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Financial struggles and opportunities for tech entrepreneurial ventures at the early stages of their life cycle

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Contents

Abstract

Tech entrepreneurial ventures are a powerhouse for innovation and economic growth. Unlocking the start-up ecosystem's full potential can greatly benefit the economies of European countries. However, financial obstacles faced by young companies limit the creation of innovation. The paper aims to study the financial difficulties and opportunities for tech entrepreneurial ventures in Barcelona, Spain – one of Europe's most prominent start-up ecosystems in recent years. The study analyses the data collected through a survey questionnaire on the financial side of 41 tech-oriented Barcelona-based start-ups at the early stages of their life cycle. It was found that lack of investments is the main obstacle; founders' funds and business angels are the most recent sources of funding for over half of the companies studied; venture capital is the most desirable option; and the company's life cycle stage is positively related to the perceived capital availability.

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Introduction

One of many entrepreneurs' main concerns regarding their 'next Facebook' or 'next Amazon' idea is financing. "The Death Valley might be too long to keep project alive until break even."[1] – says the Barcelona-born start-up's owner when asked about financing her venture, which sells personalised books for kids online. That is one of the main concerns she has been thinking about since her start-up was born. It is quite probable that she is not the only one. This study aims to analyse young businesses' financing difficulties at the early stages of their life cycle and the opportunities available to them. Salamzadeh and Kawamorita Kesim (2015) suggest that financing is one of the critical parts of start-up development and that financial challenges are among the most significant ones. Therefore, going deeper into the topic and shedding light on it can allow for more informed decisions to be made by current and aspiring entrepreneurs, as well as governmental bodies. The social relevance of the study will be presented in greater detail later.

Moreover, a fascinating geographical location is chosen for this study. It focuses on the ventures founded in Barcelona - the city that ranks third on the list of the most prominent start-up ecosystems in Europe (Startup Heatmap Europe, 2022a). In 2021, Barcelona-based start-ups raised around 2 billion euros (Startup Heatmap Europe, 2022b). Given the gained attractiveness of Barcelona's start-up ecosystem, it is still interesting to find out whether such conditions are enough for young ventures to survive and thrive. Therefore, the paper aims to study the current financial struggles and opportunities for Barcelona-based young ventures and answer the following research question:

"What are the financial obstacles and opportunities for the Barcelona-based entrepreneurial ventures at the early stages of their life cycle?"

Before explaining the relevance of this research, it is crucial to define the fundamental concepts of the central question of interest. The companies that will be analysed in this study are entrepreneurial ventures which have the following characteristics: "(...) the principal goals of an entrepreneurial venture are profitability and growth and the business is characterised by innovative strategic practices." - the concept presented by Carland, Hoy, Boulton, and Carland (1984, p.358). Furthermore, the ventures should operate predominantly through the internet (digital businesses) or be tech-oriented. This condition does not involve the presence of traditional businesses, which focus mainly on face-to-face business transactions.

This study only considers ventures at the early stages of their life cycle. It means that companies are either at the pre-launch stage, start-up (launch) stage or growth stage (Indeed Editorial Team, 2022). The pre-launch stage is characterised by having a developing idea while creating a business plan and starting to seek investments. The actual transactions with customers, however, are yet to occur. The start-up stage represents the period in a company's life when it puts the pieces together, starts offering

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[1]Appendix D

its products/services to customers, gets feedback, and makes its first steps on the market. Finally, the growth stage is when the venture has a customer base and a consistent cash flow. This stage will be considered one of the initial ones as the venture is still not fully established on the market. It is not yet a flourishing company that Indeed Editorial Team (2022) considers it to be when a company is at the next - established - stage. Therefore, only early-stage entrepreneurial ventures are studied to see how difficult it is to survive and get through the initial period that represents a "Death Valley" for many new businesses.

Moreover, the concepts of obstacles and opportunities have to be made clear. For this research, these are about the financial side of the business. More specifically, everything that goes into the financing of companies, managing money, getting outside capital can be related to financial obstacles and opportunities. Not having enough access to capital investments, being denied a loan, tax penalties, and poor capital management are typical examples of financial struggles that can be faced by young ventures at the initial stages of their existence. When it comes to financial opportunities, there are traditional examples of financing possibilities such as venture capital and bank loans. However, there are now new potential sources of capital such as crowdfunding and Initial Coin Offerings (ICO), which are possible thanks to innovations brought to the world by the same innovative entrepreneurs. More on the financial obstacles and opportunities from the theoretical point of view will be presented in the next section. Figuring out the obstacles and the possibilities for the entrepreneurs in Barcelona regarding financing is of great social relevance. Providing clarity on what aspiring business owners can expect when it comes to raising funds or managing money would be of paramount importance to those individuals. Knowing the financial obstacles at the early stages can help Barcelona's aspiring entrepreneurs make more knowledgeable decisions that could prevent them from pursuing a high-risk opportunity that may not be the most plausible option for a particular individual. However, learning more about the financial possibilities can incentivise someone to pursue what they always dreamed of. Learning about financing opportunities can also be of value to those seeking funds now while already having their venture up and running. Overall, the social relevance of this paper is what predominantly encourages its writing.

Moreover, entrepreneurial companies are becoming more and more popular. Since they have an influence on the economies of countries (Denis, 2004), and with entrepreneurship being the driving force for economic development (Birch, 1987, Sine & Lee, 2009, as described in Vanevenhoven & Liguori, 2013), governments can find the information provided in this study valuable. Nanda and Rhodes-Kropf (2013) believe that technologies created and brought to the world by innovative new ventures have a significant impact on the economy. Furthermore, given that the data from Startup Heatmap Europe (2022b) suggests that Barcelona currently ranks sixth on the list of cities, when measured by start-ups' job creation, the Spanish and Catalan governments can be more inclined to learn more about the possibilities the start-up ecosystem has to offer.

Beck, Demirgüç-Kunt and Maksimovic (2008) propose that the most plausible way to facilitate access to external financing for small firms is through institutional reforms. Those authors also show that relying on external financing is less plausible for small ventures, so governmental bodies need to make changes in their systems. Since the paper will shed light on the current struggles of ventures, the obtained results can allow governing bodies to make more-informed decisions regarding regula-

tions, support programs, and policymaking. Takalo and Tanayama (2009, p.3) concluded: "(…) under certain conditions, public R&D subsidies can reduce the financing constraints of technology-based entrepreneurial firms." When done well, these improvements can allow governments to unlock the full potential of the flourishing start-up ecosystem in Barcelona.

Apart from that, the study will be of benefit to the scientific world, making the paper academically relevant. More specifically, it can provide a deeper analysis of the situation at the early stages of ventures' maturity and study the pain points of entrepreneurs. As mentioned earlier, Barcelona has become an attractive ecosystem, which is among the best for starting a venture in Europe. The contribution of this study will provide insights into the financial situation of young entrepreneurial ventures in one of the hotspots of the flourishing European start-up ecosystem while shedding light on funding struggles and opportunities of 2022.

Precisely, this study will show that difficulty in getting funding appears to be the most significant struggle reported by founders. Furthermore, personal founders' funds and business angels are the most recent and prominent sources of capital, and venture capital is the most desirable source. Moreover, it will be empirically shown that companies that develop software as a service (SaaS) do not perceive it as easier to get outside funding compared to companies that offer an other types of products. Finally, the relationship between a company's stage and capital availability will be established, suggesting that companies at the growth stage perceive having more capital available compared to those at the start-up stage.

The rest of the paper will be presented as follows: chapter 2 will consist of the theoretical framework where theoretical and empirical sub-questions will be addressed to help answer the main research question. Then chapter 3 will include an extensive description of the methodology and data used for the research. The research methods to collect data will be explained in great detail. Furthermore, chapter 4 will present the analyses and the corresponding results. It will be shown how the ventures in Barcelona are financed, the main obstacles perceived by founders, and the results of statistical inferences. These key insights will allow making claims on empirical sub-questions presented in the theoretical framework. After that, chapter 5 will discuss the results in the context of the past literature, where similarities and differences with previous studies will be highlighted. Finally, chapter 6 - a conclusion and suggestions for future research – will wrap up the paper.

2

Theoretical framework

The main research question requires unpacking to answer it in the best possible way. Going deeper and investigating several sub-questions will provide insights which will be used to answer the central question of interest. This section will present theoretical sub-questions and empirical ones that follow for each sub-topic. First, the idea would be to provide a discussion of the sub-questions mainly based on the existing literature. Those sub-questions will set the stage for a deeper analysis of empirical questions on financial difficulties and opportunities that will follow. Doing a literature review on these topics will provide the context for developing empirical sub-questions and creating testable hypotheses for this paper. The empirical sub-questions will be a continuation of the academic studies from the past. These will prepare the ground for the analysis, which will be discussed later in this paper. Overall, this section intends to provide the context for the study and point out the topics and gaps this study intends to fill.

2.1. Financial struggles for entrepreneurial ventures at early stages

First, it is vital to see what the academic literature has said about the financial constraints of entrepreneurial ventures at the early stages. The theoretical sub-question that will be addressed is the following: what are the financial struggles of entrepreneurial ventures at the early stages of their life cycles presented in the past academic literature? As mentioned, Salamzadeh and Kawamorita Kesim (2015) believe that financial obstacles are among the most significant ones for start-ups. However, what do those obstacles entail? One such obstacle can come from the idea of *under capitalisation*, which is one of the causes of failure at the early stages of new ventures (Dunn & Cheatham, 1993). The authors suggest that such thing happens when start-ups make errors in financial planning and implementation. Moreover, Picken (2017, p. 3) suggests that one of the eight obstacles that start-ups encounter at the early stages of their existence is about "building financial capability". When discussing it, Picken (2017) explained that the difficulty is not only in raising capital but also in using the funds effectively and managing the external capital responsibly.

Furthermore, an extensive study by Giardino, Bajwa, Wang, and Abrahamsson (2015, p. 4) showed that for the early-stage software ventures, the ten most common challenges contained two financial ones: "acquiring initial funding" and "reaching the break even point". While the former is about getting funds from the outside, the latter talks about using the funds to survive and get through the initial stage. That means overcoming the period when the venture fails to generate enough cash flow to sustain itself, meaning its revenues are still below total costs. It is possible to observe the similarities in these different papers, as two separate ideas emerge when discussing the main financial struggles of start-ups during the initial stages: getting funds and using them effectively to survive and grow.

2.1.1. Barcelona-founded entrepreneurial ventures' financial burdens at early stages

It is essential to establish the financial obstacles entrepreneurial ventures face. The world is changing at a fast pace. Thus, the only reliable way to figure out the financial pain points of the young ventures is to listen to what the owners of those companies have to say. Even though sometimes people may be blind and unwilling to recognise something in themselves or related to them, asking the owners about the financial obstacles they face as a company can provide a clearer picture of these difficulties for Barcelona's ventures in 2022. Focusing on the financial struggles leads to the first empirical sub-question of this paper: what is the leading financial burden entrepreneurial ventures in Barcelona face at the early stages? Giardino et al. (2015) concluded that the main financial obstacles are failing to get funds and struggling to reach the break-even point. It will make sense if the results are somewhat similar, as their study's sample consisted of software companies, which represent a high percentage in the sample for this study (more on it for this research will follow in chapter 3). Moreover, Rasmussen and Sørheim (2012) believe that many tech-oriented young start-ups at the beginning of their life encounter difficulties with finding financial support. Thus, it is possible to argue that the number one obstacle will be about acquiring financing. The hypothesis for this sub-question is:

Hypothesis 1: Lack of proper access to investment is the main financial burden perceived by Barcelona-based founders of tech start-ups at the early stages.

2.2. Primary sources of funding for young tech entrepreneurial ventures

Knowing the obstacles may not be enough. It is also vital to investigate what financing options are available and how, despite the obstacles, ventures are created and developed into something worthwhile. That means looking into how those funding demands can be satisfied and studying the capital sources of these start-ups. Therefore, the second theoretical sub-question that requires attention is: which are the primary financing sources for entrepreneurial ventures at the early stages as presented in the past academic literature? In their research, Giudici and Paleari (2000) show that financial struggles limit small high-tech innovative companies in Italy. They conclude that young ventures have to rely predominantly on the personal funds of their founders due to access constraints to traditional funding options. A study by Klačmer Čalopa, Horvat, and Lalić (2014) shows that Croatian start-ups are primarily funded via informal options such as personal finance and investments from close connections (e.g., family members and friends). Based on these two studies, it is already possible to have expectations regarding the sources of capital for these kind of companies.

However, interestingly, Coleman and Robb (2012) found that new tech companies raise relatively more equity from outside and are less dependent on founders' capital than non-tech companies. It contradicts the pecking order and life cycle theories that would suggest more self-dependency due to founders' desires to not give up control in case of the former theory and the fact that "the problem of informational opacity forces new firms to rely on internal rather than external sources (...)" in the latter theory (Coleman & Robb, 2012, p. 118). Even though, when comparing tech against non-tech start-ups, those differences may exist, previously mentioned papers suggest a dependency of such start-ups on informal financing options. These insights point out the trends regarding the sources of start-ups' financing. However, an empirical analysis is required to clarify the current situation for the

population of interest.

2.2.1. Sources of funding for young tech entrepreneurial businesses from Barcelona

Investigating how the ventures are financed can provide great insights on its own. Analysing how companies are funded can indicate the conditions of the environment in the Barcelona region. For example, many self-funded ventures can suggest high entry barriers for entrepreneurs. Of course, this is only an assumption, and there could be a different explanation. The actual takeaways and the potential biases when interpreting the results will be addressed later in this paper. Therefore, the second empirical sub-question is: how are the entrepreneurial ventures in Barcelona financed at the early stages of their life cycle? One can suggest that new possibilities allow companies to depend less on personal and so-called 'three F: family, friends, fools' sources of capital. However, the financial growth cycle model by Gregory, Rutherford, Oswald, and Gardiner (2005) shows that for the young small-to-medium enterprises (SMEs) with small teams, the primary funding sources are insiders and angel investors. Those represent funding from family, angel investors, or via trade credit. Another paper written more than two decades ago by Giudici and Paleari (2000) showed that Italian start-ups depended primarily on personal finance. There is a chance that a similar picture can still be observed in another south European country more than 20 years later.

There are not many reasons for others to put their money into a venture they know nothing about at the pre-launch and start-up stages. A similar idea was presented by Gregory et al. (2005) when they described the initial stage as a period when a company has no credentials and history. That is why we can expect to see start-ups being primarily funded by the founders investing their money, those close to the founders and potentially some outsiders that got to the point of believing in the venture's success. Given the insights presented during the discussion of the second theoretical sub-question and what was mentioned in these last two paragraphs, the second hypothesis to be tested is:

Hypothesis 2: Investments by founders and close connections are the primary sources of capital of Barcelona's ventures at the early stages.

