for the right job finding, yeah, it is a people people's business because we are in the services business. So, finding the right talent, growing the right talent, it's all talent based. So, the critical success factor in our business by definition would be talent and is still talent. And that's proven to be talent.

Interviewer: All right, after your experience of founding a start-up in Spain, how crucial do you think is finally to the location? So, you would choose again, Spain and/or Portugal?

Representative5: Um, I don't think that the country where you are. Let's say like this, I would put, I would start my company in the place where most easily I would access talent, and so if I would start a company right now, I would not even consider Portugal or Europe in our business. The talent pool is very limited in the mature markets. So, I would, if I start, would start over again, I would start my company in Latin America or in Africa where you have incredibly well-prepared people, experienced young people and that are available in the market, let's say, OK, so it is easier to get access to good people in those markets. And if you have a company that is based that the critical success factor, like I said, is talent and our growth is basically based on people, then, then it is a no brainer. I would go to those markets where the people are, no?

Interviewer: Clear answers, at which point you would state that your company achieved being an established company and why?

Representative5: Well, I think that I, I briefly mentioned to you that in the introduction, so only now, after nine years, I think that we control all the critical elements that a company should have. So, we control sales, we control our customers. We have a solid finance department. We have a solid human resource department. We have a solid legal department. So over, over, over the years, we have been able to grow those areas. But you don't grow them at the same time, or you start with one. And when you have solved one, you go to the other problematic one and you start to solve that one. Being, being a global company with, with the geographies where we are, that brings a lot of complexity to the equation. I think that now the now only after eight years, we have reached the economic and financial stability and the right mix of markets that we have right now that enables me

to say we have reached a new status where we can grow. We have invested a lot. Also, like I said, our idea was always to start to be a global company. So, by design, we have been designed to be big. That has cost us a lot of effort and pain and above all, investments. So, I would say that for the last six, seven years, we were designed to be the double or two or three times bigger than we are right now. But we never reach that volume. But the basis was always there. So, it's not not only now that we have enough business that justifies the basis that we were building on, that we were creating, and that is the solid way forward. So so only now we have that economic financial stability. And I would call that, let's say, organizational stability to make this company a success. Normally you read in the literature about entrepreneurship that, that moment comes after five years or so. In the first five years, you can only after five years you can mostly see your companies dying or becoming more successful. Unfortunately, in our case, it took us four, four more years. So only now, last year, last year was already a very smooth path towards that direction, probably as many colleagues would say it was last year. For me, it is only this year, OK, because a company, in my opinion, is stable. When you in January know more or less where you're going to end in December, you can end 20 percent higher, 20 percent lower. But that predictability of, of where you end when you begin a year is very important for your for your stability to call something stable. And that not only we reach that now. So that, that is why I think now.

Interviewer: Thank you. Last question is a quantitative question. Can you please rate the following aspects and rate how important they are? It is the success of start-ups or companies. One is not important and five is very important. So, we have start with the factor team:

Representative5: Five.

Interviewer: Product?

Representative5: Three.

Interviewer: The business model?

Representative5: Five.

Interviewer: The network?

Representative5: Four.

Interviewer: Culture and country?

Representative5: Three.

Interviewer: Ok, the legal aspects of a country?

Representative5: Two.

Interviewer: And the last one is the scalability of a product?

Representative5: I would say one, because we are not in that one. If you would say scalability of service, I would have said five.

Interviewer: All right, so do you have any questions you would like to add something?

Representative5: I think it is a very, I liked it because it's a it's also a moment of reflection. You ask questions that we obviously, as entrepreneurs think a lot about during the years. But now looking back to the past. It's interesting, these questions. So, so. Yeah. Thank you for the interview with me. I really enjoyed it.

Appendix: E. Comparison of literature in a quantitative approach

1.Source: Literature success factors	Transform factors to coded factors	Summary of categories	Results	Transfer calc.	Summary of categories	3.Source: Qualitative Research on thesis	Transfer calc.	Summary of categories
1.Study, University of Zielona Góra (Szwajnska & Ziełowski, 2020).	Education System Business relations Organization People in Spain Markets		gradient = 14,29	gradient = 20	100 82 85 87 65 67 89	Master Thesis	gradient = 1,924	18 77 77 54 71 48 40
2.Study, Julia Rohrer, 2018 University of Franzens-Universitat Graz	People in Spain Organization Team Education System Business relations Markets People in Spain Location Product and technology		Results: 4 3 57 29 14 43 100 85 28		5,0 4,1 4,3 4,4 3,3 3,4 4,5	Entrepreneur/Team Product Business Model Network Culture and country Copy/legal aspects Scalability of the product	Total 18 40 28 20 57 52 16	35 77 54 71 48 40 31
3.Study, Nikra Agha, 2017 TU Berlin	Preparation Team Idea / Product Financing Marketing Decision					Team Product and technology Organization Business relations Markets People in Spain Location Product and technology		
4.Study, Andreas Rusnjak, 2014	Business relations Organization Product and technology Organization					Team Education System Business relations Markets People in Spain Location Product and technology		
5.Study, The Global Startup Ecosystem Report, 2020, p. 35	Performance Financing Market Reach Talent Connectness Knowledge Infrastructure					Team Location Markets Education System Business relations Education System Location		