2.3. The sought financial opportunities

Another sub-topic that will be analysed empirically is about the financing options founders seek for their ventures. Answering that question will provide insights into what sources the founders of Barcelona-based tech-oriented young entrepreneurial ventures aim to rely on in the near future. Moreover, it will allow knowing whether they want to get equity investment or be more dependent on debt. The sub-question is formulated in the following way: what financial opportunities do founders of such ventures seek? In their paper, Block, Colombo, Cumming, and Vismara (2017, p. 248) suggest that entrepreneurial finance has changed a lot during the last two decades, and new opportunities are emerging, such as "(...) debt venture funds, angel networks, and family offices." Since their paper was published, there are now even more possibilities thanks to the gaining popularity and accessibility of cryptocurrencies or so-called digital coins. Blockchain technology allows for many new possibilities of safely encrypted transactions which can also be applied in the context of start-up financing.

Crowdfunding is another potential source of financing that gains its market share on the list of financ-

ing options. The ease of putting their money to use attracts a new segment of the previously side-lined population of small retail investors (Mollick, 2014). Now they have an opportunity to invest small amounts of money in projects they believe in. Nevertheless, as Bottazzi and da Rin (2002) established twenty years ago, venture capital seems to be the most exciting option for technologically-oriented start-ups. In the study by Bertoni, Colombo, and Grilli (2011), the authors showed empirically that investments by venture capitalists fuel the growth of young tech-oriented companies. Given that, the third hypothesis that will be empirically tested in this paper is:

Hypothesis 3: Venture capital is the most sought option by Barcelona's entrepreneurs in 2022.

In the context of this paper's primary goal, the sub-question on this topic and the corresponding hypothesis can provide valuable information on what entrepreneurs in the area are looking for. That can be useful for governmental bodies or other influential entities because it suggests what options business people seek. That means it will be possible to know what they need to focus on and, as a result, aim to facilitate its provision from their side to unlock the full potential of the start-up ecosystem.

2.4. Difficulty of getting financing and product type offer

Founders' views may be biased, but their thoughts and choices on financial planning can potentially determine the success of their venture. Pessimistic views of founders can become a limiting belief that prevents them from getting financing. In contrast, more optimistic founders can potentially make the most out of the situation, regardless of whether the environment is flourishing or the economy is stagnating during a crisis. Nevertheless, without getting into psychology, it is vital to investigate that topic and answer the following theoretical sub-question: how easy is it to get funding under different market conditions based on the present academic literature? Kuckertz et al. (2020) suggest that when the market struggles, getting financing becomes more complicated.

Given the events starting from 2020, when the COVID pandemic hit, till now, when some might call it a period of being on the verge of the third world war in 2022, the economic environment is far from perfect. Even though 2021 seemed like a step forward after the pandemic, given the whopping 2 billion euros raised by Barcelona-based ventures as suggested by Startup Heatmap Europe (2022b), 2022 feels like a few significant steps backwards. Analysing how the founders perceive the environment can point out how easy they perceive the ability to get financing. Investigating their views can provide more clarity on the possibilities the financing ecosystem has to offer now.

As mentioned, Rasmussen and Sørheim (2012) said that getting funding for tech start-ups early in life is complicated. In their paper, Beck, Demirgüc-Kunt, Laeven, and Maksimovic (2006) suggest that younger and smaller ventures appear to have more substantial financial obstacles. Those ideas are possible to test in this paper's setting too, but what also could be interesting is how the company's main product type plays a role in this. European venture capitalists invested an outstanding amount of 12 billion euros in the SaaS market in 2020 (Filfilan, 2021). Fortune Business Insights (2022) suggests that the global SaaS market will grow at a 27.8% compound annual growth rate during the period from 2021 to 2028, meaning that it is expected to grow from around $130 billion to $716 billion. Can this insight suggest that the SaaS market is booming? It could, but not necessarily if we do not look at the comparative data. In the context of this paper, it will be valuable to study the following empirical

sub-question: how different is the perceived difficulty of getting funding in companies with distinct types of the main product (app, platform, SaaS, physical products, or other services)?

Given that the focus is on the offer type rather than a particular industry per se, it could be advantageous to know what kind of offer type allows for a greater possibility of getting outside financing. The 2022 events suggest that founders may perceive the current situation as unpleasant. However, if an assumption is made that the effect of the environment is the same for all the companies, regardless of whether they are an app development start-up or a digital business that offers a B2B SaaS, studying the relationship between the product type and the perceived difficulty of getting funding could be informative. Based on the assumption of attractive perspectives of the SaaS market, the hypothesis is the following:

Hypothesis 4: The founders of SaaS start-ups perceive it easier to get outside funding than start-ups that offer other product types.

This hypothesis can help aspiring-to-be entrepreneurs choose what to focus on, especially considering the similarity of ideas between building an app, a platform or a SaaS. Moreover, the insights from this sub-question can allow those already in business to adjust their course and devote resources to having the same service offered differently to their customers.

2.5. Perceived capital availability and life cycle stage

Given a particular interest in different stages of the start-up development, it could be of value to see how one of the variables that involve funding will change when the company advances from one stage to the other. Perceived capital availability is another concept that will be used in this research to study entrepreneurial businesses' financial struggles. It can be interesting to see whether there is a relationship between the stage the company is at and its founders' perception of capital availability. For this research, start-ups at three stages are analysed: pre-launch, start-up, and growth stages. Having the perceived capital availability variable as the dependent variable and the stage variable as the independent variable of interest in a regression, it will be possible to learn more about the relationship between the two. Numerous above-mentioned studies reported that lack of access to funds would mean founders may perceive their capital availability as lacking, but will the situation be improved when the company advances to the next stage? It is especially relevant for the early stages when companies make their first steps. The following empirical sub-question will be analysed: how does the company's stage affect the capital availability perceived by start-ups' founders? The hypothesis tested is:

Hypothesis 5: The higher the company's stage, the higher the founders' perceived capital availability.

The insights from this part of the research can help current and aspiring entrepreneurs do financial planning before using their money in a way which may come back to bite them later on. As Dunn and Cheatham (1993) argued, poor financial planning is one of the reasons why start-ups fail. That is why studying how perceived capital availability depends on the start-up's stage can be helpful as it can inform what to expect when climbing up the ladder of start-up development.

2.6. Moving from theory to practice

To conclude this section, it is vital to say a few words about how these sub-questions are linked to the central question of interest. This study aims to provide an overview of what the tech-dependent start-ups in Barcelona face when it comes to the financial side of their businesses. While perceived obstacles can show the roadblocks on the path, opportunities will also be present to those willing to look for them. With the help of empirical sub-questions, it will be possible to dive deep into both obstacles and opportunities of the financing environment in the prominent European start-up hub in 2022. The next section will discuss how these hypotheses will be tested and the type of methods and data used for the analyses.

3

Methodology and data

The study aims to analyse the perceptions as well as the current conditions of Barcelona's start-up ecosystem. When analysing the data from ventures and their founders, studying the past literature - as was done in chapter 2 - is not enough. It is crucial to consider the speed with which the world's environment and the start-up ecosystem change. Therefore, a more advanced and up-to-date research method is required to ensure the reliability of the study. In the following sub-sections, the research methodology, the data collection techniques, and the data analysis methods are described.

3.1. The population, the sample, and the ideal respondent

Based on the research question, the population of interest for this study consists of Barcelona-based entrepreneurial ventures and their founders. There is a need for a representative population sample. It needs to have the characteristics of the population of interest to conduct a desirable study, make inferences and generalisations on the whole population. The ideal respondents for the sample are founders or Chief Executive Officers (CEOs) of the ventures which have the following characteristics:

- tech-oriented (e.g., reliance on the internet, offering goods or services online, using technology to create products)

- entrepreneurial venture (given the definition provided in chapter 1)

- founded in the Greater Barcelona Metropolitan Area

- at the initial stages of its maturity (pre-launch, start-up or growth stages, as described in chapter 1).

This study does not need to consider the demographical characteristics of the founders/CEOs, as the focus is on the ventures. For the paper, a cross-sectional analysis is performed that can point out the realities that entrepreneurial ventures face. The data from 43 founders and their ventures is collected. The description of how the data is collected will be presented later in this section. The analysis can become a starting point which will prepare the ground for future research on entrepreneurial ventures' financing at the initial stages of their life.

3.2. The data collection method

For this paper's analysis, it is crucial to achieve a balance and ensure that the data collection process gathers high-value information without making it lengthy and tedious for the respondents. Moreover, knowing that this research aims to study the financial obstacles and opportunities Barcelona's entrepreneurs face right now, there is a need for a cross-sectional survey design. This will allow collecting the data on founders' opinions when it comes to financing struggles and opportunities and

shed light on the current situation regarding funding for ventures at the early stages. This research method allows for a snapshot of the Barcelona start-up population at a particular moment. The insights derived from the survey will allow to answer the main research question by addressing its sub-questions. The Qualtrics website is used to create the survey questionnaire, presented in Appendix B.

3.3. The design of the survey

This section will present in great detail how the survey questionnaire is designed, its structure, how the questions are created, and the reasons for such design choices. Creating an appropriate survey questionnaire is done by following the guidelines and answering the questions that arise along the way presented in the paper by Fanning (2005). Answering these questions and following the guidelines allow for a survey questionnaire to be developed. It also ensures the goals for the survey are achieved - collecting necessary data on start-ups' finances.

3.3.1. Creating an appropriate survey questionnaire

The survey creation process begins with the first question from Fanning (2005) paper. It asks about the specific goal and the purpose of the survey. In the case of this research, the primary purpose of this data collection technique is to learn what entrepreneurs themselves have to say about the situation they are in. The next subject that needs to be untangled is about the primary and secondary topics of interest for the analysis. As it has already become apparent, the focus is on the financial side of things: perceptions of possibilities for funding (either equity or debt) and views on the struggles faced. In order to provide context, the secondary topics are the primary sources of funding, financial demands faced by the ventures and the opportunities that are pursued. The past and current experiences with funding the venture need to be established to accomplish that.

Following the list of questions created by Fanning (2005) to develop the desired survey, the third question talks about defining the key concepts and deciding on what kind of information respondents need to provide. The ideas presented in the theoretical framework on financial struggles and opportunities are the foundation of the analysis. Moreover, for this study, it will be of value to have entrepreneurs share the information on the venture itself, its operations, how it is currently financed, the options they are looking into, and whether they are looking for funding at all. Those insights will allow answering the empirical sub-questions, making the inferences on the current situation of the population of interest possible in the context of financing young entrepreneurial ventures.

The fourth question addresses the content and the scope of the study. For this analysis, it is vital to limit the scope to ventures' finances without going into other essential components, such as the company's strategy. However, it is also critical to investigate the funding demands when analysing a venture's finances. It means asking about the parts of the venture these funds need to go to. Moreover, it is also necessary to establish how the companies are doing by collecting their revenue and profit margin data. That information will shed light on the company's current performance. Moreover, establishing companies' life cycle stage and product type they offer will allow for informative relationships to be established, as described in the past section.

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3.3.2. Survey design

The next set of questions presented by Fanning (2005) aims to provide clarity on the specific details of the survey design. The first one talks about the wording and order of questions in the survey. Regarding the language that needs to be used, it is crucial to have the questions clear and understandable. However, it is vital to remember that the sample consists of business-people. It suggests that more specific business-related terms and jargon can be used when needed. For example, explaining the meaning of concepts like equity or debt is not necessary, assuming that companies' founders are familiar with such ideas.

Regarding the order of questions, the cross-sectional survey is designed in the following way. The survey questionnaire consists of 4 parts. The first one collects the data on descriptive statistics of ventures: it aims to establish the details on the origin of the venture, its size, the stage the venture is at, its founders and some other descriptive statistics. Firstly, it ensures the ventures have the characteristics of the population of interest for this study. That is a so-called 'screening' process to ensure that the collected data is relevant to the analysis. Furthermore, the questions in this part also provide valuable information on the companies.

The second part aims to collect operational information such as the revenue, profit margin and cost sources. The questions in this part allow to divide deep and see how the venture operates. The third part talks about the past experiences with funding. Firstly, the information on self-financing is collected. More specifically, the question of how much funds were invested by the founders is asked. Then, the questions on outside investments (equity) and borrowings (debt) are included. Those questions allow observing how the venture was financed so far. Finally, the fourth part of the survey discusses the current financing, respondents' perception of funding possibilities, and their ventures' operational and financial obstacles.

The survey is structured, and the parts are presented to the respondents in the above-mentioned way for the following reasons. The questions are grouped to ensure ease of perception and completion. Each part addresses a particular topic, or a group of topics related to each other. As Dillman (2000, as described in Fanning, 2005) presents, questions need to be grouped to keep the logical ordering; thus, the survey is not mentally demanding. Moreover, parts are broken down by introducing section breaks. Those breaks make it clear to participants when one part ends and the next one begins, ensuring the conditions are satisfied to facilitate the completion process.

The first part is the introductory one, which does not contain complicated questions. As Fanning (2005, p. 5) puts it, the first question needs to be "(...) general but pertain to the purpose of the survey (...)". Making it simple, relatable, quick to be answered, and applicable to all, the first question about the year when the venture was founded initiates the process and allows the respondents to gain momentum. A similar mentality is employed to create the whole first part. It consists of straightforward, easy-to-answer questions that ease participants into the process.

The second, third and fourth parts are more complicated and demand more from participants. However, as Fanning (2005) suggests, the most objectionable questions are left for the end. In the case of this research, questions on perceptions and struggles are presented in the last part of the survey to

reduce the effect of objectionable questions on the survey's completion rate (Dillman, 2000, as presented in Fanning, 2005). Making the questions fixed in a way that is not pointing out and leaning toward a particular answer is vital for collecting unbiased responses. The wording of questions must not be leading. An example of a leading question in the context of this research would be: "How great are the funding possibilities for start-ups in Barcelona?". Instead, a fixed and unbiased question would sound like this: "On a scale from 0 (very easy to get financing) to 10 (very hard to get financing), how would you rate the ability to get financing right now?" It is aimed to write questions in the latter, unbiased way.

3.3.3. More on questions and the introduction text

Moving on to the next topics to be addressed for creating a desirable survey design. Even though the study predominantly aims to investigate subjective ideas around founders' perceptions of financial obstacles and possibilities, most questions are created as multiple-choice with a few exceptions. Multiple-choice questions ensure simplicity and reduce the possibility of misinterpretation. For this paper, a combination of quantitative (multiple-choice) and a few qualitative (open-ended questions) data allows making inferences on the financing of ventures, going deeper and seeing what bothers the entrepreneurs. These data allow for answering the main question of interest and adequately analysing the topic.

The wording of questions requires more additional attention. The survey itself needs to be perceived as trustworthy. Founders may be reluctant to share private information on their venture; therefore, establishing trust through proper use of language and other ways, which will be explained later, is key to a high completion rate. The final point that needs to be addressed is on making sure respondents do not get a feeling of confusion or that they might be wrong during the completion process. It is ensured by limiting the number of open-ended questions and clearly specifying what is expected from the respondents in each question.

Furthermore, the introduction part of the survey must be described. This introductory text that appears first after the survey is accessed via the corresponding link needs to address several essential things. Kasunic (2005) suggests it should contain statements conveying the purpose and reasons for doing the study; encourage participation; convey trust; ensure the respondents' data confidentiality; mention the number of parts, and approximate time it will take; provide contact information (in case respondents have questions); present an idea how results will be published and used. The introduction text of the survey questionnaire can be reviewed in Appendix B.

3.4. Distribution, communication plan and collection processes

The data collection process requires knowing how to reach the desired target population. That is what will be addressed in this section. More specifically, the first sub-section will mention how the start-ups' founders are found and reached. The second sub-section will present the communication plan employed to get potential respondents to participate in the study.

3.4.1. Distribution, searching for ventures' founders and CEOs

Firstly, it is crucial to find entrepreneurial ventures which were created recently in the Barcelona region. EU-Startups (2022) has a database of the submitted start-ups for most European countries. It is possible to sort start-ups by the country and region of origin as well as the year the venture was registered on the platform using its advanced search feature. The names of the ventures that were registered on the platform in the 2016-2022 window are collected. Now, when the names of the companies are known, the next step is to find out the contact person, a venture's representative. This study analyses the financial struggles and opportunities perceived by companies' founders. The data collection process will be much faster if unnecessary communications with lower-ranked employees are reduced to the minimum. That means reaching out to the founders directly rather than going through the companies' support channels or communicating with employees.

One way to find founders and CEOs of ventures is through LinkedIn. It is a social network used predominantly by professionals. Most companies that function through the internet have their own LinkedIn account with the employees listed on their page, so searching for founders and having direct access to them is easy. Using LinkedIn to find companies and their founders and contact them has many advantages. It is possible to connect and reach out to those founders with zero monetary cost and minimal time, using the features available on the platform. That type of distribution process is perfect for the type of study conducted for this paper, given the limited time and capital resources.

3.4.2. Communication plan

After the page of the venture's creator is found, LinkedIn's connect[1] feature is used to get in touch with the person. It also allows for a short 300 characters message to be added to the request. This relatively short block of text needs to attract attention, provide context for the receiver and add a call-to-action (CTA) for the communication to move forward. The connection approach is employed to contact around 1000 different founders/CEOs of start-ups from Barcelona. Sending personalised follow-up messages after the initial CTA is missed or ignored, even if the connection request is accepted, can improve the first communication response rate. A similar idea is presented by Monroe and Adams (2012) in their list of recommendations for increasing response rates.

When the contact is established, and potential respondents show signs of interest, the second part of communication is about giving more details on the study and explaining what is expected from them. Communicating directly with the founders allows for a possibility to handle objections and address any concerns or questions right away in an informal manner. Bringing them in on the mission makes them willing to participate. Then a link to access the survey is sent. Follow-up messages are also used after the link is sent to remind individuals or allow them to voice any concerns they still have. The data is collected using this personalised approach.

3.5. Data preparation and analysis

After the data is collected employing the distribution and communication plans, it is now necessary to prepare the data for analysis. This section will present the data preparation process while showing the

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[1]The concept of connection on LinkedIn is similar to being friends on Facebook or following each other on Instagram.

sample statistics, discussing the methods for analyses and mentioning the transformations required to be able to get to valuable insights.

3.5.1. Data preparation

After the data is collected, it must be prepared for analysis. The data file in the XLSX format is exported from Qualtrics into Excel, and the latter is employed for data preparation. The first step is about deleting incomplete responses. In total, 53 responses were received. 10 responses were incomplete. Those are deleted. Then, the columns with data on variables unrelated to this study, such as the data on the number of seconds it took to complete the survey are deleted. Fully finished responses with the relevant data only are left in the file.

After checking the responses to the 'screening' questions, it is possible to ensure that the respondents belong to the target group. This data cleaning process takes place before any data preparation for the analysis to guarantee that only relevant sample data will be analysed. After deleting the complete responses of those founders who do not belong to the target population, the data can be prepared. For example, the data on companies at the established and expansion stages are deleted from the sample as these do not belong to the population of start-ups at the early stages that are studied. It means that 41 respondents satisfy the population's characteristics and fit well into the sample to be analysed.

3.5.2. Sample statistics

The data from each question or a couple of questions that belong to the same topic are moved to a separate Excel sheet where further data preparation and analyses are performed. The insights from the responses to questions are created and presented, mainly as pie charts. Those figures can be accessed in Appendix A. Here are the main statistics on the sample: 41% of the companies in the sample were founded in 2021, 20% in 2022, and a total of 39% of companies were founded either in 2020 or earlier. 74% of the companies are founded either by 2 or 3 individuals. 56% of the start-ups in the sample are founded solely by men, but 32% were founded by at least one man and one woman together.

Moreover, 59% of the start-ups in the sample have a team of 1-5 employees, and 29% have a team of 6-10 workers. That leaves a cumulative 12% of the start-ups that are run solo by their founder or have more than 10 employees. 59% of the companies have a monthly revenue in the range from 0-1000 euros, 15% earn 1000-5000 euros, 26% make monthly around 5000-10000 euros, and 16% earn more than 10000 euros per month. As the main cost drivers, founders predominantly report payroll (36%), technological expenses such as capital spent on a website, software, information systems (31%) and marketing (27%).

Then there is some valuable data on funding. First of all, 22% of the founders invested 0-5000 euros; in 12% of the companies, the amount of personal founders' capital was between 5000 and 10000 euros; 42% of the start-ups' founders invested between 10000 and 50000 euros; in 24% of the start-ups, founders invested more than 50000 euros. In 63% of the companies, there was at least one outside investment. Out of those outside investments, 46% came from business angels, 27% - from 'friends,

family, or fools', 15% from venture capital, and 12% from other sources. Regarding borrowings, only 24% of the companies had at least one borrowing agreement. Of those who did borrow, 50% were from ENISA (2022) - the Spanish governmental program that offers financing to SMEs. 25% of companies borrowed from the government, and the other 25% from a different source. The rest of the data will be presented in the results section as a part of testing hypotheses.

3.5.3. Statistical analyses

For empirical sub-questions 4 and 5, statistical analyses are also required. The data analysis will be performed using the STATA software package. Even well-organised data in Excel still requires some necessary adjustments to allow for an analysis to take place. It is essential to distinguish between multiple-choice and open-ended questions. The multiple-choice questions collect data on categorical variables most of the time. Transforming categorical string variables into labelled numeric variables is required. Some of the categorical variables are ordinal, while others are nominal. Therefore, different approaches are used when transforming and using them for statistical analyses. The table that highlights all the necessary information on the variables can be viewed in Appendix C.

For the empirical sub-question 4, which aims to study the link between the main product type and the perceived difficulty of getting outside financing, the following model is employed. An ordered logistic regression will be used for this analysis. The dependent variable will be the perceived difficulty of getting outside funding, and the independent variable is the type of product. The data on the dependent variable is collected by asking respondents to rate on a scale from 0 (very easy) to 10 (very difficult) how they perceive their ability to get financing. Then the data is transformed into an ordinal categorical variable by grouping responses into three groups (easy, not easy not difficult, difficult), allowing for ordered logistic regression to be employed. The data on the independent variable is collected by establishing the offer type of their company's product out of the following options: app; platform; SaaS; physical product; or other. It is not an ordinal but rather a nominal categorical variable. That means it needs to be presented in the STATA software as so (including dummies that represent each type in the model). In that case, the reference category is SaaS, as the hypothesis testing requires comparing this group to the others. The model that will be tested here is the following:

$$logit(P(Difficulty\ fin. \leq j)) = \beta_{j0} + \beta_1 \cdot Offer + \beta_2 \cdot Control_1 + \cdots + \beta_p \cdot Control_{p-1} + \epsilon \quad (3.1)$$

for j = 1 (easy), 2 (not easy not difficult), 3 (difficult) and p predictors. The model has control variables to limit the possible effect of omitted variable bias. The variables on founding year, number and sexes of founders, stage, team's size, monthly revenue, amount of personal (founders') investment, most recent financing and funding preferences are included in the model to make sure it is possible to establish the actual relationship between the variables of interest, minimising the extraneous variables' effects on the results. It is important to mention that some variables require additional transformation to allow the statistical analysis software to estimate a maximum likelihood model successfully. Those transformations can be observed in Appendix C.

The statistics on these two variables of interest are presented in Figure 3.1 and Figure 3.2. 46% of founders perceived getting financing as not easy or difficult, and 32% perceived it as difficult and 22%

as easy. Regarding start-ups' offers: 39% are creating or already offering SaaS, 20% sell physical products, 19% are building an app, and 15% are developing a platform, while the rest, 7% of companies offer other types of services.
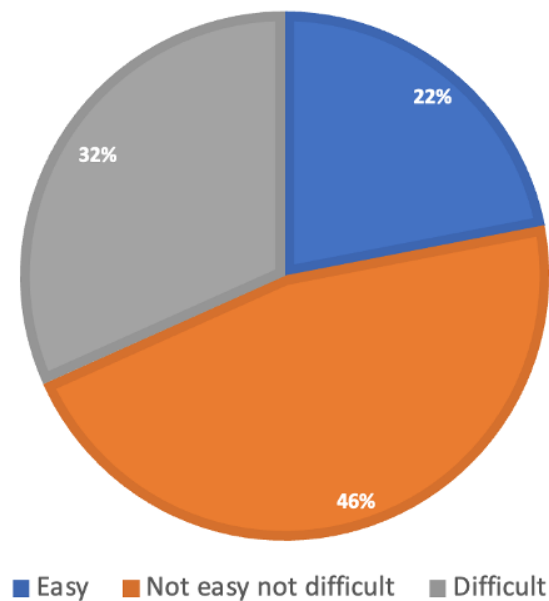
Figure 3.1: Difficulty of financing as perceived by founders of entrepreneurial ventures at the early stages from Barcelona
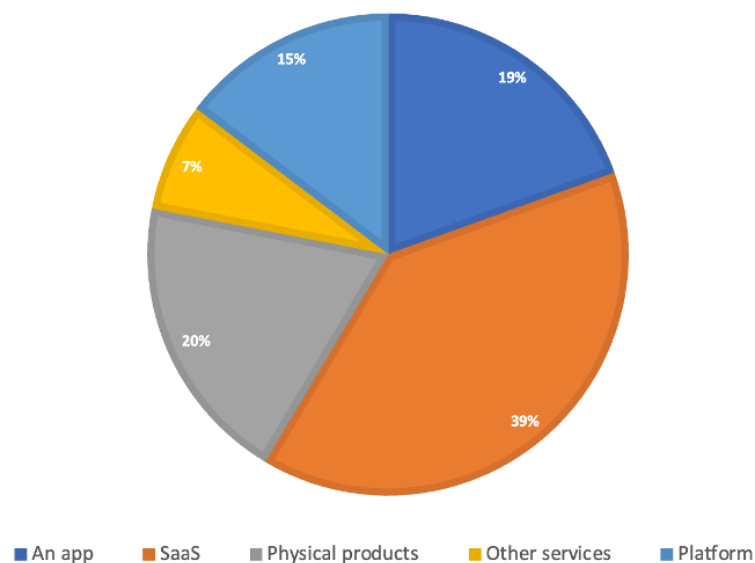
Figure 3.2: Product offer type of entrepreneurial ventures at the early stages from Barcelona

The sub-question 5 analyses how the stage variable affects the perceived capital availability. The ordered logistic regression is again employed, with the dependent variable being perceived capital availability and the independent variable being the stage. The data on the dependent variable is collected by asking founders to choose from three options (lacking, sufficient, desirable) about how they perceive capital availability for their company. It is an ordered categorical variable. The data

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on the independent variable is collected by asking respondents to choose the stage at which their business is at from 7 different options. However, the focus of the study is only on the first three that represent the early stages (pre-launch, start-up, growth). The model is the following:

$$logit(P(Capital\ availability \leq k)) = \beta_{k0} + \beta_1 \cdot Stage + \beta_2 \cdot Control_1 + \cdots + \beta_p \cdot Control_{p-1} + \epsilon \quad (3.2)$$

for k = 1 (lacking), 2 (sufficient), 3 (desirable) and p predictors. The control variables in the model are on founding year, the number of founders and their sexes, most recent financing, and funding preferences. The variables such as team size, monthly revenue, and amount of personal founders' investment are not included because it is possible to argue that the independent variable *stage* affects those, making them bad controls. The characteristics of the two variables of interest are presented in Figures 3 and 4. As observed in Figure 3.3, 51% of the founders said they lack capital, 39% believe they have sufficient, and only 10% believe they have a desirable amount of capital available to their company. While referring to Figure 3.4, it is possible to infer that 75% of the sampled companies are at the start-up stage, 10% are at the pre-launch stage, and 15% are at the growth stage.
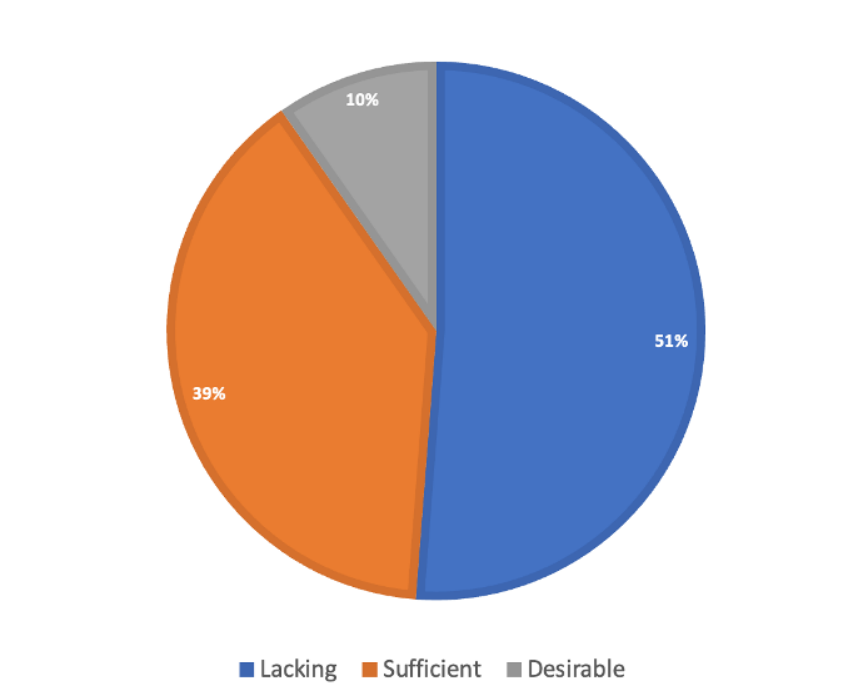
Figure 3.3: Capital availability as perceived by founders of entrepreneurial ventures out of the three possible options (lacking, sufficient, desirable)
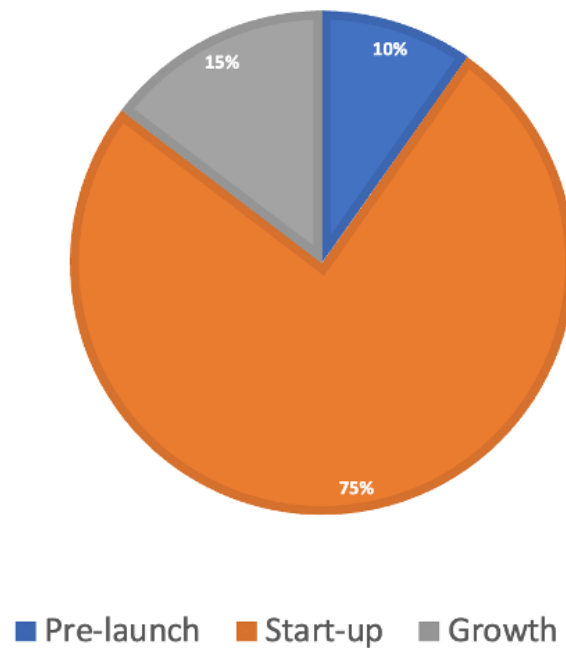
Figure 3.4: The stages entrepreneurial ventures are at out of the three that represent the early period (pre-launch, start-up and growth)

3.5.4. Open-ended questions

There are also open-ended questions which require additional attention. Having collected the responses in a text format, those answers need to be organised in a way that makes them easy to be perceived and analysed. It means grouping responses based on the similarities presented in them. Some answers may be phrased differently but mean the same idea. The data requires allocating responses into groups. It is only possible to do this process subjectively, relying solely on the personal abilities to realise what respondents meant and to what group their answer belongs. An extensive representation of the data collected and the groups can be checked in Appendix D.

4

Results

Based on the data collected using the survey questionnaire and prepared for the investigation, it is now possible to do statistical analyses and test the five hypotheses of this research. This section will contain five sub-sections, where the results to check each hypothesis are presented. That will allow for establishing a link with the main research question.

4.1. Financial struggles of Barcelona-based entrepreneurial ventures

First, the sub-question on financial struggles will be studied, and its hypothesis will now be put to challenge:

Hypothesis 1: Lack of proper access to investment is the leading financial burden perceived by Barcelona-based founders of tech start-ups at the early stages.

Testing this hypothesis requires finding out what financial burdens entrepreneurs with their businesses face. Figure 4.1 presents the data on the question that asked about the current obstacles of the company finance-wise (with choice options). Unsurprisingly, most responded that the primary financial obstacle is related to the lack of investments (70% of the responses). While the rest of the obstacles, such as tax penalties, money mismanagement, priority management, and others, account together for a total of 30%. Moreover, in an open-ended question about financial obstacles and opportunities, the data on obstacles is presented in Figure 4.2. 45% talked about difficulties with getting funding; for 15%, the main concern was presented as a vicious cycle that represents the following idea: it is possible to get funding by showing start-up's potential but showing potential requires acquiring funding. In contrast, other financial obstacles, such as concerns about financial planning, survival, or getting enough cash flow, represent a small percentage each. Based on that, it is possible to infer that facing difficulty when trying to get funding and lack of access to investments appear to be the main financial burden perceived by the founders. It means that the first hypothesis is indeed supported by the sample data studied for this research.
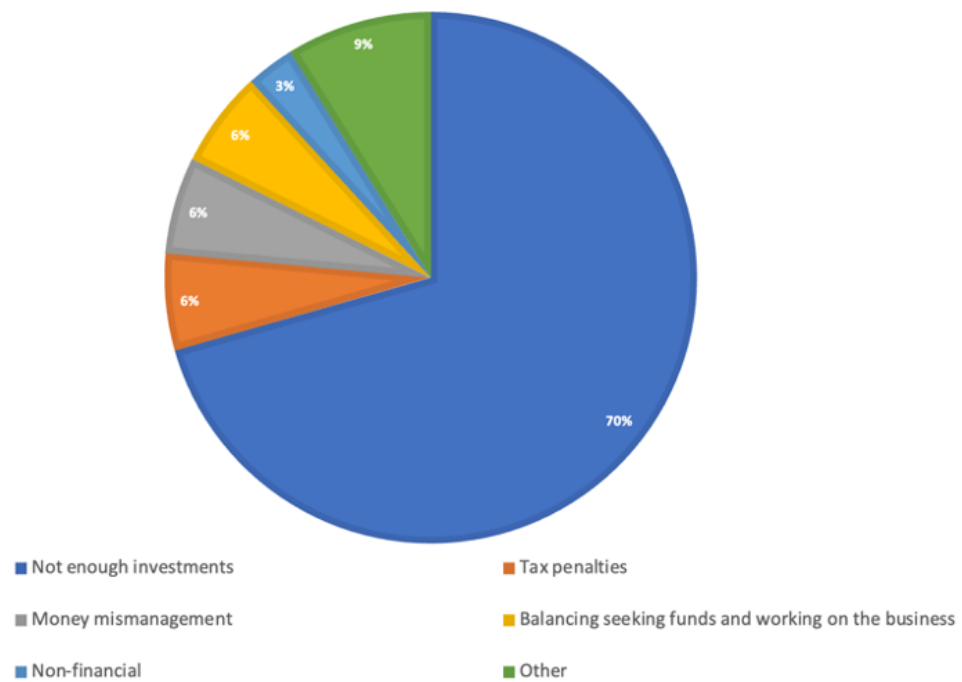
Figure 4.1: Financial obstacles as perceived by founders of Barcelona-based entrepreneurial ventures at the early stages (based on a multiple-choice question)
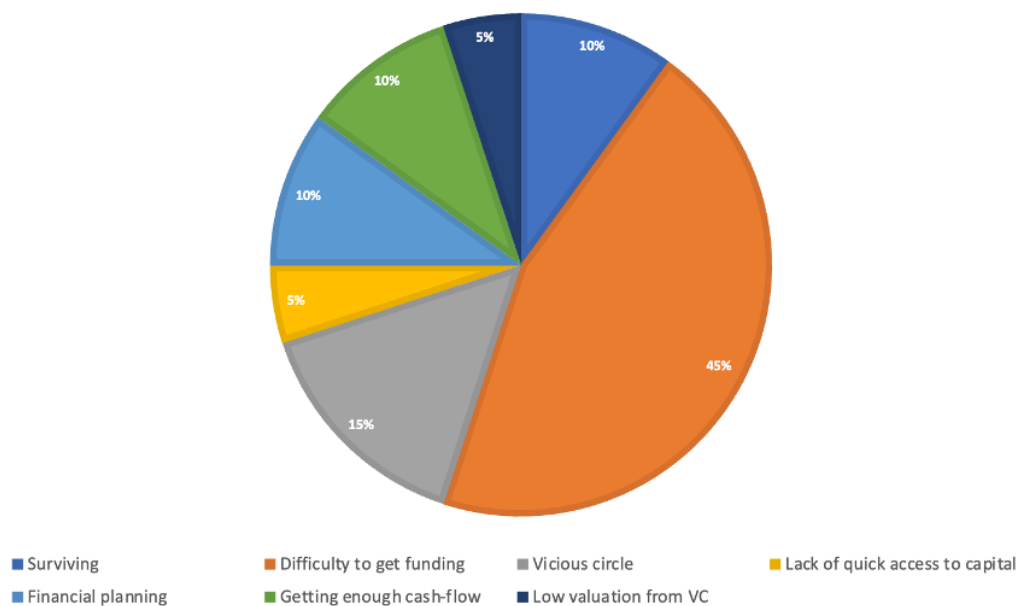
Figure 4.2: Financial obstacles as perceived by founders (open-ended question, results presented in Appendix D)

4.2. Primary funding sources

The second area of interest is how those ventures are financed and where they get the money to exist, survive and grow. That is the question that allows observing how the companies are overcoming and handling financial obstacles, such as when they suggest that there are insufficient investments

available. The hypothesis that will be tested here is:

Hypothesis 2: Investments by founders and close connections are the primary sources of capital of Barcelona's ventures at the early stages.

This hypothesis is not as straightforward as it seems. It requires a collection of different data points and some judgement to test it. The survey questionnaire allowed us to collect the following information. Figure 4.3 presents the data on the most recent financing as reported by the founders. In 32% of the companies, the founder's personal funds were the most recent funding option; in 27% of the cases, it was business angels, whilst in 22% of the companies, venture capital appeared to be the most recent financing. 14% of companies received money from family members, friends, or fools. For the remaining ventures (5%), the most recent investing differed from the above-mentioned options. The data can point out the main capital sources with some ambiguity in that case. Therefore, looking for other information is required.
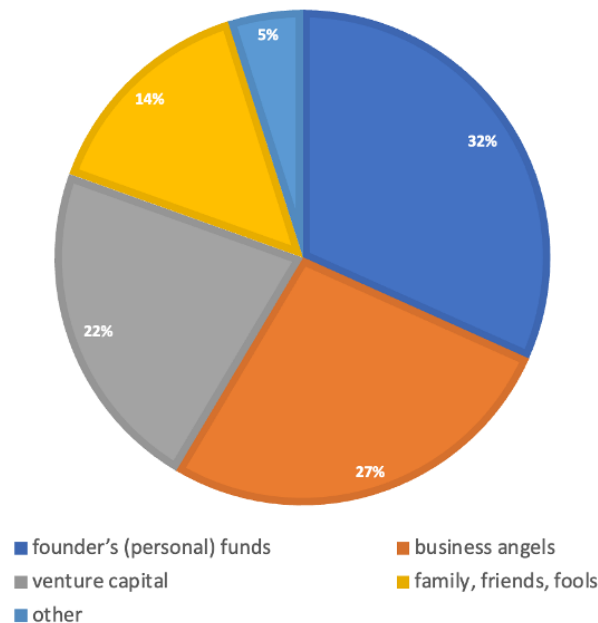
Figure 4.3: The most recent financing as reported by founders of Barcelona's entrepreneurial ventures

The hypothesis suggests that personal investments by founders and close connections are the primary sources of capital. Unpacking that means the average company would be financed more by personal funds and a limited amount of outside capital. To get to that, it is possible to compare the companies with no outside capital and those with at least some type of outside capital (either equity or debt). As shown in Figure 4.4, 71% of the companies have some type of outside capital (either from equity investments or debt). That means 29% of the ventures only depend on their own money and resources. However, the question of to what extent this statistic is reasonable and 'normal' for start-ups at the early stages emerges.
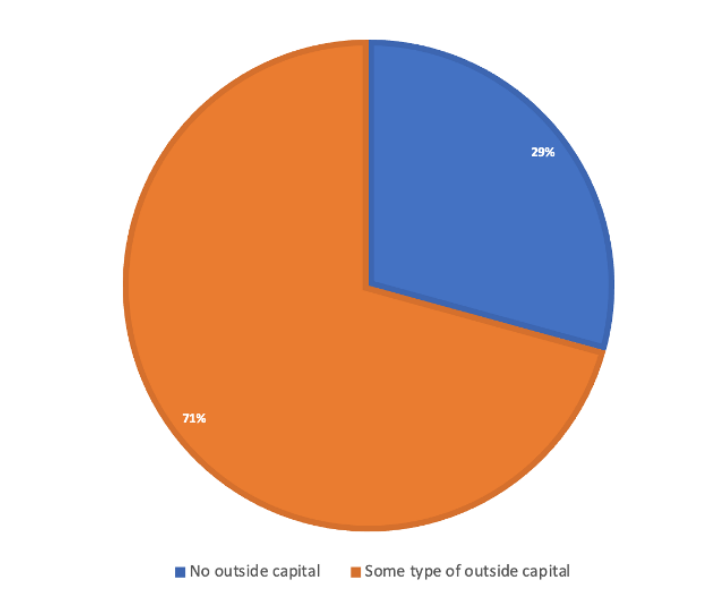
Figure 4.4: The way the sample companies are financed (whether there is some type of outside capital or not)

Moreover, for companies with no outside capital, only around 16% invested more than 50000 euros, as shown in Figure 4.5. At the same time, Figure 4.6 suggests that for those with at least some forms of outside capital, founders invested more than 50000 euros in 27% of the companies (with 10% having founders invest more than 500000 euros). That suggests that with outside funding, founders tend to have more of their own money invested in the company. However, does that suggest that ventures depend on personal funds at the early stages? Not necessarily. The discussion and potential explanations for these results will follow in the next section, where the data on primary cost sources, presented in Figure 4.7, will also be considered.
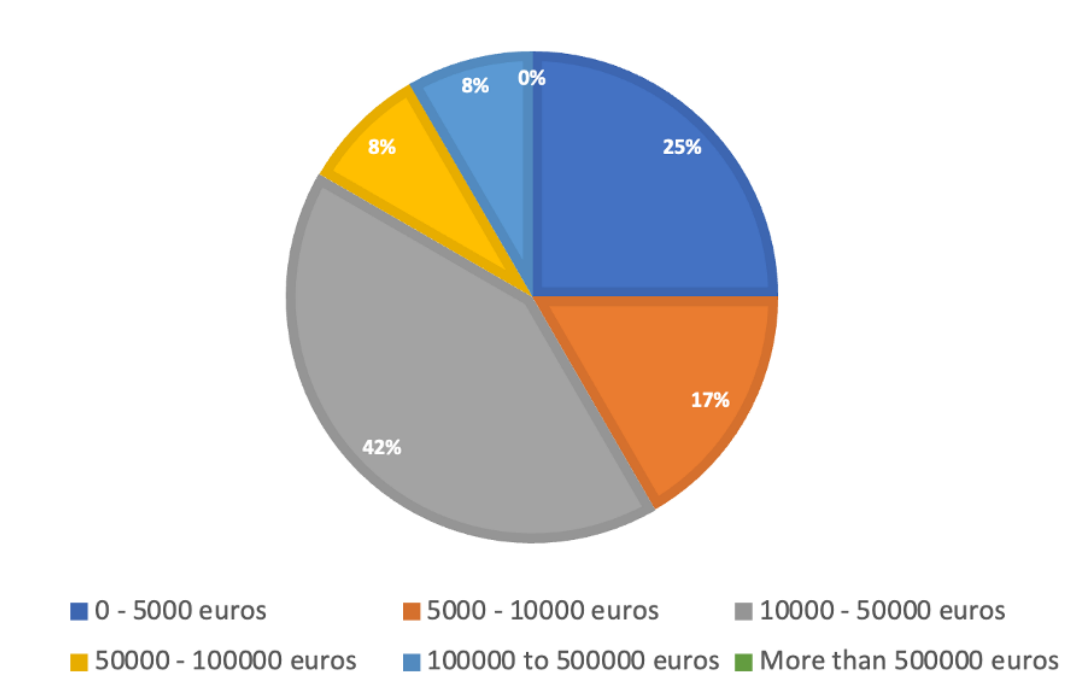
Figure 4.5: The amount invested by founders when there is no outside funding
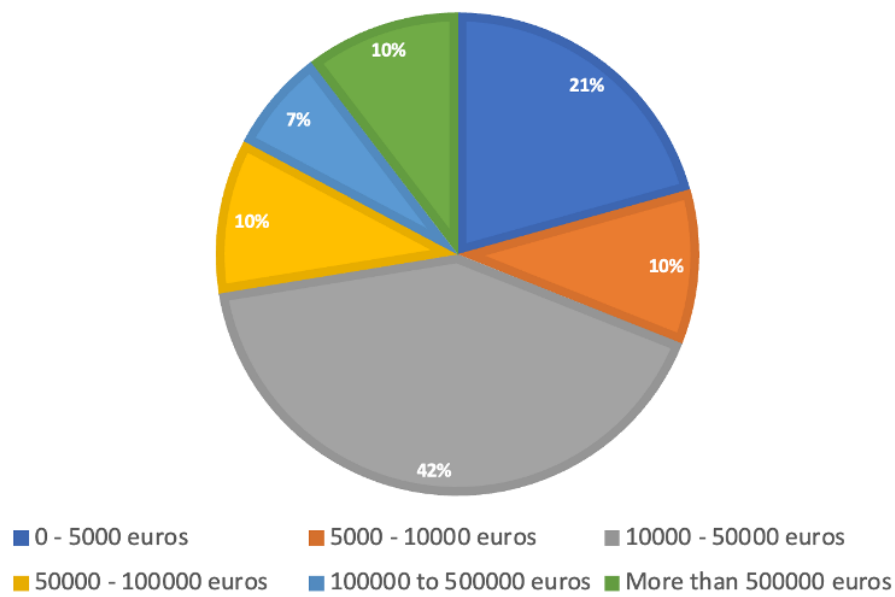
Figure 4.6: The amount invested by founders when there is some type of outside funding (either equity, debt or both)
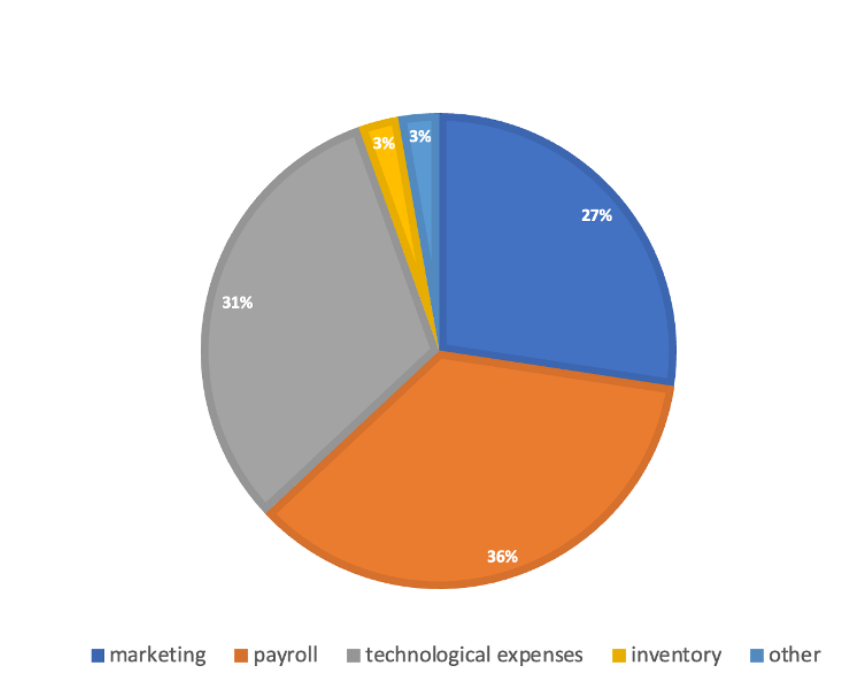
Figure 4.7: Main cost sources of entrepreneurial ventures at the early stages

4.3. The sought financial opportunities

The next sub-question and its hypothesis correspond to what companies and entrepreneurs are looking for and what kind of opportunities they explore when it comes to getting outside funding. The hypothesis that will be tested here is the following:

Hypothesis 3: Venture capital is the most sought option by Barcelona's entrepreneurs in 2022.

4. Results

Firstly, the outside funding preference data is presented in Figure 4.8. It shows that 63% of respondents prefer equity over debt. 17% strongly prefer debt, and the remaining 20% were equally drawn to two options. Interestingly, as shown in Figure 4.9, 78% of the companies actively seek funding, exploring the options and opportunities, whilst almost a quarter of firms do not have anybody who is spending time looking for funding. Nevertheless, what are the options and opportunities those companies seek? Figure 4.10 answers this question. A third of founders (33%) reported that they seek venture capital now. 20% of the companies seek investments from business angels, 18% seek public financing, 8% seek a loan, and 21% of the founders look for other sources of outside capital (such as grants or ICO). Given the results presented on this pie chart, it is possible to conclude that the data on the analysed sample support the third hypothesis about venture capital being the most sought option.
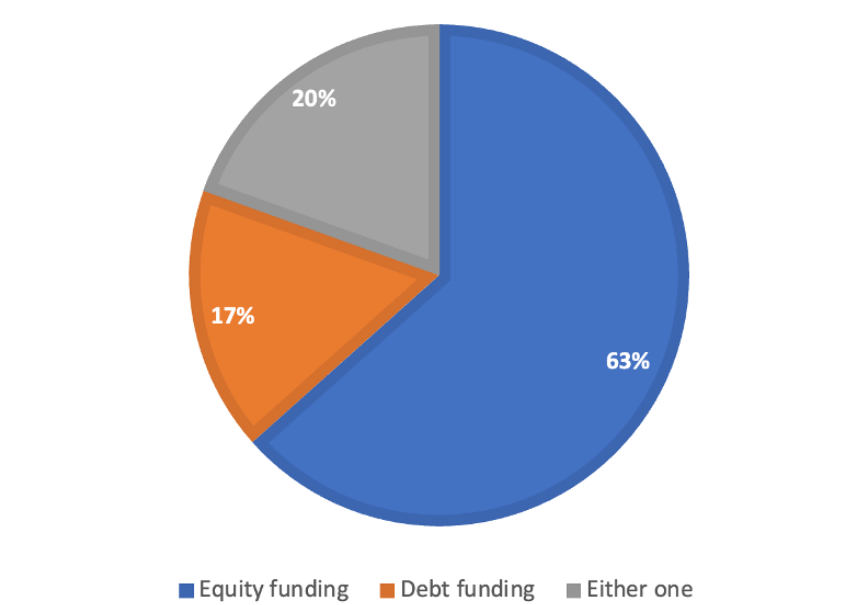
Figure 4.8: Outside funding preference of founders of entrepreneurial ventures in Barcelona
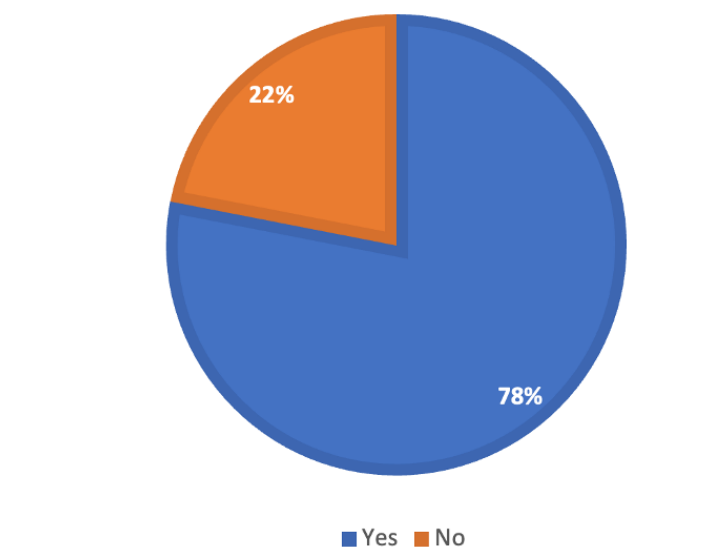
Figure 4.9: The data on whether the company is actively seeking funding or not
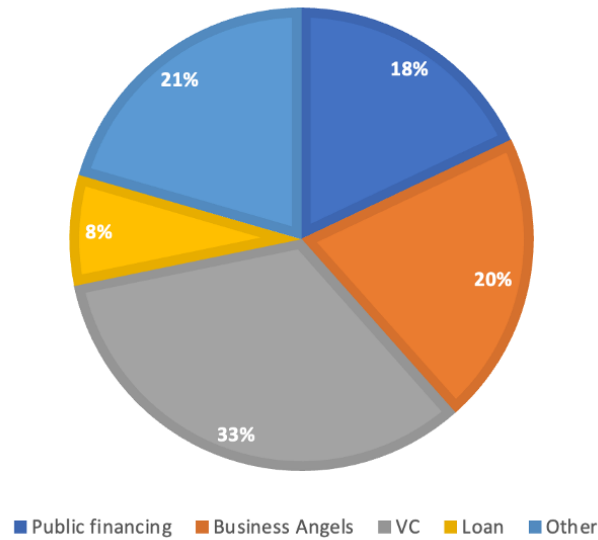
Figure 4.10: The options that are explored by the ventures

4.4. Difficulty of getting financing and product type offer

The fourth empirical sub-question focused on the effect of product type offered on the difficulty of getting financing. As presented in the methodology section, the ordered logistic regression is employed. The hypothesis that is tested here is:

Hypothesis 4: The founders of SaaS start-ups perceive it easier to get outside funding compared to start-ups that offer other product types.

One of the respondents, when discussing the opportunities for the company, suggested that: "B2B SaaS market is booming"[1]. Let us look at the regression results presented in Table 4.1 and see if it is possible to learn more. The coefficients of the dummy variables of the nominal categorical independent variable that represent the product type offered are analysed. Those represent the log-odds estimates of comparing different product types on the expected difficulty of getting funding while holding other variables in the model constant. When discussing the coefficients, statistical interpretations will be presented first. Then an explanation in simple terms will follow after that.

The ordered log-odds for companies that develop an app having a greater perceived difficulty of getting financing is 2.183 less than for companies with SaaS as their primary product offering. This coefficient, however, is insignificant. That implies that the difference in financial obstacles is statistically negligible for companies producing SaaS and developing an app. At the same time, when comparing physical products with SaaS, ordered log-odds for companies that sell physical products experiencing more financial struggles is 9.948 less than for SaaS producers. This difference is statistically significant at 5%. This result suggests that ventures that sell physical products appear to have less difficulty getting financing than SaaS ventures, holding all the other companies' characteristics constant. The ordered log-odds for ventures that develop a platform as their main product type having more finan-

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[1]Appendix D

Table 4.1: Ordered logistic regression results for the relationship between difficulty of getting financing and product offer type

Variable	Difficulty of getting financing
App	-2.183
Physical products	-9.948**
Platform	-3.910
Other services	-12.849*
…	
Observations	41
Pseudo R-squared	0.657

Note: *** 1%, ** 5%, * 10% significance. In addition to the coefficients presented for the dummies on the independent variable, the model also contains the following control variables and its corresponding dummies: founding year, stage, number of founders and their sexes, team size, monthly revenue, amount of personal funding, most recent financing, and funding preference. The complete model can be found in Appendix 5.

cial struggles is 3.910 less than for SaaS companies. That coefficient is insignificant, suggesting that this difference in perceived difficulty of getting financing for SaaS and platform ventures is negligible. Finally, the ordered log-odds for companies with other types of services experiencing greater funding constraints is 12.849 less than for SaaS ventures. That difference is statistically significant at 10%. Thus it is reasonable to suggest that companies offering other types of services (3 data points: a marketing agency, an HR agency and an outsourcing company) are expected to have fewer financing issues compared to SaaS ventures.

Based on the insights, it is possible to conclude that when controlling for several companies' characteristics, those who create an app or a platform appear to have fewer chances to experience financial difficulties compared to SaaS companies. However, those differences with SaaS are insignificant. At the same time, companies with physical products and other services appear to have significantly smaller funding constraints compared to companies that offer SaaS. These results contradict the hypothesis that SaaS companies face fewer financial challenges than other start-ups at the early stages of their life.

4.5. Capital availability and life cycle stage

The final sub-question will address the relationship between capital availability and the company's current stage. The hypothesis that will be tested here is the following:

Hypothesis 5: The higher the company's stage, the higher the founders' perceived capital availability.

Doing an ordered logistic regression allows for studying the relationship. The regression results are presented in Table 4.2. The interpretations of coefficients involve the assumption that all the other variables in the model are held constant. An important reminder is that there are three possible groups when it comes to perceived capital availability: lacking, sufficient, and desirable. Observing the coefficient for the dummy *pre-launch* is interpreted as follows: the ordered log-odds for companies at the pre-launch stage being in a higher capital availability group (perceive to have more available capital) is 18.162 less than for companies at the start-up stage. It means there is a lower

chance of being in a higher capital availability group for companies at the pre-launch compared to those at the start-up stage. However, this difference is statistically insignificant, suggesting that this discrepancy between the pre-launch and start-up stages is irrelevant. Moreover, the ordered log-odds for founders of companies at the growth stage reporting being in a higher capital availability group is 2.389 more than for companies at the start-up stage. That insight suggests that companies at the growth stage have a higher chance of perceiving having more capital available than those at the start-up stage. Even though the magnitude of the difference is much smaller compared to the pre-launch and start-up stages, this coefficient is statistically significant at 10%, making the difference between the two later stages (start-up and growth) considerable.

Table 4.2: Ordered logistic regression results for the relationship between perceived capital availability and company's stage

Variable	Capital availability
Pre-launch	-18.162
Growth	2.389*
…	
Observations	41
Pseudo R-squared	0.363

Note: *** 1%, ** 5%, * 10% significance. In addition to the coefficients presented for the dummies on the independent variable, the model also contains the following control variables and its corresponding dummies: founding year, offer, number of founders and their sexes. The complete model can be found in Appendix 5.

These insights imply that companies at the pre-launch and start-up stages perceive capital availability similarly when controlling for several of the companies' characteristics. Moreover, the capital is perceived to be more available when moving to the growth stage. Those results support the hypothesis to some extent. Even though the difference between the perceived capital availability at the pre-launch and start-up stages is insignificant, as the companies move from a lower stage to a higher stage, founders' perceptions of having more capital available to them tend to be more positive.

5

Discussion

Based on the answers to sub-questions, it is possible to link it all back to the main research question in the context of existing literature. This section will provide a discussion of the results presented, highlighting similarities and differences with other academic articles.

5.1. Discussion of results on five hypotheses

When analysing the first empirical sub-question, it was possible to make inferences on the current financing struggles concerning founders of Barcelona-based tech entrepreneurial ventures. As the sample data showed, the majority reported having a lack of investments as their primary struggle. This result is similar to many other studies, including Picken (2017) and Giardino et al. (2017). There is not much novelty or surprise around this result. Instead, it shows that finding outside capital is one of the leading financial obstacles for new companies at the early stages of their existence, even in a prominent location with a flourishing start-up ecosystem. However, it may be just human nature to suggest that the issue may not be something in their control but rather something else that can be blamed on others. For example, two other financial obstacles, money management and priority management (seeking funds versus building a business), represent only 12%. Those could also be essential areas, as Dunn and Cheatham (1993) presented when discussing the topic of financial planning. Those two obstacles are under the founders' control, compared to the idea of 'not enough investments' that are somewhat outside the company's control. However, founders perceive them as significantly less burdening. Nevertheless, the results are consistent throughout various questions (open-ended and multiple choice) and suggest that getting outside funding is the biggest struggle for most founders.

The results around how the ventures are financed suggest that the most recent financing for a third of companies is personal (founder's) funds. Almost 30% of the companies do not have outside capital, but when they do have, founders appear to have more money invested in their company than when there is no capital coming from outside. Interestingly, the data in this study's sample supports what Gregory et al. (2005) found. They also suggested that business angels are one of the sources of capital early on. It is the case for Barcelona-based start-ups where 27% reported having business angels' investments as the most recent ones. However, the data contradicts the idea of having family and friends being primary sources, as these appear to be the most recent financing for only 14% of the companies. The results mentioned above do not provide a clear-cut response on the primary funding sources but only allow for judgements to be made. There is something to be discussed in the context of primary sources at the early stages of the start-up lifecycle. It is on the idea how digital businesses may not require significant initial investments to get started. The data on cost sources presented on Figure 4.7 shows that wages, technological expenses, and marketing are the biggest ones. Those are mainly variable costs, which suggests that starting does not involve significant upfront investments, such as fixed machinery or inventory costs. It could mean that creating a company is not too finan-

cially demanding. That allows founders to start on their terms by supporting themselves and a small team through personal funds or investments from business angels (the second most recent funding source). Even though some valuable insights were provided, the topic and its related sub-question require further investigation to determine how the founders support their start-ups early on.

The results that aimed to answer sub-question 3 and test the corresponding hypothesis on the most sought option provided a clear answer: venture capital is the most desirable opportunity that start-ups and their founders seek at the early stages. That insight supports Bottazzi and da Rin (2002) as well as Bertoni, Colombo, and Grilli (2011), who believed that venture capital is the best option for tech firms for several reasons (outside of the scope of this study). Those results give outsiders a clearer picture of what companies are looking for and what needs to be focused on regarding regulations or policies.

The results on sub-question 4, where the hypothesis on the relationship between product type offer and difficulty of getting funding was tested, require an extensive discussion. First, it is vital to understand that what was found is a statistical association between two variables of interest and not a causal relationship. That means it is not possible to make inferences on how the offered product type affects the difficulty of getting financing. Instead, it is only possible to see the current situation while controlling for several companies' characteristics. Adding control variables reduces the effect of extraneous variables on the primary relationship of interest. It is shown that ventures that offer SaaS do not perceive it easier to get outside funding compared to other product types. However, that does not mean that starting a SaaS company will mean that it will face more difficulties in getting outside funding, given that no causal relationship was possible to establish. Nevertheless, those results become a starting point for future analysis on this topic. Moreover, knowing what the market and investors are looking for can impact the future possibilities of this company to get capital from outside and use it to grow.

Finally, sub-question 5 and the hypothesis on the relationship between a company's stage and its perceived capital availability becomes the ultimate effort to shed light on Barcelona's start-up ecosystem and the financial obstacles and opportunities for its young ventures. Once again, similar to the relationship in hypothesis 4, only a correlation - a statistical association - between stage and perceived capital availability is established. The sample data shows that the higher the stage, the more capital is available to the company as perceived by its founders. That insight becomes an excellent foundation for financial planning literature and allows aspiring-to-be entrepreneurs to manage their expectations. However, as was said, this relationship does not imply that the stage affects capital availability. Instead, it only shows what the data suggests on the relationship between the two while controlling for various characteristics of companies.

5.2. Recommendations and social relevance

Given the results and discussion presented in this paper, several implications can be used as guiding ideas for policy recommendations. As suggested at the beginning, the paper can benefit governmental bodies. First, it is crucial to realise that lack of investments remains perceived as the principal financial struggle entrepreneurs face. Facilitating access to possibilities needs to be a primary con-

cern of the bureaucrats if they want to stimulate the growth of the start-up environment in Catalonia, Spain, and Europe while in pursuit of closing the gap with the US when it comes to a start-up environment. Moreover, venture capital is the most desirable option. Making it easier for venture capitalists and entrepreneurs to connect and help each other achieve their goals will allow a thriving ecosystem to develop. The specificity of policies is beyond this paper's scope, but the insights can become the foundation of policy recommendations in future research.

6

Conclusion

Barcelona's start-up ecosystem is one of the most prominent locations for entrepreneurs. With billions of euros invested in Barcelona-based companies each year, the question of whether entrepreneurial ventures face financial struggles still remains. The paper aimed to answer the following central question: "What are the financial obstacles and opportunities for the Barcelona-based entrepreneurial ventures at the early stages of their life cycle?" In the data on 41 start-ups, it was found that: lack of investments appears to be the main financial obstacle faced; the two main recent financing sources for those companies are founder's funds and investments from business angels; venture capital is the most desirable option of outside capital for these start-ups; founders of companies that offer SaaS do not perceive to have less financial struggles than companies offering other product types; and finally, there is a positive relationship between the stage the company is at and its founders' perceived capital availability. Based on these main results and other preliminary insights, it is possible to answer the main question and suggest that financial obstacles and opportunities for Barcelona-based start-ups at the early stages lie in the funding and investment possibilities.

Several things can be applied in future research to advance the study of financing struggles of entrepreneurial ventures. A more extensive sample can be used to analyse the data. For some categories, the number of companies belonging to those groups was low, potentially limiting the possibilities of statistical analyses when establishing relationships between variables of interest. Moreover, policy recommendations can be improved upon what was suggested here by using existing literature to make reasonable suggestions, using the analytical results in combination with insights from the past. Then, the survey should be improved by reducing the number of questions that do not provide value to the research (e.g., the question on profit margin in the context of young start-ups: it reported odd outputs, inconsistent with the data on costs and revenue). Finally, there is also a need to explore the effect of survivorship bias, as the sample represented only the currently developing start-ups and not the ones that stopped their existence.

7

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A

Sample statistics and a correlation matrix table
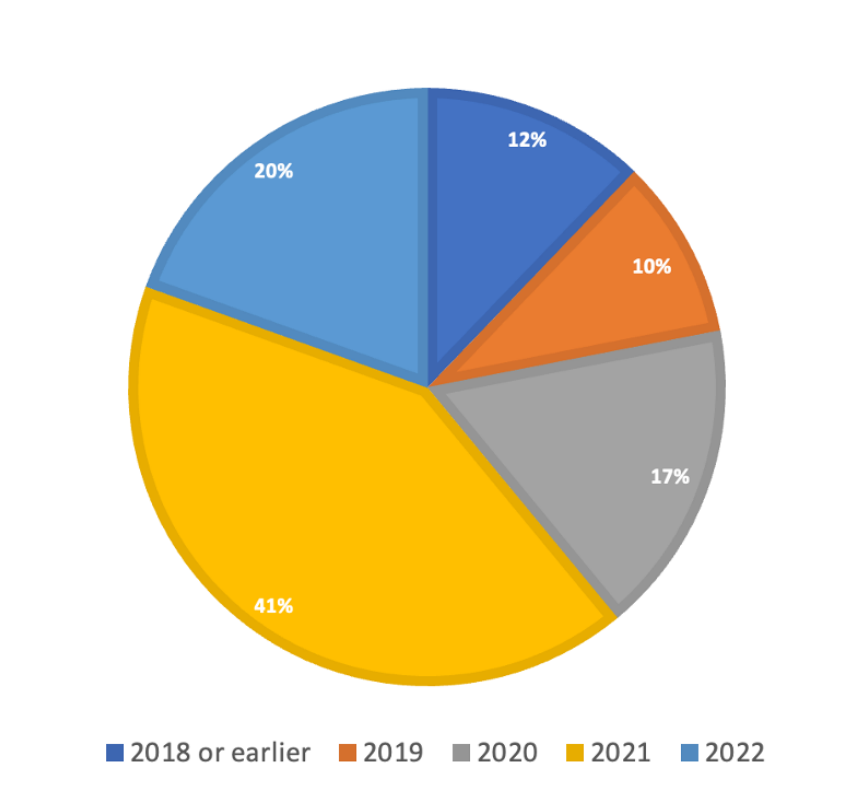
Figure A.1: Companies' founding years data
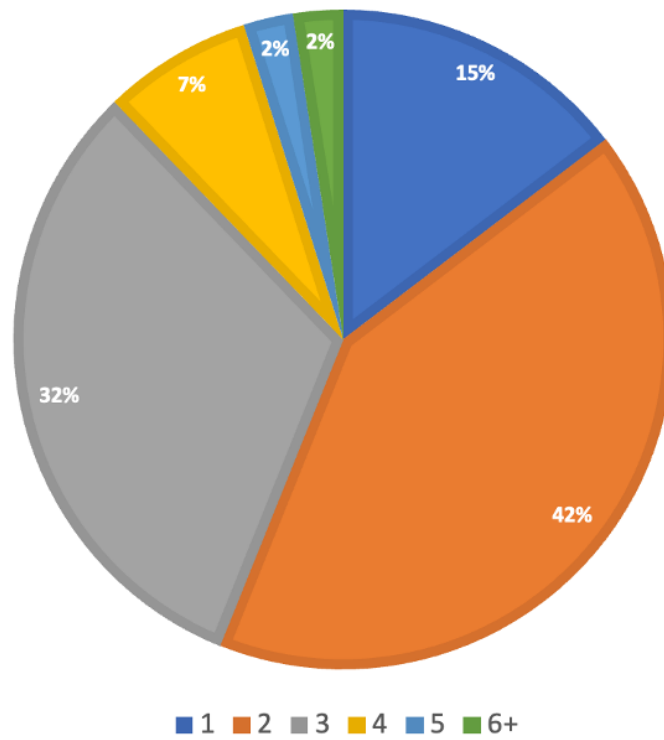
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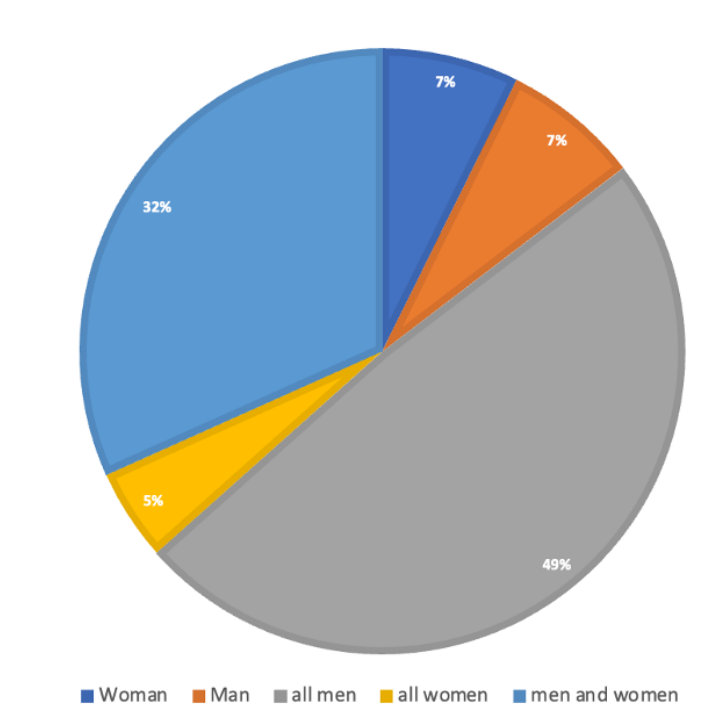
Figure A.3: Sexes of founders
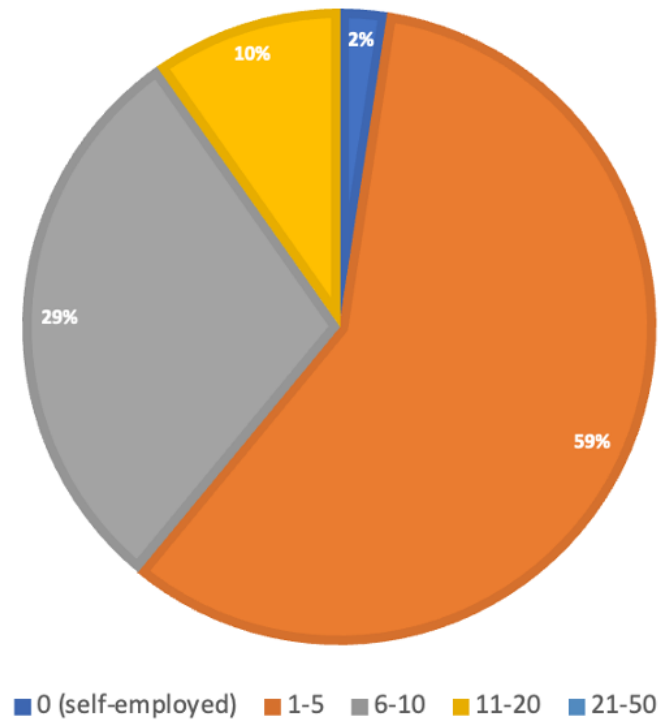
Figure A.4: Team size data
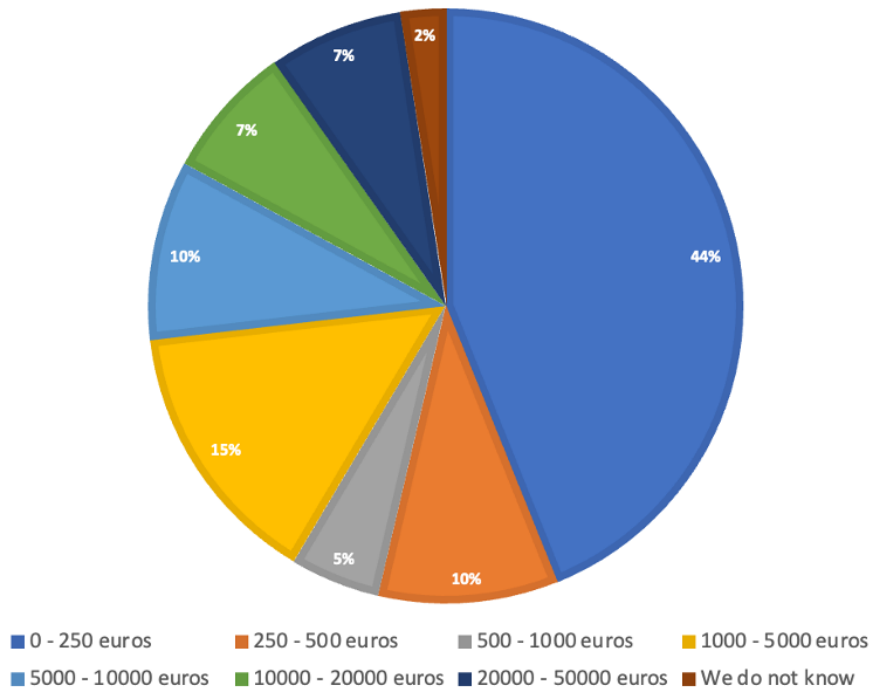
Figure A.5: Monthly revenue data
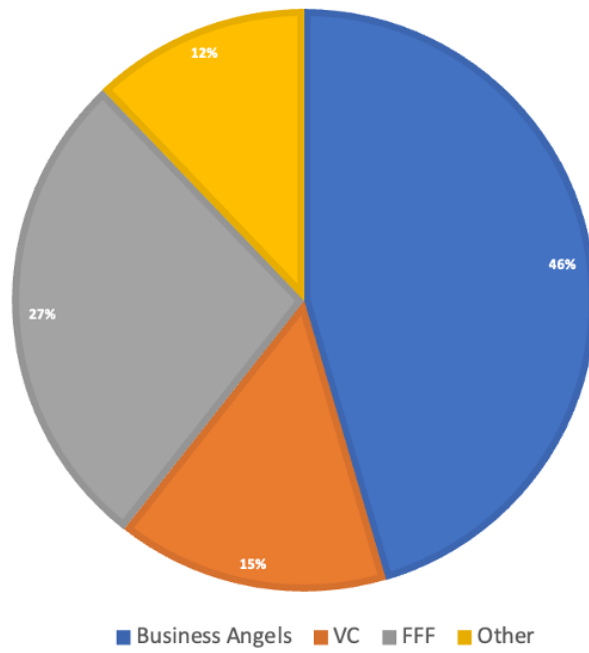
Figure A.6: Sources of outside investments data
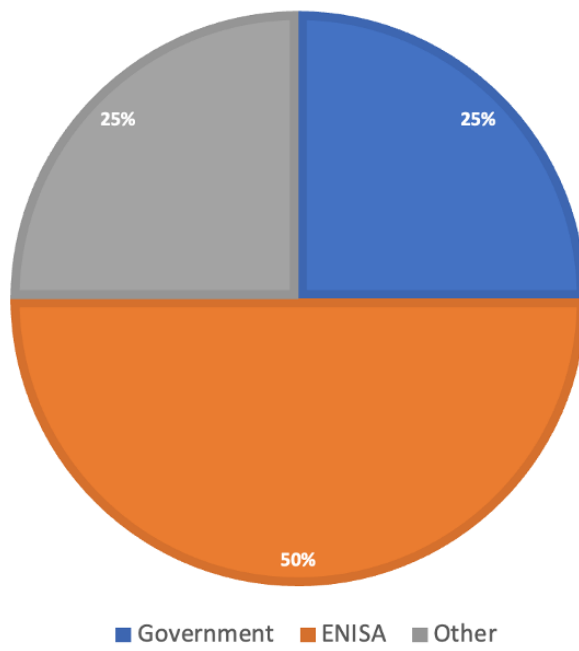
Figure A.7: Sources of debt financing data

Table A.1: Correlation table on ordinal variables for Barcelona-based entrepreneurial ventures
at the early stages using polychoric correlation matrix

Variable	1	2	3	4	5	6	7	8
Founding year (1)	1							
№ of founders (2)	0.058	1						
Team (3)	-0.079	0.030	1					
Stage (4)	-0.622	-0.118	-0.081	1				
Monthly revenue (5)	-0.623	-0.079	0.168	0.702	1			
Personal funding (6)	-0.157	0.267	0.292	-0.097	0.032	1		
Difficulty fin. (7)	0.360	-0.160	-0.379	-0.288	-0.312	0.124	1	
Capital avail. (8)	-0.480	0.037	0.142	0.777	0.436	0.409	-0.532	1

B

The survey questionnaire (web-version)

Introduction text block (personal information was cut out and [. . .] was presented):

Hi, I am glad to see you being interested in this study.

Firstly, I want to thank you for taking this 10-minute survey. It is greatly appreciated. At [. . .], a start-up born in Barcelona, we want to learn about the financial struggles and opportunities of 2022 for young tech-oriented entrepreneurial ventures. Nobody knows more about the start-up than its founder. So that is why you are here.

Analysing the financial side of the start-ups will shed light and allow for more informed decisions by current and aspiring entrepreneurs of Barcelona. Also, the insights can help governmental bodies potentially make a positive impact, such as facilitating the availability of external financing or ensuring better support programs.

Your data will be anonymised, while the access is only granted to my research supervisor and me. The data will only be used for research purposes, and I will be responsible for its safety. It will be retained until the completion of the study (expected: August 2022). After that, your venture's data will be securely deleted. By participating in this research, you give us consent to use and evaluate your data as a part of this investigation. The consent can be withdrawn by contacting me via e-mail at [. . .]. If you have other questions or concerns, please get in touch by sending an e-mail to the address provided above.

Get started, and let's make an impact together.

Author's side note: The survey questionnaire is presented below as 4 flowcharts (4 parts of the survey), each presented on a separate page.

Figure B.1: Part 1

Part 2

What is your venture's current monthly revenue (average of the last 12 months or based on the data available if the venture is less than 1 year old)? - 0-250 euros, 250-500 euros, 500-1000 euros, 1000-5000 euros, 5000-10000 euros, 10000-20000 euros, 20000-50000 euros, 50000-100000 euros, more than 100000 euros, we don't know

What is your gross profit margin (approximated)? Gross profit margin formula is:{(Net sales – Cost of Goods Sold) / Net sales} * 100% Choose the range that is the closest to your venture's gross profit margin: -100% or more, -100% to -50%, -50% to -10%, -10% to 0%, 0% to 5%, 5% to 10%, 10% to 20%, 20% to 50%, 50% to 100%, More than 100%, We do not know

What are the 2 main cost sources of your venture: - Equipment, technological expenses (website, software, information systems, etc), office space expenses, marketing, inventory, payroll/wages, Other (please specify)

End of Part 2

Figure B.2: Part 2

Part 3

How much funds were invested in the venture by the founders? - 0-5000 euros, 5000-10000 euros, 10000-50000 euros, 50000-100000 euros, 100000-500000 euros, More than 500000 euros, We don't know

Were there any outside investments (excluding borrowings)?
(money coming from outside of the company: e.g., family, friends; business angels; venture capital; crowdfunding; similar) - yes, no

Yes

How many rounds of outside investment were there? - 1, more than 1, not sure

1

More than 1, not sure

No

Please answer the following questions for this one round of investing:
Round:
• at what stage (pre-launch, start-up, growth, established, expansion, maturity, or merger and acquisition stage)
• who (family, friends; business angels; venture capital; crowdfunding; other)
• how much was invested
• what was offered in return

Please answer the following questions for each round of investing:
Round x:
• at what stage (pre-launch, start-up, growth, established, expansion, maturity, or merger and acquisition stage)
• who (family, friends; business angels; venture capital; crowdfunding; other)
• how much was invested
• what was offered in return

Page break

Were there any borrowings (e.g. bank loans, or borrowing with the obligation to pay back)? - yes, no

Yes

How many rounds of borrowing were made? - 1, more than 1, not sure

1

More than 1, not sure

No

Answer the following questions for this one round of borrowing here.

• at what stage (pre-launch, start-up, growth, established, expansion, maturity, or merger and acquisition stage)
• who (Retail, commercial, internet bank, credit union, savings and loan association, investment bank, other)
• how much was borrowed
• what is/was the average interest rate

Please answer the following questions for each round of borrowing.
Round x:
• at what stage (pre-launch, start-up, growth, established, expansion, maturity, or merger and acquisition stage)
• who (Retail, commercial, internet bank, credit union, savings and loan association, investment bank, other)
• how much was borrowed
• what is/was the average interest rate

End of Part 3

Figure B.3: Part 3

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Part 4

What is the most recent financing? - founder's (personal) funds; family, friends, fools; business angels; venture capital; crowdfunding; loan; grant; other (please specify)

On a scale from 0 (very easy to get financing) to 10 (very hard to get financing), how would you rate the ability to get financing right now?

You would be more inclined towards... - equity funding, debt funding, either one

At the moment, do you and/or your colleagues spend time exploring the financing options (e.g., looking for investors)? - yes, no

Yes

What financing options are you exploring right now?

No

Page break

How would you evaluate the 3 mentioned areas of your venture? Capital (funds available), Management expertise, Human resources - lacking, sufficient, desirable

What are the current obstacles operation-wise? - Marketing and sales, planning and time management, hiring and finding the right personnel, product development, other (please specify)

What are the current obstacles financing-wise? - Denied a loan, Not enough investments, Tax penalties, Money mismanagement, Other (choose this option and specify on the next page)

Other

Please elaborate on the current obstacles financing-wise for your venture:

As the company's representative, please summarise, what are the financial struggles and opportunities for your venture right now?

End of Part 4

Thank you for your time and for your efforts to complete this survey. Your answers were recorded.
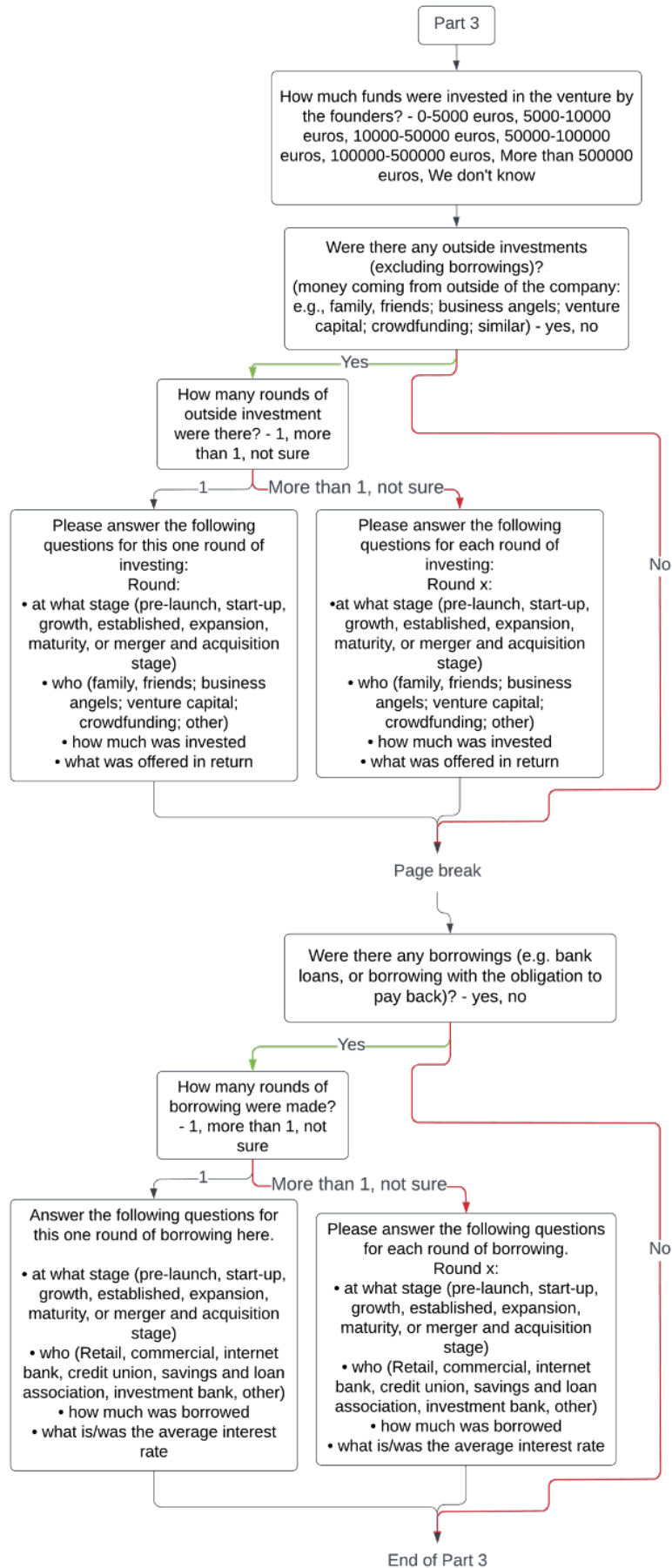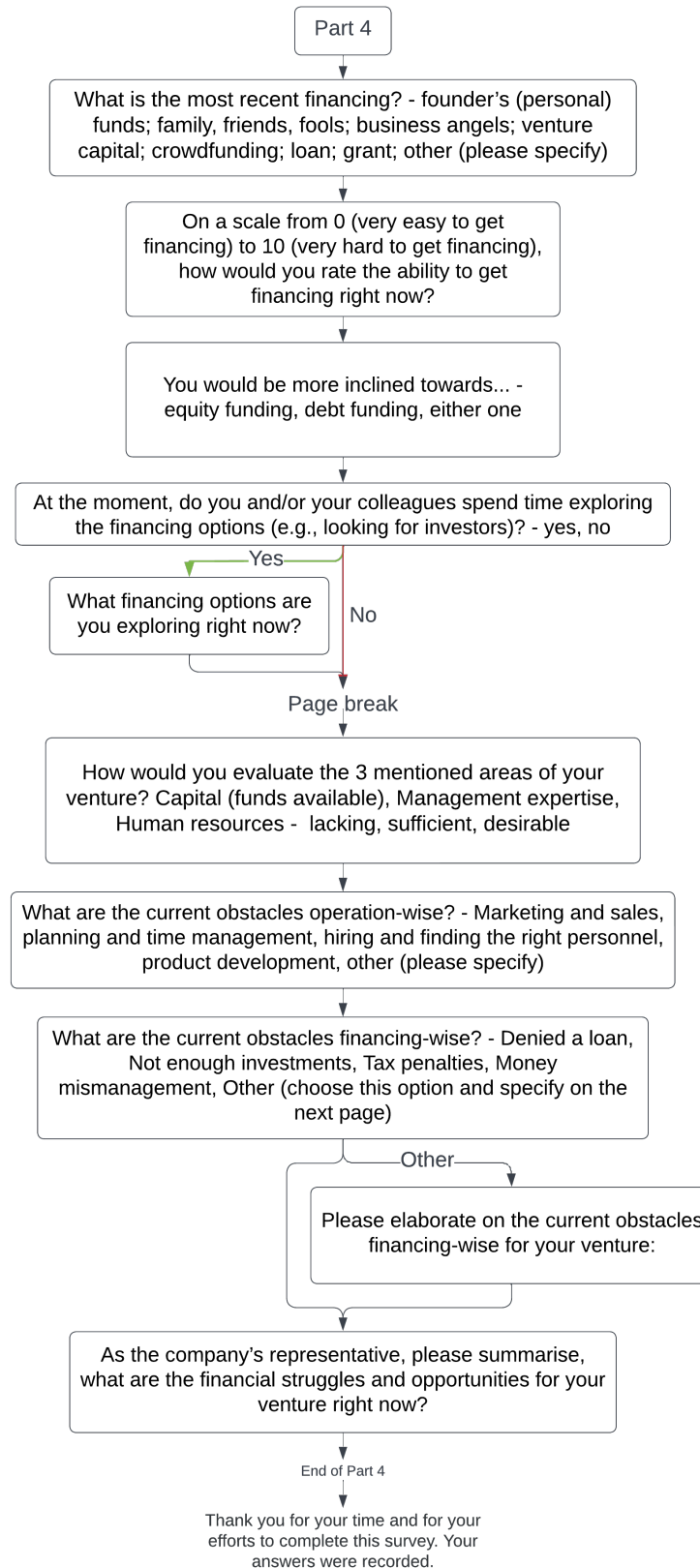
Figure B.4: Part 4

45

C

Information on the variables' transformation

Table C.1: The way responses to variables used for the analysis are transformed into and presented in the STATA software

Variable	Values
Perceived capital availability (3 groups)	1 = "lacking", 2 = "sufficient", 3 = "desirable"
Perceived difficulty of financing (3 groups)	1 = "Easy" (survey responses 1,2,3,4), 2 = "Not easy not difficult" (survey responses 5,6,7), 3 = "Difficult" (survey responses 8,9,10)
Stage (3 groups)	1 = "pre-launch", 2 = "start-up" (reference category), 3 = "growth"
Offer (5 groups)	1 = "App", 2 = "SaaS" (reference category), 3 = "Physical products", 4 = "platform", 5 = "other services"
Founding year (5 groups)	1 = "2018 or earlier", 2 = "2019", 3 = "2020", 4 = "2021", 5 = "2022"
Number of founders (6 groups, but considered as continuous)	1 = "1", 2 = "2", 3 = "3", 4 = "4", 5 = "5", 6 = "6+"
Sexes of founders (5 groups)	1 = "Man", 2 = "Woman", 3 = "all men", 4 = "all women", 5 = "men and women"
Team size (4 groups)	1 = "0 (self-employed)", 2 = "1-5", 3 = "6-10", 4 = "11-20"
Monthly revenue (3 groups)	1 = "<5000" (representing all the answers that correspond to this range), 2 = ">5000" (representing all the answers that correspond to this range), 3 = "n/a"
Personal funding (2 groups)	1 = "<50000" (representing all the answers that correspond to this range), 2 = ">50000" (representing all the answers that correspond to this range)
Recent financing (5 groups)	1 = "business angels", 2 = "fff", 3 = "founder", 4 = "venture capital", 5 = "other"
Funding preference (3 groups)	1 = "Debt funding", 2 = "Either one", 3 = "Equity funding"

D

Open-ended question responses and groups

The question: As the company's representative, please summarise, what are the financial struggles and opportunities for your venture right now?

Response	Financial struggle	Financial opportunities	Non-financial
"The Death Valley might be too long to keep project alive until break even."	Surviving		
"Finding smart capital is the biggest challenge today. And the biggest opportunity is that we are in a moment in history with many opportunities."	Difficulty to get funding	Many opportunities	
"We have a runway of 7 months and we need to get at least 5 case studies to be able to raise more funds at the end of 2022."	Surviving		
"Trying to validate and start selling to catch up funds"			Trying to bridge the gap between product and consumers
"Raising 900k in seed round"	Difficulty to get funding		
"Lack of serious VC opportunities; Lack of government support (loans/grants);Complexity of access to EU programs (i.e. NEOTEC, HORIZON, etc.)"	Difficulty to get funding		

"Investors need traction, but without budget in marketing how would we show enough traction without founders putting in the money."	Vicious cycle		
"Difficulty to get private financing"	Difficulty to get funding		
"finding investors"	Difficulty to get funding		
"We have to find a use for our technology, blockchain, that makes sense in the real world."			Trying to establish the niche
"The dating app market requires extensive marketing support and several rounds of investment. B2C market is struggling with getting investment because of the network effect it needs to gain in order to become interesting for further investment opportunities"	Vicious cycle		
"We sometimes need money quick, to hire people, to buy some services, etc.. and public fundings and investors are long-term"	Lack of quick access to capital		
"We are an expensive investment for Spain and Europe but a really cheap one for the US."	Difficulty to get funding		
"Find enough funding"	Difficulty to get funding		
"n/a, we are in POC & prototype creation stage"			

"We are in the process of fundraising right now, with lack of local investors interested in diagnostics arena, but too small for raising interest abroad."	Difficulty to get funding		
"we need to reach an important milestone in the product development to be able of preparing a seriea A funding round"			Product development
"Our opportunities lie in the fact that we are entering a phase of very slow growth, and a certain recession due to inflation. For us it is a good solution, because we provide a cheaper service by having our BPO in Colombia. At a financial level, a few months from now will be a great opportunity for us, because in just three months we are making an MRR of 20K (above forecasts), which can make us profitable at the end of the year, and we are very attractive for the investors"			Cheaper product, above forecasts performance
"Financial struggle: Low valuation from VC; Risk aversion. Opportunities: B2B SaaS market is booming; Funds from the EU; More possibilities to raise money out of Spain"	Low valuation from VC	B2B SaaS market is booming; International funds	
"Need a round of investment for November and we have a new market and we are the first one in"	Difficulty to get funding		First mover
"Achieving the market fit in order to demonstrate an investment is profitable."			Trying to establish the niche

"cost of available investments is too high, that could not match with market margins. costs of financing would reduce with growth, but for a fintech, to grow means to have funds…"	Vicious cycle		
"We need to slowly grow the team, starting with 2 tech profiles and 2 marketing/sales profiles. Otherwise, the founder team is now 2 years without getting any salary (0€). We have a high opportunity to be in the market soon but no funds to get in"	Difficulty to get funding		
"The SaaS sales cycle for a product like ours is really long. So we need to be able to sustain the operations for months before we start charging our customers. Now we are close to break-even, but our team is tiny and ideally we would love to be able to sell a little bit more and recruit some extra hands."	Difficulty to get funding and getting cash-flow		Hiring
"to find small investors"	Difficulty to get funding		
"Not selling enough services and difficulty in setting high prices"			Trying to bridge the gap between product and consumers
"Be able to quickly grow and expand our tool."			Unlocking growth
"Great demand in the market for our product"			High demand
"cash-flow"	Getting cash-flow		

"Time management, and make sure we raise money at the right timings"	Financial planning		Time management
"Figuring out how much you really need to get your project off the ground, while also being able to support yourself (the founders) enough to be motivated on the project and do it full - time."	Financial planning		
"We are talking to consolidated companies in the sector that want to invest in our product to add more value to their business"		Seeking consolidation	
"We have a lot to do in Mktg and tech hires to keep up with our competition (many had hundreds of millions of investment). That said we are very happy with what we have and this being a creative industry we have a good chance even with significantly less resources."			Market competition

E

Complete models for empirical sub-questions 4 and 5

Ordered logistic regression to study the relationship between perceived difficulty of financing and product
type offer (Hypothesis 4):

$$
\begin{aligned}
logit(P(Difficulty\ financing \leq j)) = \beta_{j0} + \beta_1 \cdot App + \beta_2 \cdot Physical\ products + \\
+ \beta_3 \cdot Platform + \beta_4 \cdot Other\ services + \beta_5 \cdot Founding\ Year + \\
+ \beta_6 \cdot Prelaunch + \beta_7 \cdot Startup + \beta_8 \cdot number\ of\ founders + \beta_9 \cdot woman + \\
+ \beta_{10} \cdot all\ men + \beta_{11} \cdot all\ women + \beta_{12} \cdot men\ and\ women + \\
+ \beta_{13} \cdot team\ size(1\ to\ 5) + \beta_{14} \cdot team\ size(6\ to\ 10) + \\
+ \beta_{15} \cdot team\ size(11\ to\ 20) + \beta_{16} \cdot monthly\ revenue(5000) + \\
+ \beta_{17} \cdot monthly\ revenue(n/a) + \beta_{18} \cdot personal\ funding(50000) + \\
+ \beta_{19} \cdot recent\ financing(fff) + \beta_{20} \cdot recent\ financing(founder) + \\
+ \beta_{21} \cdot recent\ financing(venture\ capital) + \beta_{22} \cdot recent\ financing(other) + \\
+ \beta_{19} \cdot funding\ preference(Debt) + \beta_{19} \cdot funding\ preference(Either\ one) + \epsilon
\end{aligned} \tag{E.1}
$$

Ordered logistic regression to study the relationship between perceived capital availability and stage
(Hypothesis 5):

$$
\begin{aligned}
logit(P(Capital\ availability \leq k)) = \beta_{k0} + \beta_1 \cdot Prelaunch + \beta_2 \cdot Startup + \\
+ \beta_3 \cdot Founding\ Year + \beta_4 \cdot SaaS + \beta_5 \cdot Physical\ products + \\
+ \beta_6 \cdot Platform + \beta_7 \cdot Other\ services + \beta_8 \cdot number\ of\ founders + \beta_9 \cdot woman + \\
+ \beta_{10} \cdot all\ men + \beta_{11} \cdot all\ women + \beta_{12} \cdot men\ and\ women + \epsilon
\end{aligned} \tag{E.2}
$$

F

Summary

The start-up ecosystem with many innovative tech entrepreneurial ventures advances economies worldwide. There are many benefits from a thriving business environment for governments, ventures, and society. However, there are constraints that limit the potential of such start-up environments. A few of the main obstacles that entrepreneurial ventures face are on the financing part of things. Struggles with funding early on may be a burden that prevents entrepreneurs from developing their ideas and bringing them to life. Therefore, the paper aims to study what kind of financing obstacles start-ups at the early stages of their life cycle encounter and how they overcome those with the opportunities available to them. More specifically, a study of entrepreneurial ventures from Barcelona, Spain, is conducted to dive deep into obstacles and opportunities perceived by founders of ventures. The reason for choosing the above-mentioned location is that Barcelona is one of the most prominent start-up locations in Europe at the moment. That makes it an attractive place for aspiring entrepreneurs, which, in turn, allows for this study to take place and research what the young businesses face regarding their companies' finances. The research question is the following:

"What are the financial obstacles and opportunities for the Barcelona-based entrepreneurial ventures at the early stages of their life cycle?"

The data on 43 tech-oriented Barcelona-based entrepreneurial ventures at the early stages are collected using a 4-section survey questionnaire developed to collect an extensive data-set from founders of those companies. A combination of multiple-choice and open-ended questions allows for the simplicity and deepness of the research. Moreover, using LinkedIn's search engine to find and connect with start-ups' founders, the data collection process is performed, ensuring a personalised approach to each respondent and a high completion rate. During the communications, potential respondents are shown the value and the potential contribution they can have to the start-up environment. While addressing a painful problem for all, it creates a great incentive for them to participate and become a part of the impact this study is trying to make - shedding light on the financial obstacles of start-ups early on. Moreover, for some parts of the research, statistical analyses are employed to study relationships between a few variables of interest. More specifically, ordered logistic regression models are used, given that the focus is on categorical variables: ordinal and nominal.

The paper's research question is broken down into five empirical sub-questions. The first one establishes that the lack of investments is the main financial obstacle as perceived by the founders. That finding supports the present literature and reinforces the existing struggle of young entrepreneurs and their ventures. The second sub-question studies the primary funding sources of the sampled companies. The insights from the collected data suggest that founders' funds are the most recent source of capital for the biggest group of companies. At the same time, business angels' investments appear to be second on the list of the most recent financing. The third sub-question addresses the founders' desires regarding funding options. The results show that venture capital is the most pre-

ferred source of investment. The fourth sub-question studies the relationship between the perceived difficulty of getting financing and the offer (product/service type). The initial hypothesis was that SaaS is the most prominent product type and that it can be expected that companies producing SaaS will face fewer funding obstacles. However, the data shows that it is not the case when ventures that offer SaaS are compared to those that sell physical products or have a platform or an app, or offer other types of services. As a result, it is possible to conclude that ventures that offer SaaS do not perceive to have fewer funding constraints than companies with other product types. Finally, the fifth sub-question establishes the relationship between the perceived capital availability and the stage the company is at. It is possible to conclude that the founders of companies at the growth stage (the third one after pre-launch and start-up stages) report having more capital available compared to the start-up stage companies. This difference is statistically significant, which is not the case when comparing the pre-launch and start-up stages (the difference is not statistically significant).

The presented results shed light on the financial side of entrepreneurial ventures. It fulfils the main reason for studying this topic – providing valuable information to aspiring-to-be and current entrepreneurs while also helping governmental bodies gain more clarity around the current situation in the business environment. Using these insights, entrepreneurs can make more informed decisions for their business life. At the same time, fellow researchers can build upon the results presented here to provide clear, actionable, data-driven policy recommendations that will unlock the full potential start-up ecosystem can offer to the European society.